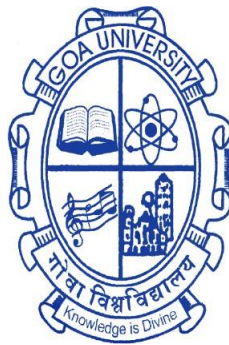


INFLUENCE OF PERSONALITY TRAITS ON COSMETIC CONSUMPTION BEHAVIOUR

A THESIS SUBMITTED IN PARTIAL FULFILLMENT FOR THE DEGREE OF

**DOCTOR OF PHILOSOPHY
IN COMMERCE
IN THE GOA BUSINESS SCHOOL**



**BY
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OCTOBER 2024

DECLARATION

I, Shirodkar Kavir Kashinath, hereby declare that this thesis represents work which has been carried out by me and that it has not been submitted, either in part or full, to any other University or Institution for the award of any research degree.

Place: Taleigao Plateau.

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Shirodkar Kavir Kashinath

CERTIFICATE

I hereby certify that the work was carried out under my supervision and may be placed for evaluation.

Prof. K. G. Sankaranarayanan
Goa Business School, Goa University.

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Mr. Shirodkar Kavir Kashinath

Abstract

This research investigates the factors influencing consumers' intentions to purchase cosmetic products by integrating the Theory of Planned Behavior (TPB) with the Big Five personality traits. The objectives of this study are to determine the Big Five personality traits influencing purchase intention, identify personal and product factors contributing to positive attitude formation, examine the mediating role of attitude between these factors and purchase intention, and explore the moderating role of personality traits in the relationship between TPB dimensions and purchase intention. Additionally, the study investigates group disparities based on gender, marital status, and place of residence, and utilizes Necessary Condition Analysis (NCA) to identify the critical factors required to achieve the desired level of purchase intention.

A structured survey questionnaire was administered to a sample of 846 respondents aged 20 years and above, residing in Goa, India, who have prior experience in purchasing cosmetic products. The study employed Structural Equation Modeling (SEM) to analyze the relationships among the variables. The findings reveal that agreeableness, conscientiousness, extraversion, and neuroticism significantly influence purchase intentions, while openness has a negative effect. Attitude was found to partially mediate the relationship between personal and product factors and purchase intention. However, personality traits did not significantly moderate the relationships between perceived behavioural control and attitude with purchase intention, but they did negatively moderate the relationship between subjective norms and purchase intention.

The study also performed a multigroup analysis to identify significant differences in purchase intentions based on demographic variables such as gender, marital status, and place of residence. The results showed significant variations among these groups, suggesting the need for targeted marketing strategies. Furthermore, the Necessary Condition Analysis identified critical factors required to achieve a certain level of purchase intention, providing actionable insights for marketers.

The study's results provide valuable insights for marketers and practitioners in the cosmetic industry. By understanding the critical factors influencing purchase intentions, marketers can develop targeted strategies to enhance consumer engagement and satisfaction. Additionally, the findings contribute to the theoretical understanding of the complex interactions between personality traits, attitudes, and consumer behaviour, offering a foundation for future research in this domain.



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Introduction

The word "cosmetic" originates from the Greek word "kosmtikos", which denotes ability, arrangement, and talent for decoration (Piyal et al., 2023). With a history that stretches back at least 7,000 years, cosmetics have maintained a significant presence in nearly every society across the globe (Surya & Gunasekaran, 2021). Modern cosmetics include a diverse array of products, such as skin care preparations, foundations, powders, blushers, eye makeup, lipsticks, shampoos, hair curling and straightening treatments, as well as colours, dyes, bleaches, and nail enamels (Gadhire et al., 2023). These products reflect the cosmetic industry's breadth and ongoing innovation to cater to various beauty and personal care needs (Kamble et al., 2022)..

This enduring industry highlights its deep-rooted cultural importance. It showcases its ability to evolve continually to align with consumers' ever-changing needs and preferences (Surya & Gunasekaran, 2021). According to (Petruzzi, 2024), the value of the global cosmetics market was around 507.8 billion U.S. dollars in 2018, with projections estimating the market to reach approximately 758.4 billion U.S. dollars by 2025. The 'Cosmetics' segment within the beauty and personal care market is

expected to see consistent revenue growth from 2024 to 2028, amounting to roughly 20.5 billion U.S. dollars, representing a growth rate of 18.91% (Statista, 2024).

The cosmetic market in Asia has experienced rapid growth, with notable contributions from countries such as India and Malaysia. Projections indicate that India's cosmetics industry will reach approximately USD 20 billion by 2025, positioning India among the top five global markets in revenue, accounting for around 5% of the global cosmetics market (P. Gadhire et al., 2023). Conversely in 2013, Malaysia's expenditure on cosmetics and toiletry items was about USD 407 million, with skincare products serving as the primary driver of market growth (Azmi Hassali & AL-Tamimi, 2015; Secara & Vlad, 2013). Regionally, the Asian cosmetics sector has emerged as one of the fastest-growing industries (Othman et al., 2022). The market value of the Asia-Pacific region has surpassed USD 70 billion, making it the second-largest market globally, following the Western European market (Azmi Hassali & AL-Tamimi, 2015).

The growth of the Indian cosmetic sector can be attributed to several factors. Increased spending power, heightened fashion consciousness, and globalisation influencing lifestyles have significantly boosted cosmetic sales (P. H. Gadhire et al., 2023). As purchasing power rises, so does the demand for improved products and heightened brand awareness among Indian consumers. Consequently, numerous international brands have begun establishing a presence in India. Notable examples include Mac Cosmetics, Avon, Estée Lauder, L'Oréal, and Wella Professionals, which have expanded their reach across various retail stores (Gadhire et al., 2023). This influx of global brands underlines the evolving preferences and increased sophistication of the Indian consumer market.

The United States Food and Drug Administration (FDA) defines cosmetics as "Intended to be applied to the human body for cleansing, beautifying, promoting attractiveness, or altering the appearance without affecting the body's structure or functions" (Gadhire et al., 2023). According to the Association of Southeast Asian Nations (ASEAN), cosmetics are defined as "any substance or preparation intended to be placed in contact with the external parts of the human body or with the teeth and the mucous membranes of the oral cavity with a view exclusively or mainly for cleaning them, perfuming them, changing their appearance, and/or correcting body odours and/or protecting or keeping them in good condition" (Azmi Hassali & AL-Tamimi, 2015).

Within the context of this study, cosmetics are defined as "Any substance or preparation intended to be placed in contact with the various parts of the human body (epidermis, hair system, nails, lips, and external genital organs) or with the teeth and the mucous membranes of the oral cavity with a view to exclusively or mainly to cleaning them, perfuming them, or changing their appearances and/or correcting body odours and/or protecting them or keeping them in good condition"(Butler, 1993). Accordingly, the study encompasses a range of products, makeup preparations including eye, fragrance preparations, hair colouring preparations, non-colouring hair preparations, manicuring preparations, oral hygiene products, personal cleanliness items, shaving preparations, skincare preparations, and suntan preparations.

This study contributes to understanding the multifaceted nature of consumer behaviour in the cosmetic sector, emphasizing the significant influence of personality traits, attitudes, and other key determinants on purchase intention. It underscores the importance of addressing utilitarian value, product knowledge, hedonic experiences, perceived price, and brand attributes to shape favourable consumer attitudes and drive

purchasing decisions. These insights are vital for developing targeted marketing strategies that align with the global cosmetic market's evolving preferences and sophisticated demands.

1.1. Significance of the study

The first significance of this study lies in examining the integrated effect of the Theory of Planned Behavior (TPB) and the Big Five Personality Traits on consumers' purchase intentions in the cosmetic industry. This integration is important as it provides a comprehensive understanding of how personality traits influence the psychological processes underlying consumer behavior. By combining the Theory of Planned Behavior, which focuses on attitudes, subjective norms, and perceived behavioral control, with the Big Five Personality Traits, the study offers a more holistic view of the factors driving cosmetic purchase intentions. This insight is crucial for academics seeking to enhance theoretical models of consumer behavior and for marketers aiming to predict and influence consumer decisions more accurately.

The second significance is identifying key elements influencing cosmetic consumers' attitude and purchase intention. Understanding these elements is vital for both theoretical advancement and practical application. The study's findings will help marketers pinpoint the most effective factors in shaping positive consumer attitudes, such as personal and product factors. This knowledge allows businesses to design more effective marketing strategies that resonate with their target audience, ultimately leading to higher sales and customer loyalty. For academics, it adds depth to the existing literature on consumer attitudes and their impact on purchase behavior.

The third significance is exploring whether attitude mediates the relationship between personal and product factors with purchase intention towards cosmetic

products. This aspect of the study elucidates the underlying mechanisms through which different factors influence consumer behavior. By identifying attitude as a potential mediator, the research provides valuable insights into how interventions can be designed to modify consumer attitudes and, consequently, their purchase intentions. This understanding is crucial for marketers seeking to develop targeted campaigns that inform and positively influence consumer attitudes toward cosmetic products.

The fourth significance is examining the role of the Big Five Personality Traits in moderating the relationships between the determinants of the Theory of Planned Behavior and purchase intentions. This aspect underscores the complexity of consumer behavior by highlighting how different personality traits can alter the strength of the relationships between attitudes, subjective norms, perceived behavioral control, and purchase intentions. Understanding these moderation effects allows marketers to better segment their audience based on personality traits, allowing for more tailored and effective marketing strategies.

The fifth significance is investigating the moderating impact of gender, marital status, and place of residence on the Theory of Planned Behavior determinants. This investigation highlights the importance of demographic factors in shaping consumer behavior. The findings will enable marketers to tailor their strategies to different demographic segments, ensuring that marketing efforts are relevant and effective for each group.

The sixth significance is exploring the sufficient amounts of determinants required to achieve the desired outcome of purchase intention towards cosmetic products. This aspect is particularly significant for resource optimization in marketing. The study provides practical guidance for marketers on where to focus their efforts and resources by identifying the critical factors and their optimal levels. This approach helps

maximize the impact of marketing strategies while minimizing costs, ensuring a more efficient allocation of marketing budgets. For researchers, it contributes to the development of more precise and actionable theoretical models of consumer behavior.

In conclusion, this study enhances the theoretical understanding of the complex interactions of personality traits, attitudes, and other factors impacting consumer behavior within the cosmetic domain. Integrating the Theory of Planned Behavior and the Big Five Personality Traits theory provides a comprehensive framework for understanding consumer purchase intentions. The practical implications of this research help marketers develop more effective strategies, while the theoretical contributions offer a foundation for future research initiatives aimed at delving deeper into these associations and their potential implications for marketing tactics.

1.2. Scope of the study

The scope of this research is confined to the context of cosmetic consumer behavior within the state of Goa, India. This study examines the Psychological, Personal, and Product factors that impact customer purchase intention, specifically focusing on respondents aged 20 years and above. These individuals possess prior experience in purchasing cosmetic products and are at a level of maturity where they can independently make buying decisions. The research employs two well-established theories: the Big Five Personality Traits and the Theory of Planned Behaviour (TPB), along with other significant factors, to develop a comprehensive conceptual model.

This research framework investigates the impact of the Big Five Personality Traits on purchase intention and identifies the factors shaping attitudes toward cosmetic products. Additionally, it explores the determinants affecting consumer purchase intention. The study examines the mediating role of attitude between personal and

product factors with purchase intention toward cosmetic products. The study also examines the moderating role of personality, using a formative construct, on the determinants of the Theory of Planned Behaviour. Furthermore, it investigates group disparities based on gender, marital status, and place of residence. Lastly, the study explores the necessary conditions required to achieve a certain level of behavior, such as purchase intention towards cosmetic products, within the cosmetic domain.

By focusing on these aspects, the study provides valuable insights into the dynamics of consumer behavior in the cosmetic industry, offering theoretical and practical implications for marketers and researchers. The findings can guide strategic decisions, tailored marketing approaches, and further research in consumer behavior and marketing within the cosmetics domain.

1.3. Research problem

The literature review suggests that the cosmetic market is divided into subcategories: Conventional cosmetics, Green cosmetics, Organic cosmetics, Halal cosmetics, Natural cosmetics, Skin cosmetics, and Personal care products. Through personal interaction and Knowledge, Attitude, and Practice (KAP) surveys before data collection, it became evident that the same customer often uses both conventional and green cosmetic products. However, there is a lack of research focusing on customers who use both product categories and the common factors that affect their preferences. Extensive research has been conducted on customer behaviour regarding cosmetic products, but limited attention has been paid to factors affecting customer attitudes toward these products, as most studies are related to purchase intention.

Additionally, while reviewing literature in the cosmetic domain, no studies were found that examine the influence of personality traits on cosmetic behaviour.

Specifically, the influence of the Big Five personality traits on purchase intention and their moderating role on the Theory of Planned Behaviour determinants has not been extensively studied. Past research has established the Theory of Planned Behaviour as a robust model for predicting and explaining human behaviour. Therefore, this framework was adopted, which is considered suitable for the intended study. The Theory of planned behavior is widely recognized for its predictive utility; however, it was initially criticized for its narrow view, and it was suggested that relevant external factors should be incorporated to enhance its predictive ability on intention (Ajzen, 1991).

Given this context, the research aims to study the influence of the Big Five Personality Traits on the intention to purchase cosmetic products. It also aims to identify factors influencing attitudes toward cosmetic products and purchase intention by adopting the Theory of Planned Behaviour framework. The study further profiles customers based on personality traits and investigates the moderating role of these traits on the dimensions of TPB attitude, subjective norms, and perceived behavioural control in relation to purchase intention. Additionally, this research explores the mediating role of attitude in the purchase intention of cosmetic products, acknowledging that attitude is a significant factor influencing many relationships between dependent and independent variables. Therefore, this study tests the mediating impact of attitude on various relationships.

The study also examines whether there are differences in terms of gender, marital status, and place of residence, recognizing the dynamic nature of the market. It aims to identify the problem of heterogeneity among these groups using the Multi-Group Analysis (MGA) method. Lastly, the research identifies critical factors required to attain the desired level of purchase intention using Necessary Condition Analysis

(NCA). This will help stakeholders optimise resource utilisation by focusing on sufficient factors required to achieve the desired outcomes, thereby reducing wastage.

1.4. Research Questions

1. Does the KAP survey determine consumer Knowledge, Attitude, and Practice towards cosmetic products?
2. Which of the Big Five Personality Traits (Openness to experience, Extraversion, Neuroticism, Agreeableness, and Conscientiousness) most significantly impact consumers' purchase intention towards cosmetic products?
3. What are the significant factors shaping customers' attitudes towards cosmetic products?
4. Which key factors influence consumers' purchase intention of cosmetic products?
5. To what extent do the determinants of the Theory of Planned Behavior impact consumers' purchase intention towards cosmetic products?
6. Does Attitude mediate the relationship between Personal and Product factors with purchase intention?
7. How does Personality moderate the relationship between the dimensions of the Theory of Planned Behaviour (TPB), namely attitude, subjective norms, perceived behavioural control and the intention to purchase cosmetic products?
8. Do gender, marital status, and place of residence moderate the relationship between the Theory of Planned Behaviour determinants and the purchase intention of cosmetic products?
9. What are the necessary factors required to achieve a particular level of purchase intention for cosmetic products?

1.5. Objectives of the study

1. To determine cosmetic consumers' Knowledge, Attitude, and Practice toward cosmetic products using the KAP survey.
2. To examine the influence of the Big Five Personality Traits (Openness to experience, Extraversion, Neuroticism, Agreeableness, and Conscientiousness traits) on customers' purchase intention of cosmetic products.
3. To identify the factors that shape the Attitude of customers towards cosmetics products.
4. To measure the impact of Subjective Norms, Attitude, and Perceived Behavioral Control (PBC) on the purchase intention of cosmetics using the Theory of Planned Behaviour.
5. To identify factors affecting customers' purchase intention towards cosmetic products.
6. To examine the mediating role of Attitude in the association between personal and product factors with the purchase intention of cosmetic products.
7. To investigate the moderating role of personality in the relationship between attitude, subjective norms, and perceived behavioural control with purchase intention towards cosmetic products.
8. To investigate the moderating role of Gender, Marital status, and Place of residence between the Theory of planned behaviour determinants and Purchase Intention of cosmetic products.
9. To determine the critical levels of factors required to achieve the desired level of purchase intention towards cosmetic products.

1.6. Structure of the thesis

Chapter 1 provides the background of the study and includes definitions of the concept of cosmetics and types of cosmetics, offering a comprehensive overview of the study area. This chapter also highlights the significance of the study and outlines the research problem. It defines the scope of the study and specifies the objectives guiding the research.

Chapter 2 reviews the relevant literature, synthesizing existing research on consumer behaviour in the cosmetics industry. It examines theoretical frameworks, including the Theory of Planned Behaviour and the Big Five Personality Traits, to identify gaps and opportunities for further research.

Chapter 3 details the research methodology, describing the design, data collection methods, and analytical techniques employed in the study. This chapter ensures a systematic approach to investigating the research questions and achieving the study's objectives.

Chapter 4 outlines the process of developing hypotheses and constructing the measurement scale. It starts with developing conceptual models and detailing theoretical frameworks and relationships. The chapter then formulates specific research hypotheses in the Development of Hypotheses section. The Proposed Model visualizes these relationships, while the Definition of Terms clarifies vital constructs. The Questionnaire Development section describes how the survey instrument is created and refined, including the Content Validity Index for relevance. The chapter covers the pilot test and Exploratory Factor Analysis (EFA) to validate scales and details the Population, Sampling, Sample Size and Sampling Technique. Confirmatory Factor Analysis (CFA) confirms the factor structure. The chapter justifies using Partial Least Squares

Structural Equation Modelling (PLS-SEM) and concludes with the Assessment of the Measurement Model to ensure reliability and validity.

Chapter 5 presents the analysis and results of the study, beginning with a detailed Description of Sample Characteristics for SEM, which includes the demographic and psychographic profiles of the respondents. This is followed by Assessing Structural Model Validity, where the reliability and validity of the constructs used in the model are tested. The chapter then moves on to Testing the Structural Relationships and Hypotheses, evaluating the proposed relationships between variables using advanced statistical techniques. Additional subtopics include Mediation Analysis, which examines the mediating effects of attitude, and Moderation Analysis, which explores the impact of personality, on the TPB dimensions, Furthermore, Multi-Group Analysis investigates differences across various demographic groups, of gender, marital status, and place of residence on the TPB model. while Necessary Condition Analysis (NCA) identifies the essential factors required to achieve specific purchase intentions.

Chapter 6 delves into the discussions and conclusions of the study. It starts with the Findings and Discussion of the Knowledge, Attitude, and Practice (KAP) Survey, offering insights into consumer behaviours and perceptions related to cosmetic products. The chapter then transitions to Quantitative Research Findings and Discussion, where the Structural Equation Modeling (SEM) results are thoroughly examined. Additional subtopics include interpretation of mediation effects, exploring how attitudes mediate the relationship between personal and product factors with purchase intention, and analysis of moderation effects, which discusses the impact of personality traits, gender, marital status, and place of residence on the model.



Literature Review

This chapter lays the groundwork for constructing a theoretical framework essential for the empirical analysis of consumer intentions regarding cosmetic products. It encompasses a comprehensive review of pertinent literature focused on consumer behaviour related to cosmetic usage and the theoretical models employed in comparable research. Additionally, this chapter discusses the factors that influence the intentions and attitudes of cosmetic consumers, examines the mediating role of attitude, and explores the moderating effects of personality traits. It also includes an examination of studies related to the Big Five personality traits. Finally, this chapter identifies and articulates the research gaps in the existing literature.

2.1. Theoretical background

Numerous studies have explored customer purchasing behaviours in the cosmetics sector, spanning various subfields such as Halal, Green, Vegan, Skin, Organic, and Traditional cosmetics. Research focusing on consumers' attitudes, intentions, and buying behaviours often utilizes well established theories. These include the Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), Value-belief-norm (VBN) theory, Diffusion of Innovations (DOI) Theory, Stimulus Organism

Response (SOR) theory, Push, Pull, and Mooring (PPM) theory, and Theory of Consumption Value (TCV). These frameworks are frequently employed to forecast behavioural intentions in consumer studies.

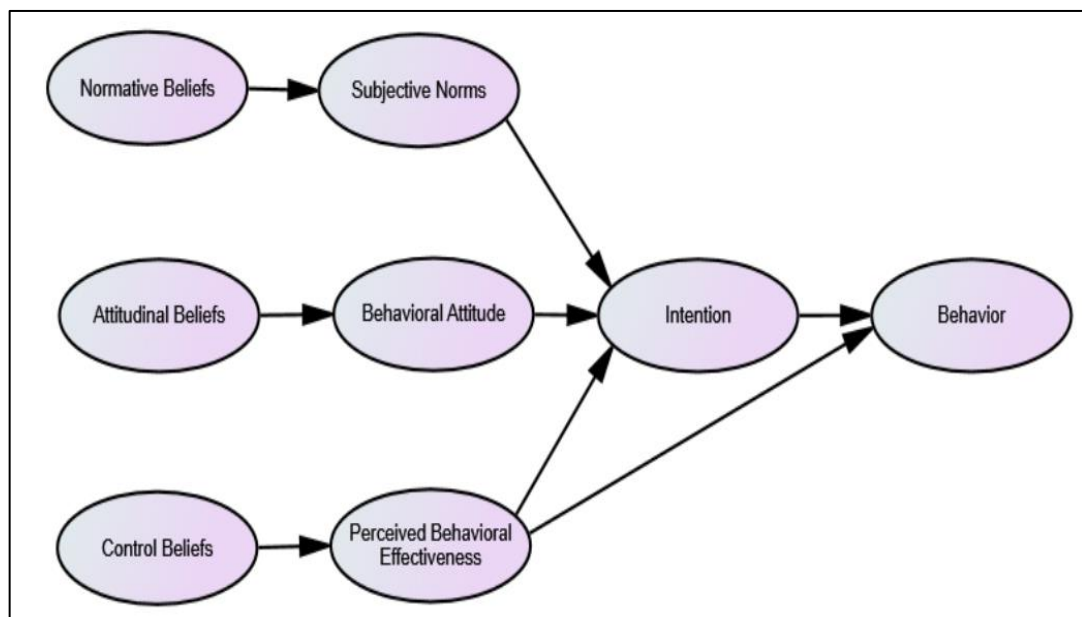
2.1.1 Theory of Reasoned Action (TRA)

The Theory of Reasoned Action, formulated by Martin Fishbein and Icek Ajzen in 1975, suggests that an individual's behavioral intentions shape an individual's behavior. These intentions are influenced by the individual's attitudes toward the behaviour and the subjective norms surrounding it. Attitude refers to an individual's positive or negative evaluation of engaging in a specific behaviour (Fishbein & Ajzen, 1975). Subjective norm is the perceived pressure from important others or reference groups to engage in or refrain from a particular behavior (Ajzen, 1991). However, attitudes and subjective norms do not uniformly influence behaviour. Their impact on behavioural intentions, and consequently on the behaviour itself, can vary depending on the context and the individual involved.

2.1.2 Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour, developed by (Ajzen, 1991), builds on the Theory of Reasoned Action by adding a third variable, perceived behavioural control. This theory asserts that an individual's behaviour is driven by their intention to perform that behaviour, which in turn is influenced by their attitude towards the behaviour, subjective norms, and perceived behavioural control. Perceived behavioural control is the individual's perception of their capability to execute the behaviour (Ajzen, 1991). It is considered to have both a direct influence on behaviour and an indirect influence through intention. The factors shaping intention—attitude, subjective norm, and perceived behavioural control—are each determined by specific underlying beliefs: attitudinal beliefs, normative beliefs, and control beliefs, respectively. Attitudinal

beliefs concern the anticipated outcomes of actions and their evaluations, which can positively or negatively affect the decision to engage in a behaviour. Normative beliefs relate to the expectations of important others, such as family, friends, colleagues, and mentors, regarding the individual's behaviour. Control beliefs pertain to the perceived presence of factors that may facilitate or obstruct the behaviour. The Theory of Planned Behaviour is a widely recognized and an empirically supported framework for predicting human behaviour. The conceptual model of this theory is depicted in Figure 2.1.



Source: (Ajzen, 1991)

Figure No. 2. 1: The Theory of Planned Behavior (TPB)

2.1.3. Diffusion of Innovations Theory (DOI)

Rogers' Diffusion of Innovations theory (Rogers, 1983) describes the innovation-decision process as a sequence that unfolds over time, encompassing five phases: knowledge, persuasion, decision, implementation, and confirmation. (Rogers, 1983) defines diffusion as "the process by which an innovation is communicated over time among the members of a social system through specific channels", and describes

an innovation as "an idea, practice, or object that is perceived as new by an individual or other unit of adoption". Rogers identifies five key attributes of innovations that influence their adoption: relative advantage, compatibility, complexity, trialability, and observability. These attributes significantly affect the speed and extent to which an innovation is adopted.

2.1.4. Consumption Value Theory

The Consumption Value Theory, introduced by (Sheth et al., 1991), outlines five distinct values that drive consumer choice behavior: functional, social, emotional, epistemic, and conditional value. Functional value is the utility or practical benefit derived from a product's performance. Social value is the utility gained from a product's association with certain social groups. Emotional value arises from a product's ability to provoke feelings or emotional responses. Epistemic value is derived from a product's ability to spark curiosity, offer novelty, or fulfill a desire for knowledge. Conditional value pertains to the utility obtained from the specific circumstances or context in which a consumer makes a decision. These values can individually or collectively influence consumer decisions.

2.1.5 The Big Five Personality Traits Theory

The Big Five Personality Traits Theory, which systematically categorizes human personality into five broad dimensions, was developed through cumulative research by Lewis Goldberg, and further expanded by Paul Costa and Robert McCrae in the 1980s. This framework is instrumental in understanding diverse personality traits, each of which encompasses a range of behaviours and attitudes:

1. *Openness to experience*: Individuals high in this trait display a propensity for imagination, creativity, and a willingness to explore new things. They tend to

be open to a variety of experiences, which manifests in their appreciation for art, adventure, and intellectual pursuits.

2. *Conscientiousness*: This dimension denotes a level of dependability and diligence. Highly conscientious individuals are organized, responsible, and proficient at managing their time and meeting their obligations. They exhibit a persistent, goal-directed behaviour and adherence to norms and rules.
3. *Extraversion*: Characterized by high energy, sociability, and the tendency to seek stimulation in the company of others, extraversion includes qualities such as assertiveness, enthusiasm, and outgoingness. Extraverts thrive in social interactions and are often perceived as talkative and energetic.
4. *Agreeableness*: This trait includes attributes such as kindness, trust, altruism, and a cooperative nature. Individuals high in agreeableness are often compassionate, empathetic, and willing to help others. They value social harmony, are considerate, and are typically more willing to compromise and avoid conflict. They tend to be seen as friendly and approachable.
5. *Neuroticism*: Neuroticism is characterized by emotional instability, anxiety, moodiness, and a tendency to experience negative emotions. Those high in neuroticism may struggle with stress, are more likely to experience feelings of sadness, worry, and vulnerability, and can be more reactive to stressors. They often exhibit a higher degree of emotional sensitivity.

2.2 Behaviour Theories and Key Determinants of Consumer Purchase Behavior in Cosmetics

S-O-R (Stimulus-Organism-Response) model was employed in the study by Vergura et al. (2020) to explore consumers' attitudes and purchase intentions towards organic personal care products. The objective of the study was to examine the factors

influencing these attitudes and intentions. The research utilised a survey methodology with a sample size of 209 consumers, comprising 72% females and 28% males. Statistical tools such as Structural Equation Modelling are employed to analyse the data. Key findings revealed that knowledge about organic personal care products, sensory appeal, natural content attributes, and quality perception positively influenced utilitarian and hedonic attitudes, which in turn significantly increased purchase intention. The study suggested that manufacturers and retailers should focus on promoting the quality and sensory appeal of organic personal care products to enhance consumer interest and purchase intentions.

The Theory of Planned Behaviour (TPB) was utilised in the study by Ali et al. (2023) to investigate the factors that affect consumer behaviour towards green cosmetic products in Pakistan. The study's objective was to understand how attitudes, subjective norms, and perceived behavioural control influence the intention to purchase green cosmetics. A quantitative research methodology was employed, with data gathered through a questionnaire survey. Using convenience sampling, the study collected 322 valid responses from major metropolitan areas in Pakistan. Partial Least Square Structural Equation Modelling (PLS-SEM) was applied for data analysis, confirming the model fit and the hypothesised relationships. Key findings reveal that attitudes, subjective norms, and perceived behavioural control significantly impact purchase intentions. Health concerns, environmental consciousness, and social influences were identified as crucial factors. The study highlighted the significant roles of media influence and family support in shaping subjective norms, offering valuable insights for the promotion of green cosmetic products.

Hong et al. (2019) used the Theory of Planned Behaviour to explore Chinese Muslims' awareness, perception, and purchasing behaviour concerning halal cosmetics

and personal care products. The main objectives were to investigate the link between religiosity and the adoption of new products and to identify factors that influence the willingness to pay for certified halal products. Utilising a survey-based approach, data was gathered from Chinese Muslim consumers and analysed using a logit model. Convenience sampling was employed for participant selection. Key findings showed that faithfulness, concerns about halal ingredients, product price, availability, and halal certification logos positively affected halal purchases. In contrast, a lack of confidence in locally produced halal products, store distance, and being in the age group of 26-55 years negatively influence purchasing behaviour. The study highlighted the necessity of establishing a credible halal sector in China and emphasised the importance of building trust and enhancing product availability to increase consumption.

Shahid et al. (2023) employed the Theory of Planned Behaviour to examine the factors that influence Muslim consumers' purchase behaviour and repurchase intentions for halal cosmetics in India. The primary aim was to analyse how religious knowledge, religious commitment, and halal certification impact these behaviours. Data was collected from 371 respondents using a questionnaire survey method and convenience sampling. Statistical tools, including regression analysis, were used to explore the relationships between variables. Key findings revealed that religious knowledge, commitment, and halal certification had significant and positive effects on both actual purchase behaviour and repurchase intentions, while religious orientation did not significantly influence these behaviours. The study highlighted the critical role of religious factors and halal certification in shaping consumer decisions within the halal cosmetics market.

Sударsono & Nugrohowati (2020) utilised the Theory of Planned Behaviour to investigate the influence of religiosity, knowledge, and attitudes on consumer intentions

to purchase halal food, cosmetics, and pharmaceuticals in Indonesia. The primary aim was to understand how these factors affect consumer behaviour towards halal products. Data was gathered through online questionnaires from 684 respondents across 27 provinces in Indonesia, mainly consisting of females under 20 years old, high school graduates, and students with monthly expenditures below IDR 2,500,000. Convenience sampling was used, and statistical tools confirmed the data's reliability and validity, followed by hypothesis testing. The key findings revealed that religiosity and knowledge significantly affect consumer intentions, with religiosity having a stronger impact on halal food consumption and knowledge being more influential for halal pharmaceuticals. Attitudes also positively influenced intentions, especially towards halal food. The study recommended enhancing the understanding of Islamic teachings and promoting halal certification to effectively meet consumer needs and expand the market share among Muslim consumers.

Putri et al. (2019) used the Theory of Reason Action to explore the impact of the MUI halal logo on the cosmetic purchase intentions of young millennials in Indonesia. The main goal was to determine if the presence of the MUI halal logo on cosmetic products significantly influences the purchase intentions of this demographic. A quantitative methodology was employed, with data collected through surveys from a sample of young millennial consumers using convenience sampling. Regression analysis was utilised to examine the relationship between the MUI halal logo and purchase intention. The findings revealed that cosmetic products featuring the MUI halal logo had higher purchase intentions among young millennials compared to those without the logo. This suggested that cosmetic brands should consider incorporating the MUI halal logo to attract this consumer segment.

Septiarini et al. (2023) applied the Theory of customer behaviour to investigate how the halal logo, halal brand image, and halal awareness influence attitudes and behavioural intentions towards halal cosmetics among non-Muslim consumers in Indonesia, Malaysia, and Singapore. The study aimed to identify the factors driving non-Muslim consumer intentions towards halal cosmetics. A quantitative survey method was used, gathering data from 400 non-Muslim millennial respondents through convenience sampling. Structural Equation Modelling (SEM) was employed to analyse the data. Key findings revealed that the halal logo, halal brand image, and halal awareness significantly affected customer attitudes and behavioural intentions. These results suggested that cosmetics brands can effectively target non-Muslim consumers by leveraging these factors. The study also emphasised the demand for halal cosmetics due to the perceived safety, comfort, and cleanliness of the product ingredients.

Pervin & Ranchhod (2014) examined the theory of ethical consumerism within the cosmetics industry, focusing on consumer attitudes towards animal welfare and environmentally friendly practices in the UK and Bangladesh. The primary goal was to compare these attitudes across various demographics and cultural contexts. A mixed-methods approach was utilised, incorporating both quantitative surveys and qualitative interviews for data collection. Stratified random sampling ensured a representative sample of younger and older consumers from both regions. Statistical analyses, including chi-square tests and regression analysis, were conducted on the data. Key findings revealed that younger consumers in both the UK and Bangladesh share similar concerns about animal welfare in cosmetics. Additionally, Bengali consumers displayed a greater concern for environmentally friendly packaging and scientifically controlled cosmetics. Both Bengali and British consumers exhibited positive attitudes towards

organic cosmetics, with strong support from young Bengali consumers for environmentally friendly products.

Briliana & Mursito (2017) applied the Theory of Reasoned Action to examine how religiosity, subjective norms, and knowledge affect attitudes towards halal cosmetic products among Muslim women in Indonesia. The primary aim was to understand the influence of these factors on consumer behaviour and purchase intentions within the halal cosmetics market. The research utilised a two-stage model and structural equation modelling (SEM) for data analysis. A sample of Indonesian Muslim women was selected using [specific type of sampling, e.g., convenience sampling, stratified sampling, etc.]. SEM was employed to analyse the relationships between the variables. Key findings revealed that knowledge, religiosity, and subjective norms positively influence attitudes towards halal cosmetic products, which in turn impacts purchase intentions. This study offered valuable insights for marketers and international brands seeking to meet the rising demand for halal products by highlighting their adherence to halal standards.

Sama & Trivedi (2019) adopted the Theory of Reasoned Action to investigate the influence of subjective norms, beliefs, and religiosity on brand loyalty towards halal cosmetics among Muslim consumers in India. The primary aim was to understand how these factors shape attitudes towards halal products, leading to brand love and loyalty. The research methodology involved surveying 418 Muslim respondents from the Juhapura area of Ahmedabad using convenience sampling. Statistical tools such as Hierarchical regression analysis tests were utilised to ensure accurate data analysis. Key findings revealed that subjective norms, beliefs, and religiosity significantly impacted attitudes towards halal cosmetics, which in turn influenced brand love and loyalty. The

study highlighted the importance of reinforcing consumer beliefs about the benefits of halal products to strengthen brand loyalty.

Zahid et al. (2018) used the Theory of Planned Behaviour to examine the determinants of green product purchase intention and social media publicity among cosmetic store customers. The objective was to understand the mediating role of concern for consequences in this setting. A quantitative research methodology is employed, with data collected via surveys and stratified random sampling to ensure a representative sample. Statistical tools such as regression and mediation analysis were used to analyse the data. Key findings indicated that concern for consequences significantly mediated the impact of environmental friendliness, social appeal, and green product experience on both purchase intention and social media publicity. Furthermore, the study revealed that income moderates the effect of concern for consequences on social media publicity, highlighting the influence of economic factors on green consumer behaviour.

Irfany et al. (2024) used the Theory of Planned Behaviour to investigate factors affecting the purchase intention of environmentally friendly halal cosmetic products among Muslim Generation Z consumers in Indonesia. The objectives were to evaluate the impact of halal labels, eco-labels, environmental knowledge, religiosity, and attitudes on purchase intentions. The research utilised structural equation modelling (SEM) for data analysis, focusing on a sample predominantly composed of women aged 20-24, mostly students, who bought products within the price range of Rp 100,001 to Rp 500,000. Purposive sampling was used to collect the data. Key findings revealed that halal labels, eco-labels, environmental knowledge, and religiosity significantly influence halal-green awareness, which in turn affects attitudes and purchase intentions. However, religiosity did not have a significant impact on halal-green awareness. The

study suggested that integrating halal and eco-friendly elements in cosmetics can attract Generation Z consumers, highlighting the importance of product certification and branding.

The Theory of Planned Behaviour was applied to investigate the factors influencing the purchasing intentions of Thai Generation Y towards green personal care products by Moslehpour et al. (2021). The objectives included examining the roles of environmental concern, knowledge, attitudes towards green packaging, green marketing awareness, and green price sensitivity. Data was collected through a questionnaire-based survey and analysed using structural equation modelling, with convenience sampling employed to gather responses. Key findings indicated that environmental concern positively impacted environmental knowledge, which in turn influenced attitudes towards green packaging. Additionally, green marketing awareness significantly affected attitudes towards green packaging. Environmental knowledge and attitudes towards green packaging mediated the relationship between environmental concern and purchasing intention. Furthermore, green price sensitivity was found to positively influence purchasing intention. The study highlighted the importance of packaging and marketing strategies in increasing consumer intent to purchase green products. (Moslehpour et al., 2021)

Ayoun & Schmitz (2024) employed the Theory of Planned Behaviour to develop and validate a measurement scale for green consumer orientation in the cosmetic industry. The research methodology included content validity assessments with experts and exploratory factor analysis (EFA) on two different samples. A non-probabilistic sampling technique was used, with the second sample comprising 182 respondents. Factor analysis was utilised to refine the measurement scale. Key findings indicated the successful development and validation of a reliable scale for measuring green consumer

orientation in the cosmetic sector, enhancing the understanding of consumer behaviour in the context of sustainability.

The study by Kaur et al. (2022) is grounded in the Theory of Planned Behaviour and the Theory of Reasoned Action, focusing on the impact of green marketing strategies on green buying intentions among Indian millennials. The research employed a cross-sectional empirical design with a sample size of 405 respondents, utilising non-probability sampling. Structural equation modelling and multi-group analysis were used for data analysis. The key findings revealed that green products, green places, and green promotional strategies significantly influence green buying intentions, with the moderating role of environmental attitudes.

Hasan et al. (2024) utilised the Stimulus-Organism-Response (SOR) theory to examine the impact of halal marketing on the intention to purchase halal cosmetics. The research aimed to explore the mediating effects of halal awareness and attitude. A quantitative methodology was employed, using convenience sampling to collect data from 266 respondents in Bangladesh. Partial least square structural equation modelling was used for data analysis. The key findings revealed that halal marketing significantly positively influenced the intention to purchase halal cosmetics, with this relationship being mediated by both halal awareness and attitude.

Mukhtar & Butt, (2012) applied the Theory of Reasoned Action to examine the role of religiosity in shaping the intention to choose Halal products. The study sought to understand how subjective norms and attitudes, influenced by religiosity, impact consumer intentions. A quantitative methodology was used, with a structured questionnaire distributed to 180 respondents, achieving a final sample size of 150 and an 83% response rate. Convenience sampling was employed to select participants. Statistical tools, including regression analysis and correlation, were utilised to analyse

the data. Key findings indicated that subjective norms and attitudes significantly influenced the intention to choose Halal products, with religiosity serving as a crucial mediating factor. The study highlighted the importance of integrating religious beliefs into marketing strategies to target Muslim consumers effectively.

Anubha (2023) utilised the Elaboration Likelihood Model (ELM) to explore the effect of electronic word-of-mouth (eWOM) on the purchase intentions of halal cosmetics among Indian Muslim women. The main objective was to assess how eWOM factors quality, quantity, valence, and consistency affect attitudes towards halal cosmetics and subsequently influence purchase intentions. Data was gathered from 313 respondents in Delhi through both online and offline surveys using a convenience sampling method. Structural equation modelling (SEM) was employed for data analysis to ensure construct reliability and validity and to test for common method bias. Key findings indicated that eWOM quality, valence, and consistency significantly impact purchase intention, while eWOM quantity influences purchase intention indirectly through attitude. The study highlighted the mediating role of attitude towards halal cosmetics and offered valuable insights for marketers on leveraging eWOM to affect purchase decisions. This research contributed to the understanding of consumer behaviour in the context of halal cosmetics and validates the ELM theory in explaining the relationship between eWOM and purchase intention.

The Theory of Planned Behaviour to explore the factors influencing Muslim consumers' purchase behaviour regarding halal cosmetic products in Malaysia by Haque et al. The main objective was to examine the relationship between purchase intention and behaviour, focusing on variables such as attitude, subjective norm, perceived behavioural control, and religiosity. A quantitative research methodology was employed, gathering data from 232 respondents in Kuala Lumpur, Johor, and Penang

through a structured questionnaire. Non-probability sampling was used for participant selection. SEM analysis was conducted to evaluate the measurement and structural models, ensuring they met acceptable fit indices. Key findings indicated that subjective norm, perceived behavioural control, and religiosity significantly influenced purchase intention, with attitude also playing a crucial role. (Haque et al., 2018)

Widyanto & Sitohang (2022) employed the Theory of Planned Behaviour to explore the purchase intentions of Muslim millennials regarding halal-certified cosmetics and pharmaceutical products. The study aimed to understand how religiosity, halal knowledge, halal certification, subjective norms, and attitudes influence these purchase intentions. Using a quantitative research methodology, data was collected through structured questionnaires and analysed via structural equation modelling (SEM). The sampling method was purposive, targeting Muslim millennials in the Greater Jakarta area. Key findings revealed that religiosity, halal knowledge, and halal certification significantly influence attitudes, which in turn mediate the relationship between these factors and purchase intentions. Halal certification emerged as the most influential factor, followed by halal knowledge. Subjective norms were found to indirectly affect purchase intentions through attitudes.

Pambekti et al. (2023) utilised the Push-Pull-Mooring (PPM) model to explore the factors influencing Muslim women's intentions to switch to Halal cosmetics in Indonesia. The main goal was to understand how different push, pull, and mooring factors affected these switching intentions. The research employed convenience sampling, gathered data from 236 respondents and analysed it using partial least squares structural equation modelling (PLS-SEM). The findings indicated that push factors like safety involvement, religious value, and ethical campaigns did not significantly impact switching intentions. In contrast, pull factors such as individual innovativeness,

perceived attractiveness, and brand credibility had a substantial influence. Mooring factors, including Halal awareness and switching costs, were also significant. The study emphasised the importance of Halal certification and ethical advertising for Halal cosmetic producers, suggesting these elements are crucial for attracting Muslim consumers. The results offered valuable insights into consumer behaviour, highlighting the role of religious values and the need for further research on the adoption of Halal cosmetics.

Theory of Reasoned Action to explore consumer attitudes and intentions towards purchasing Halal cosmetic products by Khalid et. al. The main objective was to investigate how attitude, subjective norms, and product positioning influence purchase intention. Employing a quantitative research methodology, data is collected via structured questionnaires. Non-probability sampling, specifically convenience sampling, was used to gather responses from relevant consumer groups. Statistical tools such as regression analysis and moderation analysis were applied to analyse the data. The key findings indicated that both attitude and subjective norms positively impact purchase intention, with product positioning acting as a significant moderator between attitude and purchase intention. However, the moderating effect of positioning on the relationship between subjective norms and purchase intention was not significant. The study highlighted the critical role of Halal positioning in shaping consumer attitudes and suggested that marketing practitioners should leverage Halal positioning strategies to gain a competitive edge in the market. (Khalid et al., 2021)

Handriana et al. (2020) explored the Theory of Planned Behaviour to understand the factors influencing millennial Muslim women's intention to purchase halal cosmetic products. The primary objective was to identify the key determinants such as trust, attitude, halal awareness, perceived value, brand image, religious belief, and halal

certification that affect purchase intentions. The research employed a quantitative methodology, utilising surveys to gather data from the target demographic. A purposive sampling technique was used to ensure that the sample consisted of millennial Muslim women in Indonesia. Statistical tools such as Structural Equation Modeling (SEM) are employed to analyse the data. The key findings revealed that trust, attitude towards the product, and halal awareness significantly influenced purchase intention. However, religious belief did not directly impact halal awareness. The study suggested that marketers should emphasise enhancing the perceived value and brand image of halal products to foster consumer trust and increase purchase intentions.

Nuryakin et al. (2023) employed the Theory of Reasoned Action to investigate the purchase intentions of millennial Muslim women in Indonesia and Malaysia regarding halal cosmetics. The primary objective is to explore the relationships between knowledge, emotional attachment, religiosity, satisfaction, brand trust, and purchasing intention. The research adopts a quantitative methodology, utilising structural equation modeling (SEM) to analyse the data collected from a sample of Muslim millennial women who have purchased halal cosmetics. The sampling method used was a non-probability purposive sampling method to collect responses. Key findings revealed that knowledge, emotional attachment, and religiosity significantly impact satisfaction and brand trust, which in turn influences purchasing intention. Satisfaction mediated the relationship between these factors and purchase intention in Indonesia but not in Malaysia, while brand trust serves as a significant mediator in both countries. The study underscored the critical role of brand trust in shaping consumer behaviour towards halal cosmetics, providing valuable insights for marketers aiming to enhance customer relationships and drive loyalty within this demographic.

Ngo-Thi-Ngoc et al. (2024) adopted the Theory of Planned Behaviour (TPB) to examine factors influencing the purchase intention of vegan cosmetics among Vietnamese consumers. The primary objective was to understand how subjective norms, attitudes, and perceived behavioural control impact purchase intentions while also considering environmental concern, trust, and perceived knowledge. A quantitative methodology was utilised, collecting data through structured questionnaires from a sample of Vietnamese consumers using convenience sampling. Statistical analysis was conducted using Structural Equation Modelling (SEM) to test the proposed hypotheses. The key findings indicated that all TPB constructs significantly influence purchase intention. Additionally, environmental concern, trust, and perceived knowledge positively affected these constructs, thereby influencing purchase intentions. The study provided valuable insights for vegan cosmetics companies to develop effective marketing strategies in Vietnam and contributed to the broader literature on consumer behaviour and sustainability in the health and beauty industry.

The Theory of Reasoned Action to understand how religiosity, subjective norms, and attitude influenced the purchase intention of "Halal" branded products by Garg & Joshi. The primary objective was to examine the impact of these factors on consumer behaviour, specifically focusing on the cosmetic brand Iba "Halal" Care among Islamic respondents in Delhi, India. A quantitative methodology was employed, with data collected through surveys using Convenience sampling and snowball sampling methods. Statistical tools such as regression analysis were used to analyse the data. The key findings revealed that religiosity and subjective norms significantly influenced attitude, which in turn fully mediated their impact on purchase intention. This indicated that attitude played a crucial role in shaping purchase intentions. The study emphasised the importance of incorporating religious sentiments into marketing

strategies and highlighted the growth potential of the "Halal" product market, including cosmetics. (Garg & Joshi, 2018)

Theory of Planned Behaviour (TPB) to examine consumer attitudes and purchase intentions towards vegan personal care products, with a particular emphasis on animal welfare concerns by Cleff et al. The main objective was to understand how moral obligation, concern for animal welfare, and environmental awareness influence consumer attitudes and intentions to purchase these products. An online survey was conducted, gathering data from 186 participants through convenience sampling. The data was analysed using factor analysis and regression analysis. Key findings indicated that moral obligation, animal welfare concern, and environmental concern significantly affect attitudes towards vegan personal care products, which in turn influence purchase intentions. Additionally, perceived consumer effectiveness and appearance consciousness emerged as significant predictors of consumer behaviour in this context. The study emphasised the importance of highlighting the animal welfare benefits of vegan products and suggested further research to explore additional factors affecting consumer behaviour in this market. (Cleff et al., 2023)

Zeng et al. (2023) adopted the SOR (Stimulus-Organism-Response) theoretical framework to investigate the factors influencing Chinese consumers' purchase intentions for cross-border beauty products. The primary goal was to analyse how emotional, functional, and social values impact perceived gain and customer satisfaction, subsequently affecting continuous purchase intentions. Using a quantitative research methodology, data was gathered through structured questionnaires with a convenience sampling method. The data were analysed using Structural Equation Modelling (SEM). Key findings showed that emotional, functional, and social values significantly boost perceived gain and customer satisfaction, which in turn positively

affect continuous purchase intentions. Notably, perceived gain had a more substantial effect on continuous purchase intentions than customer satisfaction. The study emphasised the importance of cross-border beauty product vendors to enhance perceived gain and emotional appeal to cultivate customer loyalty.

Hong & Kamaruddin (2020) utilised the Revealed Preference Theory to investigate the impact of the country of origin (COO) on China's Muslims' purchase decisions for halal personal care products. The research employed a cross-sectional survey methodology, incorporating diversity sampling through purposive and convenience sampling methods. The statistical analysis was conducted using the logit regression model. The key findings highlighted the significant influence of COO on China's Muslims' preferences for halal products, emphasising the importance of COO as an extrinsic cue in product evaluation and consumer decision-making.

Putri et al. (2018) the study aimed to investigate the impact of religiosity and knowledge on consumer attitudes towards repurchasing halal cosmetics in Indonesia. It employed a cross-sectional research methodology with a sample size of 354 respondents using convenience sampling. The statistical tool of Structural Equation Modelling (SEM) was utilised for data analysis. The key findings revealed a significant indirect relationship between religiosity and knowledge with the intention to repurchase halal cosmetics, mediated by attitude.

The study by Chin et al. (2018) utilised the Theory of Reasoned Action to investigate factors influencing consumer behaviour towards green skincare products in Indonesia, specifically focusing on validating the PERA model for analysing female Indonesian consumers' purchase intentions. The research methodology involved structural equation modelling (SEM) with a sample size of 251 female consumers selected through non-probability sampling. Key statistical tools used structural equation

modelling analysis. The findings revealed that perceived authority support (PAS) positively influenced perceived environmental concern (PEC), which subsequently affects attitude (AT) and subjective norms (SN). These elements lead to the behavioural intention (BI) to purchase green skincare products. The study highlighted the importance of PAS in shaping PEC, which played a crucial role in forming positive attitudes and subjective norms, ultimately driving purchase intentions. This research underscored the significance of authority support and environmental concern in promoting green consumer behaviour in Indonesia.

Wisudanto et al. (2023) utilises the Theory of Planned Behaviour to explore the factors influencing the intention to switch to halal cosmetics in Indonesia. The main objective was to understand the roles of product image, subjective norms, perceived behavioural control, and halal awareness in shaping consumer attitudes and intentions. The research employed Partial Least Square Structural Equation Modeling (PLS-SEM) to analyse data gathered through a structured survey. Key findings indicated that product image had the most significant impact on attitudes towards switching to halal cosmetics, followed by perceived behavioural control and halal awareness. Conversely, halal certification and advertising were found to have minimal influence on switching intentions.

Kartawinata et al. (2020) used the Theory of Planned Behaviour to examine how the green marketing mix affects the purchase intention of green products, specifically targeting Love, Beauty and Planet products in Indonesia. The main objective was to understand how green marketing strategies and consumer attitudes influence the intention to buy environmentally friendly products. The research followed a quantitative methodology, collecting data through surveys distributed to consumers in West Indonesia. Participants were selected using purposive sampling, targeting those

familiar with green products. Structural Equation Modelling (SEM) was used for data analysis. Key findings indicated that both the green marketing mix and consumer attitudes significantly and positively impact purchase intentions for green products. Additionally, consumer attitude served as a mediator between the green marketing mix and purchase intentions, highlighting its crucial role. The study underscored the importance of educating consumers about environmental issues and promoting green products to foster positive attitudes and increase purchase intentions.

Sandhya & Mahapatra (2018) applied the Theory of Planned Behaviour to explore the determinants of Indian consumers' purchase intentions for organic apparel. The primary goal was to examine how product knowledge, involvement, subjective norms, perceived behavioural control, and attitudes influence consumer behaviour towards sustainable textiles. Utilising a qualitative research methodology, the researchers conducted a thematic analysis of data collected from focus group discussions. Participants were selected through purposive sampling based on their knowledge of organic apparel. Key findings indicated that perceived consumer effectiveness, socio-economic factors, and subjective norms significantly affect purchase intentions. However, environmental knowledge and scepticism may weaken these relationships. Despite concerns about cost, maintenance, and the authenticity of organic apparel, participants expressed a willingness to invest in these products for social and environmental benefits. The study highlighted the need for increased awareness about certifying agencies and the advantages of organic apparel, offering valuable insights for textile manufacturers and marketers targeting the Indian sustainable fashion market.

Askadilla & Krisjanti (2017) used the Theory of Planned Behaviour (TPB) to explore green purchase behaviour towards eco-friendly cosmetic products. The primary

aim was to understand how beliefs, attitudes, subjective norms, and perceived behavioural control influence green purchase intentions and behaviours among Indonesian consumers. Using a quantitative research methodology, data were collected via structured questionnaires. The sampling method was a non-probability sampling purposive sampling method, specifically targeting teenage consumers. Statistical tools such as simple regression analysis and multiple regression analysis were employed to analyse the data. The key findings revealed that subjective norms and perceived behavioural control significantly impact green purchase intentions. Moreover, both green purchase intention and perceived behavioural control directly influence green behaviour. The study also found that green purchase intention mediates the relationship between perceived behavioural control and green behaviour. These insights suggested that marketers should focus on enhancing consumers' environmentally friendly attitudes and utilise endorsers to promote green products.

Fatoki (2020) extended the Theory of Planned Behaviour to investigate the factors influencing young consumers' purchase intentions for organic personal care products in South Africa. The primary goal was to assess how attitude, subjective norms, perceived behavioural control, moral norms, and ethical self-identity impact purchase intentions. Utilising a survey methodology, the research targeted final-year undergraduate students and gathered data through convenience sampling. Structural equation modelling was the main statistical tool for analysis. Key findings indicated that attitude, moral norms, and ethical self-identity positively influence the intention to purchase organic personal care products, while subjective norms did not have a significant effect. The study highlighted the role of ethical considerations in consumer behaviour, recommending that businesses adopt ethical marketing strategies to boost the appeal of organic personal care products

The study by Bhutto et al. (2022) applied the Theory of Planned Behaviour to examine factors that influence the acceptance of halal cosmetics among young consumers in Pakistan. This research aimed to expand the theory by adding religious commitment and self-efficacy as internal variables and exploring the moderating effect of halal literacy. The methodology involved surveying 300 participants in Karachi using a structured questionnaire and selecting participants through convenience sampling. Data analysis was conducted using Partial Least Squares Structural Equation Modelling (PLS-SEM). The results showed that religious commitment and self-efficacy significantly affect attitudes, normative beliefs, and purchase intentions, while halal literacy moderated the impact of attitudes, subjective norms, and perceived behavioural control on purchase intentions. These findings provided an important implication for marketers and policymakers targeting Muslim consumers.

Hussain et al. (2024) applied the Theory of Planned Behaviour to investigate how consumer attitudes, repurchase intentions, and brand loyalty are interconnected in the context of halal cosmetics among millennial Muslim female consumers in Pakistan. The study primarily aimed to delineate the determinants of consumer behaviour, with a special focus on trust, product quality, religious beliefs, attitudes, intentions to repurchase, and loyalty to brands. Data from 275 female consumers aged between 25 and 39 from Islamabad and Rawalpindi was gathered using a structured questionnaire. Purposive sampling was employed to select participants, and the data was processed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The findings revealed that trust, product quality, and religious beliefs were significant predictors of consumer attitudes, which subsequently influence repurchase intentions and brand loyalty. Notably, repurchase intention also acted as a mediator between consumer

attitude and brand loyalty, underscoring the complex relationships that drive consumer behaviour in the halal cosmetic market.

Kim & Chung (2011) applied the Theory of Planned Behaviour (TPB) to assess what drives consumer intentions to buy organic personal care products. Their research focused on the impact of consumer values and previous experiences on purchase intentions and explored how perceived behavioural control could moderate the relationship between attitude and intention. The researchers gathered data from 207 participants through an online survey using convenience sampling and analysed the data using multiple regression. The results indicated that both environmental and appearance consciousness significantly improved attitudes towards purchasing organic personal care products. Furthermore, previous experiences proved to be a strong predictor of purchase intentions. Perceived behavioural control was also found to play a moderating role in the attitude-intention dynamic, thereby enhancing the predictive capability of the TPB model.

Delistavrou & Tilikidou (2022) employed the Theory of Planned Behaviour (TPB) to investigate the factors driving consumer intentions to buy green cosmetics and detergents produced using recycled Carbon dioxide. The study aimed to identify the determinants of these intentions, specifically examining attitudes, subjective norms, perceived behavioural control, and scepticism. A survey was conducted among 231 marketing students using cluster sampling, and the data were analysed using exploratory factor analysis and internal consistency tests to ensure measure validity and reliability. Principal component analysis with varimax rotation and Cronbach's alpha was employed to refine the findings. The results demonstrated that perceived behavioural control had the most significant impact on purchase intentions, and consumer scepticism notably intensified the effect of authoritative endorsements. The

research further underscored the need to consider social desirability bias in subsequent studies.

Khan et al. (2021) used the Theory of Planned Behaviour to explore what drives Generation Y in Malaysia to purchase halal cosmetics. This study focused on various determinants, including religious belief, the presence of a halal logo, ingredient safety, and the effects of promotion on buying intentions. A survey was carried out with 300 undergraduate students using a convenience sampling technique. The data was processed through Partial Least Squares Structural Equation Modelling (PLS-SEM). The results indicated that the safety of the ingredients and the halal logo are the most influential factors on purchase intentions, whereas religious beliefs have a comparatively minor impact. The findings suggested that cosmetics firms should prioritise clear halal certification and safe ingredients in their marketing strategies to better appeal to consumers.

Kasri et al. (2023) utilized the Theory of Planned Behaviour (TPB) to examine what drives Indonesian Muslims' intentions to purchase halal pharmaceutical products. This study enriched the TPB model by integrating elements of religiosity and knowledge, along with traditional factors like attitude, subjective norms, and perceived behavioural control. Employing a quantitative methodology, the research analysed data collected from 225 respondents in Jakarta using purposive sampling to focus on individuals familiar with halal products. Analytical techniques such as confirmatory factor analysis and robustness tests were performed using LISREL 8.8 software. The findings revealed that attitude, religiosity, knowledge, and perceived behavioural control are significant predictors of the intention to consume halal pharmaceutical products, whereas subjective norms did not show a significant impact. This study

offered valuable insights into the theoretical and practical aspects of consumer behaviour within the halal pharmaceutical sector.

Limbu et al. (2022) applied both the Information-Motivation-Behavioural Skills (IMB) model and the Theory of Planned Behaviour to examine what influences purchase intentions for green cosmetics among young female consumers in Vietnam. The study aims to determine the effects of knowledge, attitude, subjective norms, and self-efficacy on these intentions. A quantitative method was used, with data gathered through a structured questionnaire. Convenience sampling was utilised to collect responses from the specified group. Techniques such as regression analysis and mediation analysis were employed for data evaluation. The results indicated that knowledge, attitude, and subjective norms have a significant positive influence on purchase intentions, with self-efficacy acting as a mediator in these dynamics. This research highlighted the crucial role of these elements in driving the behaviour of consumers towards green cosmetics in Vietnam.

Ghazali et al. (2017) employed the Theory of Planned Behavior to investigate the determinants affecting consumer attitudes and their intentions to buy organic personal care products (PCP) again. The main aim was to assess the impact of perceived values and product knowledge on consumer attitudes and their repurchase intentions. Methodologically, the study involved surveying 317 individuals who had bought organic PCP in the past year, with data analysis carried out using Partial Least Square (PLS). Convenience sampling was chosen for data collection. To verify the measurement model's reliability, statistical techniques like convergent and discriminant validity assessments were used. The results revealed that hedonic qualities, environmental values, product knowledge, and perceived behavioural control significantly shape attitudes and intentions to repurchase, with attitudes emerging as the

most influential predictor. The findings advised marketers to improve product awareness and highlighted the hedonic, health, safety, and environmental advantages to boost repurchases.

Mukhtar & Butt, (2012) used the Theory of Reason Action to investigate how knowledge, emotional attachment, religiosity, satisfaction, and brand trust influence the purchasing intentions of millennial Muslim women in Indonesia and Malaysia regarding halal cosmetic products. The study aimed to delineate the effects of these factors on purchase intentions. Adopting a quantitative method, the research involved administering surveys to the specified demographic, with convenience sampling utilised for participant selection. Structural equation modelling (SEM) was the main analytical technique used to process the data. The findings revealed that knowledge, emotional attachment, and religiosity were significant predictors of both satisfaction and brand trust, which subsequently mediated purchasing intentions. The study highlighted the critical roles of brand trust and customer satisfaction in motivating the purchase of halal cosmetics among this consumer group.

Rizkitysha & Hananto (2022) utilised the Theory of Reasoned Action (TRA) to assess how Muslim consumers make purchasing decisions concerning Halal-labelled detergent products. The study's main goal was to examine the effects of religiosity, perceived usefulness, and knowledge on consumer attitudes and their intentions to purchase. An online self-administered questionnaire was used to collect data from Muslim women in Indonesia who had not previously purchased Halal-labelled detergent. Purposive sampling was implemented to ensure the participants were pertinent to the study's objectives. The data were analysed using the Partial Least Squares (PLS) method, which verified the reliability and validity of the measurement model. The results revealed that religiosity, knowledge, and perceived usefulness

substantially affect consumer attitudes and intentions to buy Halal-labelled detergent. It was also found that perceived usefulness acted as a mediator between religiosity and consumer attitudes, although attitudes did not mediate the relationship between religiosity and purchase intentions. The findings highlighted the need to educate consumers about Halal principles to enhance their purchasing decisions effectively.

Widyanto & Sitohang (2022) applied the Theory of Reasoned Action (TRA) to analyse the purchase intentions of Muslim millennials toward halal-certified cosmetics and pharmaceutical products, focusing specifically on the mediating role of attitude. This study adopted a quantitative approach, gathering data through structured questionnaires from Muslim millennials in the Greater Jakarta region. Convenience sampling was used to collect the data from participants. The data was processed using Structural Equation Modelling (SEM) to examine the relationships between variables. The results reveal that subjective norms indirectly influence purchase intentions through attitudes, rather than directly affecting them. Furthermore, religiosity was found to significantly shape attitudes toward halal products, underscoring the need for marketers to tailor their strategies to reflect Islamic values to increase product appeal among Muslim millennials.

Abd Rahman et al., (2015) employed the Theory of Reasoned Action to assess how knowledge and religiosity affect Malaysian consumers' attitudes and intentions toward Halal cosmetic products. The main goal was to explore these influences within the Halal cosmetics market. A quantitative approach was used, with surveys distributed among Malaysian Muslim consumers through convenience sampling. Regression analysis was employed to process the data. The findings highlighted a strong positive correlation between religiosity and positive attitudes towards Halal cosmetics; however, knowledge was found not to have a significant impact on attitudes. The study also noted

that consumers show more favourable attitudes and intentions towards Halal food than to Halal cosmetics, suggesting that marketers might benefit from incorporating religious considerations into their promotional strategies and possibly adapting successful marketing practices from Halal food to the cosmetics sector.

Al-Banna & Jannah (2023) used the push-pull-mooring (PPM) framework to analyse the determinants that drive Muslim consumers to switch to halal cosmetics. The main goal was to examine the impact of factors such as dissatisfaction, regret, perceived value, brand image, and religious belief on switching behaviour. A quantitative approach was adopted for this study, with data gathered through surveys from a sample of Muslim consumers using convenience sampling. Regression analysis was employed to evaluate the hypotheses. The results demonstrated that regret, perceived value, and religiosity have a significant effect on switching intentions, whereas dissatisfaction and brand image show a positive but not significant influence. The findings emphasised the critical roles of perceived value and religiosity in determining consumer preferences toward halal cosmetics.

Firdausi & Dharmmesta (2023) made use of migration theory and the push-pull-mooring framework to explore what drives consumers to shift from traditional cosmetics to green alternatives. The study aimed to pinpoint the push factors (such as dissatisfaction and poor quality), pull factors (like the appeal of alternatives), and mooring factors (including limited variety-seeking and negative subjective norms) influencing this behaviour. Data were collected and analysed using Structural Equation Modelling (SEM), and a non-probability sampling method was employed for data gathering. The findings revealed that the pull factors, particularly the allure of green cosmetics, serve as the primary motivators for switching, with push factors like dissatisfaction also playing a significant role. Although mooring factors moderated the

influence of pull factors on switching intentions, they did not significantly alter the impact of push factors. The research advised green cosmetic manufacturers to concentrate on developing appealing and innovative products to fulfil consumer demands.

Mohezar et al. (2016) adopted the Diffusion of Innovation (DOI) Theory to analyse the factors that impact young Muslim consumers' adoption of halal cosmetics in Malaysia. The study aimed to assess the influence of perceived product characteristics, social influence, consumer innovativeness, and religiosity on the adoption process. A survey method was employed, with data gathered through a structured questionnaire from young Muslim consumers using convenience sampling. Regression analysis was used to examine the data. The results indicated that product characteristics, social influence, and consumer innovativeness significantly affected the adoption of halal cosmetics, with religiosity acting as a moderating factor. The model accounted for 48.9% of the variance in the adoption rates of halal cosmetics, underscoring the significance of these factors in the decision-making process of consumers.

Suparno (2020) applied the Stimulus-Organism-Response (S-O-R) model to analyse factors affecting online purchase intentions for halal cosmetics among Muslim women in Indonesia. The main aim was to explore how individual religiosity and shopping values influence attitudes and online purchase intentions. Using a quantitative approach, the study collected data through surveys from Indonesian Muslim women, with a convenience sampling method. Structural Equation Modelling (SEM) was employed to process the data. The results demonstrated that individual religiosity and hedonic shopping values significantly affect attitudes toward halal cosmetics, which in turn enhance online purchase intentions. In contrast, utilitarian shopping value was not

a significant predictor of attitudes. This study highlighted the critical roles of religious and emotional factors in influencing consumer behaviour regarding halal cosmetics.

The research by Ngah et al. (2023) utilised the Stimulus-Organism-Response (S-O-R) framework to explore why Muslim university students in Malaysia persist in using non-halal-certified cosmetics. The study focused on the effects of celebrity endorsements, brand image, and attitudes on their continued usage, with religiosity serving as a moderating variable. Data was analysed using Structural Equation Modelling (SEM) after being collected via surveys from a conveniently sampled group of students. The analysis confirmed the convergent validity of the model and assessed for common method bias. Significant findings from the study indicated that celebrity endorsements effectively improve both attitudes towards and the image of non-halal cosmetics, which in turn affects the continued use of these products. However, religiosity was found to weaken the influence of attitudes on continuance behaviour, highlighting its moderating role in consumer decisions.

Kumra & Arora (2022) used the Stimulus-Organism-Response (SOR) model to assess how sensory-enabled web aesthetics affect the online purchase intentions for organic beauty products in India during the COVID-19 pandemic. The study aimed to identify the factors influencing the online purchasing behaviour of these products amidst the pandemic. Employing a qualitative case study approach, data was gathered from 132 customers across seven organic beauty brands via semi-structured interviews. The data was analysed through thematic analysis and Multiple Correspondence Analysis (MCA). The findings underscored the crucial role of sensory technologies and website aesthetics in driving purchase intentions. Notably, brands such as Rishi Ayurveda and Innisfree demonstrated high customer engagement, whereas Radico and

Bio Ayurveda saw less, highlighting the significant influence of web aesthetics and sensory technology on online consumer behaviour during the pandemic.

Testa et al. (2023) employed the Stimulus-Organism-Response (SOR) framework to conduct a systematic literature review of factors that affect consumer decisions to purchase green cosmetics. The study aims to categorise these factors and elaborate on the socio-psychological stimuli, internal states, and resultant behaviours. This review analysed 60 studies spanning from 2007 to 2022, primarily employing quantitative methods and surveys for data gathering. A diverse range of sampling techniques was noted, with a considerable number of studies conducted in Asia, especially in India. Significant findings revealed that factors like health consciousness, environmental concerns, social norms, advertising, branding, eco-labelling, and product availability act as major facilitators. Conversely, impediments such as greenwashing, insufficient information, and perceived high costs were identified. The study highlighted the need for a deeper understanding of these dynamics to craft effective marketing strategies and encouraged further investigation into less studied areas of green cosmetics consumer behaviour.

Tazlia et al. (2023) adopted the Stimulus-Organism-Response (SOR) framework to analyse Generation Z's purchase intentions towards local halal beauty brands in Indonesia, focusing particularly on the impact of influencer credibility and halal awareness. The goal was to determine how these factors affect perceived value and ultimately influence purchasing decisions. The study employed Partial Least Squares Structural Equation Modelling (PLS-SEM) to analyse data gathered from 200 participants in the Jabodetabek region via convenience sampling. The results indicated that the credibility of influencers and the awareness of halal significantly enhance perceived value, which in turn positively influences purchase intentions. This study

highlighted the critical roles of using credible influencers and emphasising halal attributes to increase perceived value and stimulate purchase decisions within the beauty sector.

Nguyen-Viet & Nguyen (2024) explored consumer behaviour towards green beauty products in Vietnam using the Stimulus-Organism-Response (SOR) model to assess how attitudes, trust, and various concerns impact purchase intentions. The research focuses on examining the effects of trust, scepticism towards green advertising, and animal welfare concerns on the consumption of green products. Surveys were conducted using a convenience sampling strategy, targeting mainly females aged 25-45 with higher education, distributed through both online and offline channels. Data analysis was performed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The findings revealed that positive attitudes and trust robustly promote green purchasing intentions, whereas scepticism towards green advertising diminishes trust and the willingness to pay. Furthermore, while animal welfare concerns significantly boost purchase intentions and word-of-mouth recommendations, they do not markedly influence attitudes or willingness to pay. The study highlighted the importance of clear and educational marketing to build trust and raise awareness in markets like Vietnam.

(Zeng et al., 2023) employed the Stimulus-Organism-Response (SOR) model to assess the factors affecting the ongoing purchase intentions of Chinese consumers for cross-border beauty products. The main goal was to evaluate how emotional, functional, and social values influence perceived gains and customer satisfaction, which in turn impact continuous purchase intentions. The study adopted a quantitative approach, collecting data from Chinese consumers through surveys and using convenience sampling for participant selection. Structural Equation Modelling (SEM)

was used for data analysis. The findings indicated that emotional, functional, and social values significantly boost perceived gains and customer satisfaction, subsequently enhancing continuous purchase intentions. Notably, perceived gains played a critical role in sustaining purchase intentions, with a partial mediation effect observed in the relationship between the initial stimulus and the resultant behaviour. This research offered important implications for businesses in the international beauty product market.

Lavuri et al., (2022) utilised the Stimulus Organism Response paradigm to examine the determinants of purchase intentions for luxury organic beauty products in India. This study investigates the roles of green advertising, green brand image, LOHAS (Lifestyles of Health and Sustainability) consumption tendencies, and perceived consumer effectiveness in shaping trust and attitudes, which subsequently influence purchase intentions. The data was collected from 398 participants using a structured questionnaire and analyzed with structural equation modelling (SEM). Convenience sampling was employed for data collection. The results showed that green advertisements, green brand image, and perceived consumer effectiveness had a positive impact on consumers' attitudes towards luxury organic beauty products. Furthermore, trust and attitudes acted as mediators between these factors and purchase intention. The findings highlighted the critical role of fostering trust and endorsing green initiatives to increase consumer interest in high-end organic beauty products.

Lee et al., (2020) applied categorisation inference theory to explore how sustainable certification reputation affects consumer behaviour within the fashion industry. The main aim was to analyse the impact of certification reputation on consumer attitudes, trust, and purchase intentions toward sustainable products. The study adopted a quantitative approach, using surveys to collect data. Convenience

sampling is used to obtain responses from consumers in select countries. Data analysis was performed using Structural Equation Modelling (SEM). The results revealed that certification reputation significantly improved the alignment between product attributes and certification standards, which in turn boosts consumer trust and positive attitudes toward the products, enhancing purchase intentions. The findings emphasised the importance of established certification marks in building consumer trust and promoting sustainable purchasing practices in the fashion industry.

Jaini et al. (2020b) employed both the Value-Belief-Norm (VBN) theory and the Elaboration Likelihood Model (ELM) to examine the determinants of green purchase behaviour (GPB) within the Malaysian cosmetics sector. The study aimed to explore how values, beliefs, personal norms, and electronic word-of-mouth (eWOM) influence GPB. A survey-based methodology was implemented, collecting data from Malaysian consumers using convenience sampling. Data analysis was conducted using Partial Least Squares Structural Equation Modelling (PLS-SEM). The findings indicated that altruistic and hedonic values are strong predictors of pro-environmental beliefs, which subsequently shape personal norms and enhance GPB. Moreover, eWOM was found to moderate the impact of personal norms on GPB, underscoring its vital role in influencing consumer decisions. This study enriched the understanding of GPB by integrating insights from VBN and ELM theories and recommends that marketers emphasise hedonic values and utilise eWOM to boost the appeal of green cosmetics.

Tilikidou & Delistavrou (2023) adapted the Value-Belief-Norm (VBN) model that integrates risk perception to analyse consumer intentions towards buying cosmetics and detergents made from recycled CO₂. The main goal was to examine how risk perception affects consumer intentions motivated by the desire to mitigate climate change. The methodology involved a structured questionnaire, initially developed in

English and translated into three other languages via the TRAP method. Data was collected through convenience sampling from participants in Germany, France, and Spain. The data analysis was carried out using Structural Equation Modelling (SEM). The findings revealed that risk perception significantly increases the VBN model's ability to forecast pro-environmental purchasing intentions. The study also noted limitations such as potential social desirability bias and suggested that future research should investigate actual consumer behaviours once these innovative products hit the market.

Jaini et al., (2020a) used the Value-Belief-Norm (VBN) theory to examine the determinants of green purchase behaviour (GPB) for cosmetic products among Malaysian consumers. The study's main aim was to assess the direct and indirect impacts of values, beliefs, and personal norms on GPB. A quantitative approach was adopted, featuring a structured questionnaire that was expert-validated and pre-tested with 100 consumers. Convenience sampling was used to collect data from participants. Analytical methods included Cronbach's alpha to confirm reliability and Structural Equation Modelling (SEM) to test hypotheses. The results showed that values, beliefs, and personal norms are significant predictors of GPB, highlighting the need for collaborative efforts by governmental and non-governmental organisations to foster these factors among consumers.

Moharam (2023) combined the Theory of Planned Behaviour and the Value-Belief-Norm Theory to assess factors affecting green purchasing behaviour in the cosmetics sector among Bahraini women. The aim was to determine the effect of attitudes, subjective norms, perceived behavioural control, and environmental beliefs on green purchasing decisions. A quantitative approach was used, with data gathered from 400 Bahraini females aged 14-55 through a structured questionnaire. Convenience

sampling facilitated participant selection. Reliability and validity tests were performed to confirm the integrity of the questionnaire. The results indicated that attitudes, subjective norms, perceived behavioral control, and environmental beliefs all positively impacted green purchasing behavior. The findings highlighted the critical role of environmental sustainability in product development and suggest that awareness campaigns could boost green purchasing practices among Bahraini female consumers.

Munerah et al. (2021) employed the Norm Activation Theory to explore the factors that can reduce clothing consumption and assess the effect of green marketing on consumer behaviour in the realm of green beauty products. The main goal was to examine how awareness of consequences, ascription of responsibility, efficacy, social norms, and environmental corporate social responsibility (ECSR) initiatives influence consumer purchase intentions. A quantitative approach was employed, analysing data from cosmetic consumers in Malaysia using Partial Least Squares (PLS) models. The findings revealed that perceived norms significantly mediated the effects of efficacy, social norms, and ECSR initiatives on purchase intentions, though they did not mediate the impact of awareness of consequences on purchase intentions. The study concluded that highlighting the environmental benefits of green beauty products and the role of social norms and corporate social responsibility in marketing can effectively shape consumer behaviour.

Szaban & Stefańska (2023) combined the Innovation Resistance Theory (IRT) and the Stages of Behavioural Change (SOC) model, the authors focused on identifying and analysing perceived obstacles to green consumption during various behavioural change stages. The study conducted in-depth qualitative interviews with consumers who were transitioning towards green consumption habits, using purposive sampling to include participants from different stages of change. Thematic analysis of the interview

data highlighted that knowledge barriers were consistently significant across all stages, whereas barriers related to tradition, value, usage, and risk were more prevalent in the initial stages. As consumers advanced in their green consumption journey, barriers related to knowledge and image became more prominent. Additionally, the research pinpointed positive influences such as green word-of-mouth and lifestyle decisions that encouraged green consumption. These results indicated that interventions tailored to address specific barriers at appropriate stages can effectively enhance sustainable consumption practices.

Hong et al. (2020) used random utility choice modelling to examine the factors that affect Chinese Muslims' preferences for halal toothpaste. The main aim was to evaluate how attributes such as price, store type, country of origin, and demographic factors including faithfulness, age, income, marital status, and proximity to halal shops influence consumer decisions. The methodology included collecting stated preference data via surveys in five Chinese cities, targeting Muslim households. The choice model for various alternatives is estimated using a multinomial logit model, with random sampling methods used to collect the data. Analytical techniques like predicted probabilities and marginal effects are applied to assess the impact of these factors. Results highlighted a pronounced preference for imported halal toothpaste, significantly affected by factors such as age, income, level of faith, and past purchasing habits. The findings emphasised the need for marketers to understand detailed consumer preferences and to competitively price their products to succeed in the halal market.

Hong & Kamaruddin (2020) adopted Revealed Preference Theory to examine the impact of Country of Origin (COO) on halal consumption behaviours among Muslims in China, specifically targeting personal care products. The study's main goal

was to assess how COO influences purchasing decisions and trust in the authenticity of halal products. A logit model was used to process data from Muslims in northwest China, gathered through a carefully selected sampling method to ensure the representativeness of the data. The findings revealed that COO profoundly affected halal consumption patterns, with a marked preference for local halal products over those that are imported. Additional factors such as education, urban versus rural residence, and gender also play roles in these consumer choices. The study highlighted the critical role of COO in forming consumer preferences and recommends that local halal product marketers work together to promote certified halal products, thereby fostering trust among Muslim consumers in China.

Huriah et al. (2022) integrated the Theory of Planned Behaviour and the Theory of Consumption Value to explore what drives the usage of halal cosmetics among Indonesian students. The study aimed to investigate the impact of knowledge, religiosity, attitude, intention, and the actual use of halal cosmetics. A structural equation model was used to validate the reliability of the constructs and to assess how independent variables influenced the dependent variable. Data was collected from a convenience sample of students, and techniques like variance analysis were used for data analysis. The results demonstrated significant correlations between intention, conditional value, epistemic value, emotional value, and the use of halal cosmetics, accounting for 76.2% of the behaviour's variance. It was found that while attitude and intention significantly influenced the use of halal cosmetics, knowledge, functional value, and social value did not exhibit significant effects.

Jhamb et al. (2023) applied the Behavioural Reasoning Theory and Emotional Affinity Theory to examine how consumer attitudes, brand love, brand trust, altruism, and sustainable consumption behaviours affect continuous purchase intentions for

organic personal care products. The study's goal was to analyse these influences, particularly considering health consciousness as a moderating factor. Data were gathered from 364 users of organic personal care products in the Northwest region of India through a structured questionnaire and convenience sampling. Structural Equation Modeling (SEM) was utilised to process the data. The findings revealed that consumer attitudes significantly enhance brand love, brand trust, and altruism, which subsequently foster sustainable consumption behaviours. Moreover, health consciousness was found to moderate the link between sustainable consumption behaviour and continuous purchase intentions, offering critical insights for those in the organic product sector.

Sadiq, Adil, and Paul (2021) applied the Belief Decomposition Approach (BDA) to explore the behavioural reactions of men towards green cosmetics, addressing the disparity between their growing popularity and the sparse research focused on this demographic. The study adopted a quantitative method, employing a structured questionnaire to gather data from male consumers using non-probability convenience sampling methods. Data was analysed using Smart PLS 3 for Partial Least Squares Structural Equation Modelling (PLS-SEM). The findings highlighted that the contemporary cultural emphasis on male grooming significantly affects their attitudes and purchasing behaviours towards green cosmetics, offering valuable insights for marketers and retailers targeting this segment.

2.3. Factors influencing the Attitude and Intention of Cosmetic Consumers

The previous section discussed studies on cosmetic consumption behaviour that applied various consumer behaviour theories. This section focuses on other studies concerning the factors influencing the attitudes and intentions of cosmetic consumers.

Luan et al. (2023) investigated the complex effects of corporate social responsibility (CSR) on consumer behaviour in the beauty and tourism sectors, particularly focusing on brand equity, credibility, and purchase intentions. The primary objective was to explore how CSR perceptions affect consumer attitudes and behaviours, especially in cases of service failures and the appeal of organic products. Data were gathered from 257 participants via Amazon Mechanical Turk, using an experimental design and scenario-based methods to test the relationships among the variables. Convenience sampling was employed to obtain the sample, and regression analysis was utilised for data examination. Key findings indicated that the appeal of organic products positively impacts CSR beliefs, which subsequently enhances brand attitude and purchase intention. Additionally, health consciousness significantly moderated these relationships. The study highlighted the critical role of aligning CSR initiatives with consumer health consciousness to mitigate the adverse effects of service failures and maintain brand loyalty.

Ibrahim & Ismail, (2015) examined the association between religiosity and the intention to purchase Halal-labelled non-food products among Malaysian Gen Y consumers. The primary aim was to identify how religiosity affects the purchasing behaviours of this demographic. The research adopted a survey methodology, collecting data from 300 respondents through convenience sampling. Statistical methods, including regression analysis, were used to test the hypotheses. Key findings indicated

a significant relationship between religiosity and purchase intention, with religiosity also mediating the relationship between purchase intentions and consumers' personal characteristics.

Sharma et al. (2021) aimed to explore the shift in consumer behaviour towards green cosmetics, focusing on awareness levels and purchase intentions among consumers in Delhi/NCR. The research involved collecting primary data from 160 respondents using a structured questionnaire and convenience sampling. Statistical analyses, including frequency distribution, one-sample tests, ANOVA, correlation, and regression, were employed to analyse the data. The key findings revealed a positive relationship between consumer awareness and purchase intention of green cosmetics, with environmental sustainability and health consciousness being primary motivators. However, factors such as questionable company claims and high prices discouraged consumers. The study also emphasised the role of demographic variables, such as education and age, in influencing awareness and purchase intentions, indicating a growing interest among consumers in Delhi/NCR in purchasing green cosmetics.

Shahid et al. (2018) examined the factors affecting the consumption of halal cosmetic products among Indian Muslim consumers, emphasising religiosity, awareness, halal certification, and education level. The primary objective was to understand the purchasing behaviour and motivations for choosing halal cosmetics. The research employed qualitative methods, such as focus group discussions and in-depth interviews, to gather insights from the target demographic. Participants knowledgeable about halal products are selected through purposive sampling. The study used thematic analysis to interpret the collected data. Key findings revealed that religiosity, awareness, and halal certification significantly influence consumer behaviour, with respondents considering halal products crucial for adhering to their faith and ensuring

safety and health. Furthermore, the country of origin affected consumer preferences, and there was a significant demand for halal-certified brands despite availability challenges in India.

Suryadi et al. (2020) explored the factors influencing Muslim women's attitudes towards purchasing halal cosmetics online in Indonesia, applying the Theory of Reasoned Action (TRA) and PLS-SEM for analysis. The study focused on beliefs, attitudes, and online purchase intentions among respondents aged 21-22 from religious faculties, using purposive sampling to gather data. PLS-SEM was utilised to analyse the collected data. The results showed that beliefs significantly affect attitudes towards halal cosmetics, which in turn influence online purchase intentions. Additionally, the study found that most respondents preferred halal cosmetics due to their natural ingredients and affordability, emphasising the importance of religiosity and attitude in consumer behaviour regarding halal products.

Lin et al. (2018) investigated consumer attitudes towards green cosmetics in the UK, focusing on how personal experience, lifestyle, media, and marketing affect these attitudes. The researcher used qualitative methods, specifically focus groups, to collect data from 30 British women. Participants were selected through purposive sampling to ensure relevant insights. The analysis was thematic. Key findings showed that consumers valued natural ingredients, environmental protection, and ethical practices but faced confusion and a lack of knowledge about green cosmetics. Price and performance were more important than green aspects, though support for green cosmetics might grow in the future. The study suggested the need for clearer standards and regulations in the green cosmetics industry to meet consumer demands better.

Situmorang et al. (2021) investigated how consumer attitudes towards green brands moderate the relationship between green brand positioning and the intention to

repurchase eco-friendly products. The primary goal was to understand how green brand positioning impacts repurchase intentions and the role of consumer attitudes in this dynamic. The researcher employed a quantitative methodology, analysing data from a sample of 175 respondents using AMOS 22 for statistical analysis. Data were gathered through convenience sampling. The key findings showed that green brand positioning significantly influenced repurchase intentions, with consumer attitudes towards green brands acting as a mediator. Additionally, while knowledge of green brands enhances positive attitudes, it does not directly affect repurchase intentions. This study emphasised the importance of strategic brand positioning and the creation of environmentally friendly products in influencing consumer attitudes and behaviours.

Hong et al. (2020) investigated the factors affecting Chinese Muslims' preferences for halal toothpaste using random utility choice modeling. Surveys conducted in five cities in China provided data, which were analysed using a multinomial logit model to estimate the parameters. Convenience sampling was used to gather responses from the target demographic. Key statistical tools included the multinomial logit model, which identified significant factors such as price, store type, and country of origin in consumer decision-making. The findings indicated that Chinese Muslims prefer imported halal toothpaste over locally produced options, with price, age, income, and religiosity significantly influencing their choices. The study highlighted the need to understand consumer preferences and set competitive prices for the effective marketing of halal products in China.

Delistavrou et al. (2023) aimed to investigate the moderated mediation effect in pro-environmental consumer behaviour, focusing on how risk perception influences consumption intentions. This relationship was mediated by the Theory of Planned Behaviour (TPB) constructs and moderated by the country of residence. Data were

collected from four European countries and analysed using Structural Equation Modeling (SEM). A stratified sampling approach ensured demographic diversity. The study found that attitudes, subjective norms, and perceived behavioural control mediated the relationship between risk perception and consumption intentions. Additionally, significant differences in concerns and intentions were found across the four countries, highlighting the role of cultural and contextual factors in shaping consumer behaviour towards green products.

Papista & Dimitriadis (2019) looked at how consumers relate to green brands in the natural cosmetics industry, focusing on the benefits of green products and how they affect consumer behaviour. The researchers used structural equation modelling to analyse data from female customers of three major natural cosmetics brands in Greece. They used various established measurement scales to assess factors like trust, commitment, satisfaction, and environmental awareness. The sample focused on female customers to ensure the findings were relevant to the natural cosmetics market. Key findings showed that satisfaction is a major factor in building strong consumer relationships, particularly for those less concerned with the environment. Environmental awareness and the length of the relationship with the brand also significantly influenced consumer intentions. The study emphasised the need for brands to offer both practical and emotional benefits to strengthen consumer loyalty and suggested further research to explore how these relationships change over time and in different contexts.

Virgiawan et al. (2024) examined the influence of various Point of Sale Materials (POSM) on consumer purchasing behaviour in the halal cosmetics sector, with a focus on Wardah products in Indonesia. Based on consumer behaviour theory, the research aimed to evaluate the effectiveness of promotional tools such as free

coupons, free samples, Buy One Get One (BOGO), and discounts. A quantitative methodology was used, incorporating descriptive data analysis and outer model analysis to assess the validity and reliability of the variables. Data was collected using a non-probability sampling method. Convergent validity tests were applied to ensure robust findings. The results indicated that free coupons and BOGO promotions have a significant positive effect on consumer behaviour, while free samples and discounts show a positive but not statistically significant impact. The study concluded that prioritising free coupons and BOGO promotions can effectively boost consumer engagement and loyalty in the halal cosmetics market.

Zollo et al. (2021) investigated the factors influencing consumer intention to purchase green consumer chemicals. The primary objective was to identify and verify the antecedents of green purchase intention, such as environmental concern, green lifestyle, product knowledge, promotion, and community influence. The research utilised a quantitative methodology, employing a survey to collect data from a diverse sample of consumers. Stratified random sampling was used to ensure representation across different demographics. Statistical tools such as regression analysis and ANOVA were applied to analyse the data. Key findings revealed that environmental concern, green lifestyle, product knowledge, and promotion significantly influence green purchase intention, while community influence was not significant. Additionally, the study highlighted demographic differences, with women being more influenced by product knowledge and younger consumers by environmental concerns, underscoring the need for targeted marketing strategies.

Aydin (2019) investigated the consumer behaviour of halal cosmetics among Generation X and Y in Indonesia, using the Theory of Planned Behaviour. The main objective was to examine how halal knowledge and Islamic religiosity influence

consumer attitudes and behaviours. Data was collected through both offline and online questionnaires and analysed using the Partial Least Square (PLS) method. Responses were gathered using a combination of purposive and convenience sampling. Structural equation modeling was used to validate the measurement model and test the hypotheses. The key findings indicated that although halal knowledge and Islamic religiosity significantly influence consumer attitudes, they do not directly affect consumer behaviour. Instead, consumer attitudes fully mediate the relationship between halal knowledge/Islamic religiosity and behaviour. This suggested that marketing strategies should focus on improving consumer attitudes towards halal cosmetics to drive behaviour.

Ishak et al. (2020) centred their study on consumer behaviour, specifically investigating the cosmetic purchasing habits of young, educated Muslim female consumers. The objective was to understand the influence of factors such as religiosity, brand image, halal perception, advertisement, and product knowledge on their purchasing decisions. The research employed a quantitative approach, utilising surveys to gather data from the target demographic. Convenience sampling is used to select participants, and correlation analysis is applied to examine the relationships between variables. Key findings indicated that these consumers prioritise halal certification, brand reputation, and product authenticity, often relying on social media for information. Additionally, the study revealed that religiosity and product knowledge significantly impact purchasing behaviour, with no notable differences between students of Islamic and non-Islamic studies.

Choi & Lee (2019) examined consumer behaviour concerning green cosmetics, focusing on factors such as brand credibility, involvement, trust, perceived risk, and perceived value. The study aimed to understand how these elements, alongside third-

party endorsements, consumer reviews, and online assurance seals, influenced consumer trust and purchasing intentions. An experimental methodology was used, with a mobile app simulating an e-commerce platform to collect data from participants. Purposive sampling was employed to select participants, and structural equation modelling was the main statistical tool used for data analysis. Key findings revealed that trust in domain-specific information and perceived social value significantly boost purchase intentions, while brand loyalty has a negative impact. The study highlighted the critical role of trust and perceived value in shaping consumer preferences for green-grade cosmetics.

Islam (2022) examined the influence of Islamic beliefs on consumer attitudes toward halal cosmetics, highlighting the crucial role of halal certification in establishing trust among Muslim consumers. The study draws on Quranic guidelines and hadiths to establish its theoretical framework, focusing on factors such as the presence of alcohol, animal fat, production by non-Muslims, and certification issues. Utilising a survey methodology, data was collected from students and shoppers in Bangladesh through convenience sampling. Correlation analysis was used to explore the relationships between consumer attitudes and various factors. Key findings indicated that consumers had negative attitudes towards the use of alcohol and haram animal fat in halal cosmetics, with significant gender differences in these attitudes. The study emphasised the importance of religious self-identity and moral obligations in influencing consumer intentions to purchase halal products, offering valuable insights for marketers in the halal cosmetics industry.

Tilaar et al. (2023) examined storytelling and product innovation impact on purchase intentions for natural cosmetic products in Jakarta, Indonesia, with a focus on the mediating role of product innovation. The primary goal was to understand how

storytelling and product innovation affect consumer purchase intentions. The research employed a questionnaire survey, collecting data from 200 respondents through convenience sampling. Partial Least Square (PLS) modelling was used for data analysis. Key findings indicated that storytelling significantly enhances purchase intentions via the mediating effect of product innovation. This suggested that effective storytelling and innovative products are essential for increasing consumer purchase intentions in the natural cosmetics market. The study filled a gap in the literature on beauty product purchase intentions in Jakarta and underscored the importance of value co-creation for future research.

AL-Haddad et al. (2020) examined the factors that influence female consumers' purchase intentions towards green cosmetics in Jordan. The main objective was to investigate how brand awareness, brand loyalty, and perceived quality shape these purchase intentions. A quantitative approach was used, with data gathered through a structured questionnaire from a sample of female consumers chosen via convenience sampling. Regression analysis was employed to interpret the data. The key findings revealed that brand awareness, brand loyalty, and perceived quality significantly and positively impact purchase intentions. These results suggested that cosmetic manufacturers should prioritise these factors to improve market performance and increase sales in the green cosmetics sector.

Osman et al. (2022) explored the association between halal awareness, halal knowledge, attitude, and the purchasing behaviour of halal cosmetics among adult consumers in Klang Valley, Malaysia. The aim was to understand how these factors impact consumer behaviour in the halal cosmetics market. Using Partial Least Squares Structural Equation Modeling (PLS-SEM), the research analysed data from 389 predominantly male and female respondents collected through a systematic sampling

method. The findings demonstrated that all variables showed acceptable reliability and validity, supporting a strong research model. Key results indicated that attitude was the most significant predictor of purchasing behaviour, followed by halal awareness and knowledge. These insights suggested that marketers should prioritise fostering positive attitudes towards halal cosmetics to attract more consumers. Future research should explore additional factors to deepen the understanding of consumer behaviour in this market.

Yener (2015) aimed to identify the factors influencing attitudes towards halal foods in Turkey. Data was collected from 724 Muslim respondents using a questionnaire and judgment sampling. The research utilised Regression and ANOVA analysis to examine variables such as perceived risk, involvement, and religiosity, with a focus on purchase intention, perceived value, and food safety. The study found that intrinsic religiosity, interest, and pleasure value positively impact purchase intention, while perceived risk negatively affects it. Additionally, married, high school-educated, and religious consumers demonstrated higher purchase intentions for halal products. The findings underscored the significance of perceived risk and involvement in consumer decision-making regarding halal-certified products.

Nagvanshi et al. (2023) investigated the influence of social media advertising on Gen Z consumers' purchase intentions towards organic cosmetic brands. The research adopted a quantitative methodology, gathering data through surveys from a sample of Gen Z social media users. Convenience sampling was employed to select participants, and statistical tools such as regression and mediation analysis were utilised to explore the relationships between variables. Key findings indicated that social media advertising significantly boosts purchase intention both directly and indirectly via brand awareness, brand image, and brand loyalty. Mediation analysis revealed that 41.3% of

the total effect on purchase intention was mediated through these factors, underscoring the pivotal role of social media advertising in shaping consumer behaviour and brand preference among Gen Z.

Pudaruth et al. (2015) explored the factors influencing female consumers' preferences for eco-friendly cosmetics in Mauritius. The primary objective was to understand how women's lifestyles, ethical consumerism, and belief in ethical claims affect their purchasing decisions. A quantitative research methodology was employed, involving a structured questionnaire distributed to female consumers, with convenience sampling used for participant selection. Statistical tools such as factor analysis and regression analysis were used to examine the data. Key findings revealed that women's lifestyles, ethical consumerism, brand image, and usage experience significantly predict loyalty towards green products. These factors also impacted the likelihood of purchasing eco-friendly products, engaging in referrals, and future purchase intentions. The study suggested that marketers should emphasise promoting ethical beliefs, raising awareness, and using celebrity endorsements to advocate for a greener lifestyle. Further research was recommended to explore gender-based differences and to expand the study to other emerging countries.

dos Santos et al. (2023) conducted a study to investigate the influence of digital influencers on the purchasing intentions of vegan cosmetics among Instagram users, using the Theory of Source Credibility. The main objective was to assess the impact of influencers' reputation, trustworthiness, and attractiveness on consumer behaviour. The study encompassed an internet-based questionnaire aimed at Brazilian adults above the age of 18 who actively follow fashion and beauty influencers on the social media platform Instagram. A non-probability judgement sampling technique was utilised to gather responses, and Structural Equation modelling was employed for statistical

analysis to evaluate the hypotheses. The key findings revealed that both the trustworthiness of the source and the use of social media had a substantial impact on the intention to purchase vegan cosmetic goods. The study emphasised the pivotal role of digital influencers in promoting vegan products and influencing consumer behaviour, offering significant information for businesses seeking to utilise influencer endorsements efficiently.

The study by Khan & Salim (2021), based on the Theory of ecological marketing conducted by (Miranda-Guerra et al., 2023), aimed to determine the relationship between Green Marketing (GM) and the Decision to Purchase Cosmetic Products among Millennial consumers in Northern Lima. The research employed a cross-sectional, non-experimental approach with a descriptive scope, utilising a stratified probability sampling method to select 384 participants aged 25-35. Statistical tools such as Spearman's Rho correlation test were used to analyse the data. The key findings revealed a positive correlation between GM and the purchase decision process, emphasising the significant impact of GM dimensions (product, place, promotion) on consumer behaviour and purchase decisions.

Witek & Kuźniar (2021) conducted a study to explore how sociodemographic factors influence consumers' green purchase behaviour. The research employed a survey methodology with a sample size of 650 consumers, utilising quota and purposive sampling methods. Statistical tools such as ANOVA, Kruskal-Wallis test, Mann-Whitney U test, and Pearson's Chi-square test were used for data analysis. The key findings revealed that sociodemographic variables like gender, age, education level, personal financial situation, and family size significantly impact consumers' awareness and purchasing behaviour towards green products, with female consumers exhibiting more positive attitudes towards green purchases compared to males.

Jog & Singhal (2024) explored the interplay between green advertising, environmental consciousness, personal norms, and greenwashing understanding of green purchase behaviour in the Indian personal care market. The primary objective was to discern how these factors collectively influence consumer decisions towards green products. Utilising a structured questionnaire, data was gathered and analysed through Structural Equation Modelling. The research adopted a purposive sampling method to collect responses. Key findings revealed a positive correlation between receptivity to green advertising, environmental consciousness, personal norms, and green purchase behaviour. Additionally, the study underscored the significant role of greenwashing understanding in moderating the relationship between green advertising receptivity and green purchase behaviour, indicating a growing consumer inclination towards genuine green products in India.

Isa et al. (2021) used the theoretical framework of social media marketing to examine its influence on repurchase intention within Malaysia's halal cosmetics sector. The main objectives were to investigate the relationships between social media marketing, brand awareness, electronic word-of-mouth (e-WOM), and repurchase intention. Data was collected from followers of local halal cosmetic brands using a purposive sampling method and analysed with Partial Least Squares Structural Equation Modelling (PLS-SEM). Key findings indicated that social media marketing significantly boosted repurchase intention and brand awareness, with brand awareness partially mediating this relationship. However, e-WOM did not mediate the relationship between social media marketing and repurchase intention. The demographic analysis showed that the majority of respondents were women aged 21-30 who use cosmetics daily. The study highlighted the crucial role of brand awareness in maximising the

effectiveness of social media marketing to enhance repurchase intentions among halal cosmetic consumers.

Lestari et al. (2020) investigated the impact of Halal labelling on consumer perceptions within the cosmetic industry. The main objective was to evaluate how Halal labelling affects the brand image of cosmetic products. A quantitative methodology was utilised, with surveys collecting data from 200 consumers of Halal cosmetic products in Indonesia. Participants were selected using a probability sampling technique. Statistical tools, such as Structural Equation Modelling (SEM), were employed to analyse the data. The key findings indicated that Halal labelling significantly enhanced brand image, especially among Muslim consumers, demonstrating a strong positive correlation between Halal certification and consumer trust and loyalty.

Arbak, Islam, & Al Rasyid (2019) explored its effect on the purchase intention of halal cosmetic products among Muslim women in Malaysia. The main objective was to understand how breaches of ethical principles such as honesty, racism, sexism, and language influence consumer behaviour. Adopting a descriptive and causative research design, the study employed a quantitative approach, surveying 110 Muslim women selected through convenience sampling. Data collection methods included interviews and questionnaires, with a reliability test conducted to validate the instruments. Statistical analysis indicated that ethical violations in advertising significantly reduced purchase intentions. Key findings revealed that advertisements perceived as offensive, particularly those exhibiting racism, sexism, or inappropriate language, were viewed as unethical by Muslim women, negatively affecting their intention to purchase halal cosmetic products. The study highlighted the importance of adhering to Islamic advertising ethics to build customer trust and enhance purchase intentions in the halal market.

Mahri et al. (2024) investigated the influence of country of origin and brand image on the purchasing decisions of South Korean skincare products among Muslim consumers in Indonesia, considering halal product knowledge as a moderating factor. The primary objective was to determine whether halal product knowledge moderates the effects of country of origin and brand image on purchasing decisions. Utilising a quantitative research methodology, the study gathered data through a survey method and employed convenience sampling to select participants. Statistical tools such as Structural Equation Modelling was used to analyse the data. The key findings indicated that both country of origin and brand image significantly impacted purchasing decisions, but halal product knowledge did not moderate this relationship. The study highlighted the necessity for halal assurance institutions and skincare manufacturers to enhance halal certification and awareness to attract Muslim consumers. The research suggested further exploration of these dynamics across different age groups and recommends improvements in variable measurement for future studies.

Mohammad & Baharun (2017) explored the factors influencing the purchase intention of organic personal care products among Asian consumers. The primary objective was to assess how perceived safety and quality impact these intentions. A quantitative research method was employed, utilising structured questionnaires to collect data. Convenience sampling was used to obtain responses from a varied demographic of Asian consumers. The data were analysed using Structural Equation Modelling (SEM). The findings showed that perceived safety has a significant effect on the intention to buy organic personal care products, whereas perceived quality does not have a substantial impact. The study suggested that enhancing communication strategies and incorporating credible certification labels can boost consumer confidence in organic products.

Yulianto et al. (2022) studied the effects of halal brand awareness, image, loyalty, and equity on the purchase decision-making process for halal cosmetics in Indonesia. The main objective was to understand how these factors, along with the moderating role of interactive social media, influence consumer purchase decisions. The research employed a quantitative methodology, validated through confirmatory factor analysis and structural equation modelling, ensuring robust results. The study confirmed normal data distribution and the absence of multicollinearity. A purposive sampling technique was used to collect relevant data. Key findings indicated that halal brand awareness, image, and loyalty positively influence brand equity and purchase decisions, with brand equity acting as a partial mediator. Additionally, interactive social media significantly moderated the relationship between brand equity and purchase decisions. These insights provided both theoretical implications for brand equity literature and practical implications for halal cosmetic manufacturers aiming to enhance brand equity through strategic social media engagement.

Nguyen et al. (2019) investigated the determinants influencing repurchase intentions for organic cosmetics in Vietnam. The main goal was to analyse how health consciousness, environmental concern, product knowledge, safety value, customer satisfaction, and green perceived value affect customer attitudes and repurchase intentions. The research used a quantitative methodology, employing Partial Least Squares Structural Equation Modeling (PLS-SEM) for data analysis. Responses were collected through convenience sampling from consumers in two major Vietnamese cities. The findings revealed that customer satisfaction had the strongest impact on repurchase intention, followed by green perceived value and positive attitude. Additionally, health consciousness, environmental concern, product knowledge, and safety value significantly influenced customer satisfaction. The results highlighted the

need for manufacturers to focus on product quality and customer satisfaction to boost repurchase intentions. The study's limitations included its narrow geographic focus and the exclusion of other potential influencing factors, indicating that future research should broaden the scope and consider additional variables.

Sukesi & Akbar Hidayat (2019) employed the Theory of Planned Behaviour to investigate the relationship between the Halal industry trend and purchase intentions among Indonesian Muslims, with a particular focus on Wardah Cosmetics. The objective was to explore management strategies in the Halal industry, especially in marketing and consumer behaviour, and to understand the influence of Halal certification on purchase decisions. The research used a quantitative methodology, gathering data through surveys from a sample of Indonesian Muslim consumers. Convenience sampling ensured a diverse representation of the target demographic. Statistical tools such as regression analysis and descriptive statistics are used to analyse the data. Key findings revealed that Halal certification significantly impacted consumer purchase intentions, with consumers prioritising Halal status, safety, and quality when selecting cosmetics. Wardah's success is attributed to its commitment to Halal certification, high-quality products, and effective marketing strategies, leading to increased sales and customer loyalty. The study underscored the potential of the Halal industry in Indonesia and emphasised the importance of meeting consumer needs and preferences to drive industry growth.

Laheri (2020) Studied the interaction effects of facilitators and barriers on the purchase intention and behaviour of green products in India, using the Theory of Planned Behaviour as the theoretical framework. The primary goal was to understand how these factors influence consumer decisions across various green product categories, such as organic food, organic personal-care products, and energy-efficient

products. Data was collected from 506 respondents, through a structured questionnaire. A judgmental sampling and cluster-sampling method were employed. The study used regression analysis to examine the moderating effects of facilitators and barriers on purchase intention and behaviour. Key findings indicated that facilitators like health benefits, environmental friendliness, and certification significantly enhance purchase intention and behaviour, while barriers such as high prices and lack of promotion negatively impact these outcomes. The study provided valuable insights for marketers aiming to bridge the intention-behaviour gap among Indian consumers for green products, suggesting that uniform promotional strategies could yield consistent results across different studies.

De souza et al. (2022) studied how emotional appeals influence consumer behaviour towards organic personal care products. The objective was to understand the effects of different emotions—pride, joy, fear, and guilt—on attitudes and purchase intentions. The research methodology involved four experiments using real advertisements, with random sampling to ensure a diverse participant representation. Statistical tools such as ANOVA and regression analysis are used for data analysis. Key findings revealed that appeals to pride, especially authentic pride, significantly enhance positive attitudes and purchase intentions more than guilt or fear appeals. The study also noted cultural differences, highlighting that in the Brazilian context, authentic pride is often perceived as joy and hubristic pride as authentic pride. These insights suggested that marketers should focus on positive emotional appeals to promote sustainable consumer behaviours and organic products effectively.

Arbak, Islam, Rasyid, et al. (2019) examined effects of the Islamic advertising on the purchase intention of halal cosmetic products among Muslim women in Malaysia. The main objective was to investigate how violations of Islamic advertising

principles such as honesty, racism, and sexism, intention, and language impact consumer purchase intentions. Employing a descriptive and causative research design, the study used quantitative methods to gather data through a survey questionnaire. The sample size included 110 women respondents, chosen through convenience and judgment sampling techniques. Statistical analysis indicated that racism, sexism, intention, and language significantly influence purchase intention, with sexism being the most critical factor. The findings highlighted the importance for marketers, advertisers, and manufacturers to adhere to Islamic advertising ethics to attract and retain customers effectively.

Hussin et al. (2013) researched how product factors such as brand, price, quality, ingredients, and labelling affect the purchase intention of Halal cosmetic products among Malaysian Muslim consumers. The objective was to understand the influence of these factors, along with advertising, on consumer behaviour. Utilising a quantitative research methodology, data was collected through structured questionnaires using the convenience sampling method. Statistical tools, including correlation, regression and mediation analysis, were used to analyse the data. The key findings indicated that all product factors significantly correlated with purchase intention, with Halal certification being prioritised over brand names. Consumers were willing to pay higher prices for Halal-certified products, place a high value on quality and labelling, and were concerned about ingredients. Advertising was found to mediate the relationship between price and purchase intention but not for other product factors. The study recommended that producers obtain Halal certification, clearly label their products, and use effective advertising to justify higher prices.

Putri & Abdinagoro (2018) analysed the factors affecting purchase intention towards halal cosmetics in Indonesia, based on the Theory of Planned Behaviour. The

primary aim was to evaluate the impact of beauty blogger involvement, Arabic brand names, religiosity, and halal logos on the purchase intentions of women aged 20-40 who are active internet and social media users in Jakarta. A quantitative research methodology was employed, collecting data from 110 respondents via an online survey. Purposive sampling ensures the sample accurately represents the target demographic. Structural equation modelling was conducted using SmartPLS 3.0 software. The key findings indicated that the halal logo had the most significant influence on purchase intention, followed by religiosity and beauty blogger involvement. These results highlighted the critical role of halal certification and digital media in influencing consumer behavior. The study suggested that companies should stay attuned to digital marketing trends to engage their target audience effectively.

Khan & Salim (2021) examined the purchasing behaviour of Saudi females towards green cosmetics, focusing on the motivational factors influencing their decisions. The research utilised a quantitative approach, gathering data through a structured questionnaire. Participants were selected using a convenience sampling method from various regions of Saudi Arabia. Regression analysis was employed to interpret the data. The findings indicated that educated, working women in Saudi Arabia were more aware and conscientious about purchasing green cosmetic products. Their purchasing and repurchasing behaviour was significantly driven by health concerns and eco-friendliness.

Shah et al. (2024) employed a positivist research philosophy to investigate consumer behaviour towards eco-friendly cosmetics in Pakistan. The main objective was to identify factors that influence the purchase of green or organic cosmetics, focusing on eco-awareness, social influence, product quality instructions, price sensitivity, health consciousness, and the need for uniqueness. Using a deductive

research approach, the study formulated hypotheses based on these factors and tested them with quantitative data collection methods. A structured questionnaire was distributed via social media platforms, yielding 483 valid responses from an initial sample of 600 participants. The data was analyzed using Structural Equation Modeling (SEM) with SMART PLS software. The key findings revealed that eco-awareness, social influence, and health consciousness significantly impact consumer decisions to purchase eco-friendly cosmetics, while price sensitivity and the need for uniqueness also play important roles. This comprehensive analysis offered valuable insights into the motivations behind eco-friendly cosmetic purchases in Pakistan, enhancing the broader understanding of green consumer behaviour.

Soeroto et al. (2023) investigated the factors influencing consumer purchasing decisions for halal cosmetics in Indonesia, focusing on generational differences between millennials and non-millennials. The primary aim was to explore how the halal label, price fairness, perceived value, and budget allocation affect purchasing behaviour. A quantitative methodology was utilised, collecting data through a structured questionnaire from a sample of Indonesian consumers. Participants were selected using convenience sampling, and the data were analysed using Structural Equation Modelling. Key findings revealed that price fairness significantly impacts millennials' purchasing decisions, while the halal label is more crucial for non-millennials. The study emphasised the importance of halal certification and sustainable marketing strategies tailored to different generational groups. Additionally, it highlighted the significant role of Islamic values in shaping consumer behaviour, with younger consumers being more sensitive to price fairness and older consumers prioritising religious adherence. The research suggested that businesses should consider these

factors to effectively market halal cosmetics and meet the diverse needs of Indonesian consumers.

Shmailan & Alfalih (2024) investigated the impact of halal and tayyib dimensions on the attitudes and purchase intentions of Saudi Muslim consumers towards halal cosmetics. The primary objective was to examine how these dimensions influence consumer behaviour. The research utilised a structured questionnaire to gather data from 207 participants across various regions in Saudi Arabia, primarily young, employed, and married adults with bachelor's degrees. Convenience sampling was used to select participants. Statistical tools, including Pearson correlation coefficients and ANOVA tests, were employed to analyse the data. Key findings revealed a strong positive correlation between halal and tayyib dimensions and consumer attitudes and purchase intentions. The study found the importance of these dimensions in shaping consumer behaviour and suggested that companies should incorporate these factors into their marketing strategies to effectively target Muslim consumers in Saudi Arabia.

Singhal & Malik, (2018) aimed to understand the attitudes and purchasing behaviors of female consumers towards green marketing in the cosmetic industry. The primary goal was to explore the influence of age, education, language, location, packaging and income levels on attitudes towards green cosmetic products and the relationship between these attitudes and purchasing behaviours. The research employed a quantitative methodology, gathering data through surveys from a sample of female consumers. Convenience sampling is used to select participants, and statistical tools such as MANOVA, Multivariate test, chi-square test, correlation analysis, cluster analysis and factor analysis are applied to analyse the data. Key findings revealed that income level significantly affected attitudes towards green cosmetics, but there was a negative correlation between attitude and purchasing behaviour. The study identified

three main factors influencing attitudes: packaging, location, and recommendations from friends and family. Despite demographic similarities, price remained a significant barrier, with many consumers unwilling to pay a premium for green products.

Pitaloka et al. (2023) aimed to investigate the factors influencing millennials' decisions to purchase green cosmetics. The study utilised an exploratory quantitative research methodology with a sample size of 197 respondents. Unaccident sampling with the Lemeshow formula was employed. Data analysis was conducted using the warpPLS tool. The key findings revealed that while product quality did not significantly affect green cosmetic purchases, social influence, particularly through social media influencers, played a crucial role in shaping buying decisions. Greenwashing emerged as a notable barrier to consumer interest in green cosmetic products.

Kahraman & Kazançoğlu (2019) investigated consumer perceptions and purchase intentions towards products claimed to be natural and eco-friendly. The primary objective was to understand the impact of greenwashing on consumer behaviour and identify factors influencing trust and scepticism. Utilizing qualitative research methodology, the study conducted in-depth interviews with 20 Turkish women familiar with specific brands. Purposive sampling was used to select participants who were aware of greenwashing practices. Thematic analysis was employed to analyse the interview data. Key findings revealed that visual and verbal elements in advertising significantly affect perceptions of greenwashing. Participants exhibited scepticism towards 100% natural claims and emphasized the importance of certifications and test results in reducing scepticism. Brand recognition and origin also influenced trust, with foreign brands perceived as more reliable. The study underscored the necessity for companies to provide transparent and trustworthy green claims to enhance consumer trust and purchase intentions.

Varshney & Mohamed Ahmed (2023) examined the incorporation of ethical and sustainable practices within Lush Cosmetics, using the theory of corporate social responsibility (CSR) as a framework. The primary aim was to assess how Lush balances profitability with ethical standards, especially in light of increased consumer preference for sustainability post-Covid-19. The research employed a qualitative approach, utilizing case study analysis to explore Lush's operational strategies and consumer engagement. Purposive sampling selected relevant data sources, including company reports, consumer feedback, and industry analyses. Thematic analysis is used to identify key patterns and insights. Findings indicated that Lush's transparent approach, minimal packaging commitment, and initiatives like zero-waste and ethical sourcing significantly boost its brand reputation and consumer loyalty. Despite challenges such as social media backlash and stringent production requirements, Lush's emphasis on sustainability and ethical practices distinguished it in the global cosmetics market, offering valuable insights for managers seeking to develop sustainable brands while upholding ethical standards.

He et al. (2024) examined the influence of aesthetic appearance on green consumption based on the theory of consumer behaviour towards environmentally friendly products. The primary goal is to explore how different aesthetic attributes impact consumer perceptions and purchase intentions. The research employs a mixed-methods approach, integrating both qualitative and quantitative data. Stratified random sampling was used to ensure a diverse representation of consumer preferences. Statistical analyses, including regression and mediation analysis, were conducted to interpret the data. Key findings indicated that consumers show a higher purchase intention for green products with classical aesthetics compared to those with expressive aesthetics, with perceived naturalness mediating this effect. Additionally, the study

revealed that product identity symbolic attributes moderate this relationship: classical aesthetics are more effective for non-identity-symbolic products, whereas expressive aesthetics work better for identity-symbolic products. These insights provided valuable contributions to the literature on green consumption and offered practical implications for marketing strategies aimed at promoting environmentally friendly products.

Kumar et al. (2021) explored the factors influencing consumers' purchase decisions of organic cosmetic products using the Theory of Planned Behaviour. The primary aim was to understand how attitudes, health consciousness, environmental consciousness, price consciousness, brand, and availability impact consumer behaviour. Data was collected through a questionnaire survey targeting young working women, employing a non-probability sampling technique chosen for its cost-effectiveness and ability to minimise sampling errors. Statistical tools such as regression analysis were used to analyse the data. The key findings revealed that health and environmental consciousness significantly influence consumer attitudes towards organic cosmetic products, while brand and availability also play crucial roles. These insights can assist managers in the organic cosmetic industry in developing more effective marketing strategies. The study suggested future research should include additional variables and expand the demographic scope to validate further and extend these findings.

2.4. Influence of Mediating Variables in Related Studies

In Baron and Kenny (1986) research method, a mediating variable is a variable that explains the mechanism by which an independent variable impacts a dependent variable. This approach involved carrying out a sequence of regression analyses to establish mediation. Firstly, it aimed to demonstrate that the independent variable significantly impacts the mediator. Secondly, it seeks to establish that the independent variable significantly influences the dependent variable. Thirdly, it aimed to show that

the mediator significantly affected the dependent variable while controlling for the independent variable. Finally, it aimed to demonstrate that including the mediator in the model reduces the effect of the independent variable on the dependent variable (Baron & Kenny, 1986). This methodology has been extensively employed in several domains, such as psychology, social sciences, and management, to understand the fundamental mechanisms of observed relationships (Rosha & Kaur, 2017).

In consumer behaviour research, a mediating variable acts as an intermediary explaining how an independent variable affects a dependent variable.

Understanding this concept is essential for understanding the fundamental mechanisms that influence consumer decisions. Various research has investigated different mediating variables within the cosmetic domain. Attitude has been recognised as an important mediating factor that has been extensively examined. Specifically, (Anubha, 2023; Aydin, 2019; Bhutto et al., 2022; Delistavrou et al., 2023; Garg & Joshi, 2018; Hasan et al., 2024; Kartawinata et al., 2020; Lavuri et al., 2022; Luan et al., 2023; Moslehpour et al., 2021; Ngah et al., 2023; I. S. Putri et al., 2018; Rizkitysha & Hananto, 2022; Sama & Trivedi, 2019; Septiarini et al., 2023; Suparno, 2020; Widyanto & Sitohang, 2022) have emphasised its significance in influencing consumer purchase intentions. The previous studies also investigated various other mediating variables that have studied in cosmetic domain, such as Repurchase intention (Hussain et al., 2024), Self-efficacy (Limbu et al., 2022), Perceived usefulness (Rizkitysha & Hananto, 2022), Brand image (Nagvanshi et al., 2023; Ngah et al., 2023), Perceived value (Tazlia et al., 2023), trust (Lavuri et al., 2022), Personal norm (Jaini et al., 2020b, 2020a; Munerah et al., 2021) Pro-environmental belief (Jaini et al., 2020b, 2020a), Religiosity (Ibrahim & Ismail, 2015), Subjective norms (Delistavrou et al., 2023), Perceived behavioural control (Delistavrou et al., 2023), Relationship quality (Papista & Dimitriadis, 2019),

Product innovation (Tilaar et al., 2023), Brand loyalty (Nagvanshi et al., 2023; Sama & Trivedi, 2019), Concern for consequences (Zahid et al., 2018), Brand awareness (Nagvanshi et al., 2023), Environmental knowledge (Moslehpour et al., 2021), Electronic word-of-mouth (e-WOM) (Isa et al., 2021), Brand equity (Yulianto et al., 2022), Satisfaction (Nuryakin et al., 2023; Zeng et al., 2023), Advertising (Hussin et al., 2013), Perceived gain (Zeng et al., 2023), Purchase intention (Askadilla & Krisjanti, 2017), Convenience and quality (Zollo et al., 2021), and Perceived naturalness (He et al., 2024).

In studies mediating variable is significant as it helps to understand the underlying mechanisms and processes through which independent variables influence dependent variables, thereby providing a deeper understanding of the relationships among variables (Baron & Kenny, 1986). For example, Attitude serves as a vital mediating variable in consumer behavior studies, especially concerning Green, Organic, and Halal cosmetic products. According to (Widyanto & Sitohang, 2022), Attitude is a mediating variable in Muslim millennials' purchase intention of halal-certified cosmetics and pharmaceutical products. It mediates the relationships between exogenous variables like religiosity, halal knowledge, halal certification, and purchase intention. Ngah et al. (2023) found that attitude fully mediates the relationship between celebrity endorsement and the continuation of the use of non-halal-certified cosmetics, Brand image mediates the relationship between celebrity endorsement and the continuation of the use of non-halal-certified cosmetics, and Attitude and brand image sequentially mediated the relationship between celebrity endorsement and the continuation of use of non-halal certified cosmetics. Another study by Lavuri et al. (2022) on organic beauty products found that Attitude mediated the positive impact of Green Advertisement, Green Brand Image, LOHAS Consumption Tendency, and

Perceived Consumer Effectiveness on Purchase Intention towards innovative luxury organic beauty products. Overall, attitude acted as a crucial link between various factors and consumer behavior, underscoring its significance in predicting consumer intentions and actions.

In another study in the context of halal cosmetics, Isa et al. (2021) found a significant mediating effect of brand awareness between social media marketing and repurchase intention, highlighting how social media influences consumer loyalty through increased brand awareness. Furthermore, (Sama & Trivedi, 2019) demonstrated that beliefs and subjective norms significantly influence brand loyalty through attitudes towards halal products and brand love, showcasing the mediating role of these variables in shaping consumer loyalty Towards Halal Cosmetics.

2.5 Influence of Moderator Variables in Related Studies

A moderating variable, as described by (Baron & Kenny, 1986), can impact the intensity or direction of the association between an independent and dependent variable. Understanding how other factors or subgroups impact the primary relationship under investigation is of utmost importance.

In consumer behavior research, moderating variables are essential for understanding the conditions under which certain effects occur or do not occur. These variables help provide a more nuanced understanding of the factors influencing consumer decisions by highlighting how specific conditions or characteristics can alter these relationships.

In the context of the cosmetic industry, various studies have identified different moderating variables that affect consumer behaviour. For instance, Halal literacy (Bhutto et al., 2022), Perceived behavioural control (Kim & Chung, 2011), Scepticism

(Delistavrou & Tilikidou, 2022), Religiosity (Mohezar et al., 2016; Ngah et al., 2023; Sama & Trivedi, 2019), Electronic word-of-mouth (eWOM) (Jaini et al., 2020b), Country of residence (Delistavrou et al., 2023; Tilikidou & Delistavrou, 2023) Health consciousness (Jhamb et al., 2023; Luan et al., 2023) Environmental consciousness (Papista & Dimitriadis, 2019), Relationship length (Papista & Dimitriadis, 2019), Economic factors (Zahid et al., 2018), Attitude (Kaur et al., 2022), Product knowledge (Mahri et al., 2024), Facilitators (Laheri, 2020), Interactive social media (Yulianto et al., 2022), Barriers (Laheri, 2020), Product positioning (Khalid et al., 2021), and product identity (He et al., 2024) have all been studied as moderating variables in cosmetic domain.

Recent studies have identified various moderating variables as crucial in shaping consumer behavior towards halal and green cosmetic products. Halal literacy, for instance, has been found to positively moderate the effects of attitudes and subjective norms on the purchase intentions of halal cosmetics, emphasising its significant role in guiding consumer decisions in the halal market (Bhutto et al., 2022). This highlighted the importance of consumer education in enhancing the effectiveness of marketing strategies for halal products.

Similarly, Perceived Behavioral Control (PBC) moderates the relationship between attitude and intention to purchase organic personal care products. The strength of PBC influenced how strongly consumer attitudes translate into purchase intentions for organic hair and skin care products, demonstrating that consumers' confidence in their ability to purchase these products significantly impacts their buying behavior (Kim & Chung, 2011).

Religiosity also played a vital moderating role in the adoption of halal cosmetics. It affects the perception of young Muslim consumers towards the benefits of

halal cosmetics compared to conventional products. Additionally, religiosity influences the impact of social factors and consumer innovativeness on adopting halal cosmetics, suggesting that religious beliefs shape how consumers evaluate and adopt new halal cosmetic products (Mohezar et al., 2016).

Moreover, Electronic Word-of-Mouth (eWOM) has been found to moderate the relationship between personal norms and green cosmetics purchase behavior. Individuals with strong environmental concerns in Malaysia were more likely to choose green cosmetics when influenced by positive eWOM, underscoring the significant role of online reviews and recommendations in driving green purchase decisions (Jaini et al., 2020b).

2.6. Research Gap

The literature review indicates that previous research has predominantly focused on factors affecting purchase intention, purchase behavior, and attitude. However, there is a noticeable gap in the research study on the attitude-intention behavior relationship, especially in the cosmetic domain. The Theory of Planned Behaviour (TPB) has been extensively utilised in this field, followed by the Theory of Reasoned Action and other theoretical frameworks. Notably, while conducting a literature review, no studies were found that have applied the Big Five Personality Traits theory within the context of the cosmetic industry. Therefore, this study aims to address this gap by integrating the Theory of Planned Behaviour (TPB) with the Big Five personality traits theory to examine how personality traits influence purchase intention and the moderating effect of personality on the dimensions of the Theory of Planned Behaviour in relation to cosmetic products.

Additionally, only a few studies have thoroughly explored the link between attitude and intention behavior in the cosmetic domain (Ghazali et al., 2017). Hence, this study seeks to identify the factors influencing attitude and purchase intention towards cosmetic products, recognising attitude as a significant mediator between personal and product factors in relation to purchase intention. Previous studies have found attitude to be a highly influential factor in consumer behavior (Ghazali et al., 2017; Bui et al., 2021; Osman et al., 2022). Therefore, it is crucial to test the mediating role of attitude in this study to understand its effects on personal and product factors in relation to the purchase intention of cosmetic products.

Moreover, the research will examine the moderating effects of gender, marital status, and place of residence to determine the presence of group disparities using multigroup analysis and the MICOM procedure. The moderating effect of gender has not been extensively studied in the cosmetic domain using MICOM analysis, except for studies by (Nghah et al., 2021; Quoquab et al., 2020). Further, limited research considers gender as a moderator (Chung et al., 2015; Nghah et al., 2021; Quoquab et al., 2020). Additionally, studies examining marital status and place of residence as moderators are scarce. Therefore, this research seeks to fill this gap by identifying the moderating effects of gender, marital status, and place of residence using MICOM analysis.

Lastly, the study will utilise Necessary Condition Analysis (NCA) to identify the sufficient levels of factors required to achieve the desired outcome in purchase intentions. NCA is a relatively new statistical technique in the cosmetic domain. No known studies have used it to identify critical factors for achieving desired levels of purchase intention towards cosmetic products (Dul et al., 2020). By addressing these gaps, this study aims to provide a comprehensive understanding of the moderating

effects of demographic factors and the critical factors required to achieve desired outcomes in purchase intentions within the cosmetic industry.



Research Methodology

Research methodology refers to a researcher's systematic approach to gathering empirical data pertinent to the research problem. This chapter outlines the research methodology used in the study, detailing each step involved. Initially, the chapter discusses the most appropriate research philosophy for the study and the widely accepted research approach, establishing a solid foundation for investigating the research problem. It then emphasises the primary procedures conducted during this research study. Subsequent sections provide a comprehensive overview of the adopted research design, the type of research strategy employed, the selected time horizon, and the most suitable data collection methods used. This study adopts the research onion model proposed by (Saunders et al., 2012), which serves as a comprehensive framework to guide the various layers of decision-making in formulating the research methodology.

3.1. Research Onion Model

Research Onion is an effective and structured approach for illustrating the research methodology used or suggested for conducting research. It thoroughly explains the key components or steps necessary to create a successful methodology (Raithatha, 2017). The Research Onion methodology begins by outlining the key philosophy to be used in the research study. It then moves on to selecting the appropriate research approaches and the most prominent research strategy. Following this, the research choice between mono method, mixed method, and multi-method is identified, the time horizons are determined, and the techniques and data analysis procedures are specified to be employed in the research study. This structured approach ensures that each layer of the research methodology is carefully considered and implemented systematically.

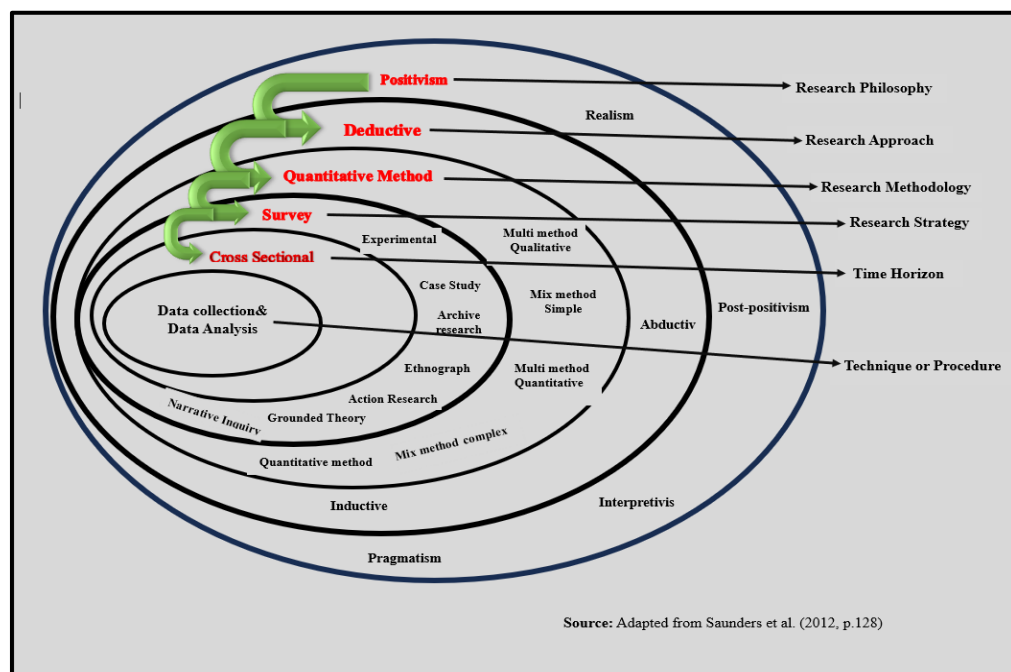


Figure No 3.1: Research Onion Model
Source: Adapted from (Saunders et al., 2012)

3.1.1 Research Philosophy

The outer and initial layer of the Research Onion model pertains to the system of beliefs that address the nature of reality under investigation (Becker et al., 2012). According to (Saunders et al., 2016), these underlying systems of beliefs and assumptions regarding knowledge generation are referred to as research philosophy. There are five fundamental philosophies: Positivism, Interpretivism, Pragmatism, Critical Realism, and Postmodernism. These are based on three research assumptions: Ontological, Epistemological, and Axiological.

Social science literature predominantly employs two philosophies: positivism and interpretivism. Positivism is mostly associated with quantitative research methods such as questionnaires or interviews with predetermined structures, while interpretivism is primarily related to qualitative methods like unstructured interviews or observation (N. Lee & Lings, 2008).

According to (Wahyuni, 2012), the fundamental idea underpinning positivist philosophy is that multiple studies would produce comparable results if they analysed a large sample using similar research methods and statistical tests. Positivist research uses established theories to formulate hypotheses and gathers empirical data to explore causal relationships among variables (Saunders et al., 2012). In the same manner, (Porta & Keating, 2008) observe that researchers formulate a hypothesis, gather data, and determine if the results align with the proposed hypothesis. In positivist philosophy, the researcher and the subject are considered independent and impartial, with the researcher remaining neutral and not exerting any influence on the research topic (Porta & Keating, 2008). This research primarily follows a positivist philosophy, emphasising an objective interpretation of reality and utilising data from surveys and experiments.

3.1.2 Research Assumptions

Ontology pertains to a person's fundamental and diverse beliefs about the nature of reality, influencing a researcher's decision to focus on objective, subjective, or a blend of both perspectives (Thomas & Hardy, 2011). Each researcher has different beliefs about the research problem, which guides the study. The way a researcher perceives reality is known as an ontological assumption. Positivism and constructionism are the two primary ontological frameworks that can guide the research process (Monette et al., 2005). This research uses an ontological, positivist approach to investigate the role of the Big Five Personality Traits in relation to cosmetic purchase intention.

Epistemology is the study of how we acquire knowledge about reality and the corresponding theories. It clarifies the criteria for acceptable values and authentic information and the methods for transmitting this knowledge to others. It might be quantitative, qualitative, or a mix of both. In this study, the researcher employs a quantitative research method to understand knowledge within the field.

Axiology refers to the implementation of values and ethics in research methodologies. It includes inquiries into how the researcher manages their own values and the values of people involved in the research (Thomas & Hardy, 2011). One philosophy is not intrinsically superior to the other, although scholars may have a preference (Podsakoff et al., 2012). The philosophy serves as the rationale for the research approach. While ontological and epistemological assumptions are present in all studies, axiological assumptions may or may not be included.

The positivist research philosophy is based on the assumption that research is objective, quantitative, and value-free, while interpretivism assumes that research findings are subjective, qualitative, and value-based. When assumptions are mostly

objective, quantitative, and value-free, it is referred to as critical realism. Conversely, pragmatism is called pragmatism when assumptions are mainly subjective, qualitative, and value-based.

In the current study, the researcher adhered to the positivist research philosophy.

3.1.3 Research Approach

The research approach refers to the process of acquiring information or discovering the truth. In social science research, three distinct methodologies are employed: the deductive approach, the inductive approach, and the abductive technique. The deductive approach, grounded in the positivist philosophy and quantitative technique, begins with reviewing relevant literature and developing hypotheses based on established theories. Data are then collected to test these hypotheses, allowing findings to either support or refute them, leading to adjustments in the theories (Bryman, 2001).

In contrast, the inductive method is based on the interpretivism philosophy and qualitative research methodology. This approach aims to construct theories from actual observations and reliable evidence that can be generalised to the entire population (Bernard, 2013). However, this method faces criticism for its potential for falsification, as researchers may struggle to integrate empirical evidence with hypotheses due to insufficient expertise effectively (Myers & Klein, 2011).

The abductive approach involves a type of logical reasoning that starts with observations and seeks the most likely explanation for these observations. This method blends elements of both the inductive and deductive approaches to develop theories that explain observed phenomena.

In this study, the researcher examines the cause-and-effect relationship between independent and dependent variables. Therefore, a deductive research approach is adopted to test these relationships, aligning with the positivist philosophy and quantitative methodology.

The deductive approach is suitable for this study as it allows for hypothesis testing and theory validation through empirical data collection and analysis, ensuring a systematic and rigorous examination of the research problem.

3.1.4 Research Methodological Choice

The fourth layer of the research onion offers an overview of the available research choices for the researcher, facilitating the exploration of the problem and identification of a solution. According to (Saunders et al., 2016), there are three primary types of research methods: the mono-method, the multi-method, and the mixed method, each with distinct characteristics.

The mono method involves the use of a single data collection technique along with its associated data analysis procedures. When opting for a mono method, the researcher may employ a single quantitative data collection technique, such as questionnaires, with quantitative data analysis procedures, or a single qualitative data collection technique, such as in-depth interviews, with qualitative data analysis procedures. This approach does not combine multiple data collection techniques or mix qualitative and quantitative methods. The researcher adheres to a single technique and method throughout the study.

The multi-method approach involves using multiple data collection techniques and their corresponding analytic techniques, limited to a quantitative or qualitative perspective (Teddle & Tashakkori, 2003). For instance, a researcher may conduct a

multi-method quantitative study by gathering quantitative data using both structured observation and questionnaires and then analysing this data using statistical processes. Alternatively, a multi-method qualitative study might involve collecting qualitative data through in-depth interviews and diary entries and analysing it using non-numerical techniques. The key characteristic of the multi-method approach is that it does not combine quantitative and qualitative methods.

The mixed methods approach is a research design combining quantitative and qualitative data collection and analysis methodologies. It is divided into two categories: mixed-method research and mixed-model research. Mixed-method research uses both sequential and parallel methods for gathering and analysing data without combining the two approaches in analysis. This means qualitative and quantitative data are analysed separately, even though both perspectives are used throughout the research process. In contrast, mixed-model research integrates quantitative and qualitative data collection and analysis methods. It may incorporate both approaches at various stages of the study, such as in formulating research questions. This approach allows for the transformation of quantitative data into qualitative narratives for analysis or the conversion of qualitative data into numerical codes for statistical analysis.

In the current study, the researcher used the mono method, focusing on a single data collection technique and analysis procedure to maintain consistency and depth in the investigation. This choice aligns with the study's objectives and the research framework's positivist philosophy.

3.1.5 Research Strategy

According to (Saunders et al., 2009), there are various techniques for gathering empirical data, including surveys, action research, case studies, grounded theory, experiments, archival and ethnographic methods. For this investigation, a standardised

survey questionnaire will be used to collect quantitative data. Empirical researchers frequently choose this technique because it allows for the collection of large amounts of data from populations (Bryman, 2001).

Structured survey questionnaires typically feature closed-ended questions with predetermined answer options. This makes them easy to administer and score, enabling researchers to easily compare responses from different individuals (Saunders et al., 2016). Additionally, the survey questionnaire will facilitate the collection of empirical data necessary for a quantitative analysis of the proposed conceptual framework using inferential and descriptive statistics.

The researcher used a structured survey questionnaire to collect quantitative data in this study. This method is selected due to its efficiency in handling large data sets and its ability to provide standardised data for statistical analysis, ensuring the reliability and validity of the research findings.

3.1.6 Time Horizon

According to (Saunders et al., 2016), the time horizon pertains to the frequency at which the researcher collects relevant data. Cross-sectional and longitudinal studies are the two main types of studies based on time horizon. Cross-sectional studies involve collecting data at a single point in time to address research questions. This method gathers data from a single informant at one specific time, thus referred to as a cross-sectional time horizon. On the other hand, longitudinal studies involve collecting data from the same respondents at multiple points over a period to address research questions, which is why it is termed a longitudinal time horizon (Sekaran & Bougie, 2016).

For this study, a cross-sectional approach was employed for data collection. This design is ideal as it enables the researcher to gather data from a broad sample of participants at a specific point in time, facilitating the exploration of particular relationships within the study.

By adopting a cross-sectional time horizon, the study can efficiently capture consumer behaviors, attitudes, and intentions toward cosmetic products, providing a snapshot that informs the research objectives. This approach allows for collecting extensive data within a limited time frame, ensuring the study's relevance and timeliness.

3.2 Research Design

The research design is the overall strategy outlining how to address research questions (Saunders et al., 2009). A research design serves as an outline of the key elements of a study, forming the foundation for the specifics of the investigation. It is a precise strategy that outlines how a study is achieve its goals through a series of procedures, such as formulating research questions, gathering data, analysing data, reporting findings, and producing a conclusion (Creswell & Creswell, 2017). Similarly, (Bryman & Bell, 2011) describes research design as a framework that directs data gathering and analysis, consisting of a series of earlier decisions that, when considered collectively, offer a comprehensive investigation plan.

Three main types of research designs are employed: Explanatory, Descriptive, and Exploratory (Griffith & Villares, 2023). An exploratory research design searches for possible relationships between variables and analyses a data set to provide a posteriori hypothesis. When a researcher does not have any predetermined hypotheses, the study is exploratory regarding the variables under investigation.

Exploratory research is beneficial as it allows for the generation of new findings due to fewer rigorous methodological requirements. However, it may have lower validity and reliability.

Descriptive research design offers a thorough and precise explanation for the research project, which is essential for investigations such as government-funded studies on population census, social indicators, economic data, expenditure, and employment. Descriptive research describes phenomena without demonstrating relationships between elements.

Explanatory research establishes causal links between variables, focusing on analysing a situation or problem to explain the relationships between variables. Both qualitative and quantitative research approaches are employed to gain a comprehensive understanding of consumer purchase behavior, combining the strengths of each methodology to provide a robust analysis of the factors influencing consumer decisions in the cosmetic industry.

This research will primarily use a descriptive design to offer a detailed understanding of the factors shaping consumer attitudes and intentions toward cosmetic products. The design will also incorporate exploratory elements to uncover potential relationships and generate hypotheses for future research.

3.3 Quantitative Research Design

Quantitative research aims to measure data and typically involves statistical analysis (Malhotra & Das, 2011). A quantitative research design was employed to develop a scale and examine the proposed relationships in the structural models. Data were collected using the survey method as part of the quantitative investigation. Questionnaires were distributed, and data were gathered from consumers for this

purpose. Exploratory factor analysis, confirmatory factor analysis, measurement model analysis, structural model analysis, Importance-Performance Map Analysis (IPMA), Multi-group analysis using Measurement Invariance of Composite Models (MICOM), and Necessary Condition Analysis (NCA) were conducted using IBM SPSS Statistics Version 26 and SmartPLS version 4 software.

This approach allowed for a detailed examination of the hypothesized relationships and provided robust statistical validation for the constructs under study. The use of these advanced statistical tools ensured the reliability and validity of the research findings, offering valuable insights into consumer behavior in the cosmetic industry.

3.4 Unit of Analysis and Sampling

This study aims to understand the impact of psychological, personal, and product factors on the intention to purchase cosmetic products. The unit of analysis comprises consumers over the age of 20 years who reside in the state of Goa, India and have purchased a cosmetic product within the previous 12 months. The rationale for selecting consumers over twenty years old is based on the assumption that individuals at this age are familiar with the purchasing process and are empowered to select appropriate products from the numerous available options.

The sampling methods differ between quantitative and qualitative researchers. Quantitative researchers aim to select samples that enable generalization of findings to larger populations, whereas qualitative researchers focus on gaining in-depth knowledge of specific phenomena, often without the need for generalizability (Creswell, 2013). The primary objective of qualitative studies is to extract maximum information from a limited number of cases (Patton, 2002). Therefore, convenience

sampling may not provide the necessary depth of information required for qualitative research.

For this quantitative study, non-probability convenience sampling was utilised. This method was based on the availability and willingness of respondents to participate. Ensuring the sample's representativeness is crucial in quantitative research (Creswell, 2014). Therefore, efforts were made to include a significant number of consumers from diverse demographics, including males and females, different age groups, professionals, homemakers, and individuals with varying educational qualifications and income levels. This approach ensures a comprehensive and representative sample, enhancing the reliability and validity of the study's findings.

3.5 Sample Size and Sampling Technique

3.5.1 Population

According to (Sekaran & Bougie, 2016), population refers to the entire set of events, persons, or objects a researcher attempts to study. Similarly, (Saunders et al., 2016) define population as "the entire group of cases and elements that a sample is taken from." The primary aim of this study is to understand the impact of various determinants on the intention to purchase cosmetic products. Therefore, the sample comprises consumers who have purchased cosmetic products within the last 12 months, are above 20 years old, and reside in the state of Goa, India. These participants were selected to answer a structured questionnaire to gather relevant data for the study.

3.5.2 Sampling Technique

A non-probability convenience sampling technique was adopted in this study. Using a self-administered questionnaire.

3.5.3 Sample of the study

The sample of the study is individuals aged 20 years and above with prior experience purchasing cosmetic items.

3.5.4 Sample Size Calculation for the Study

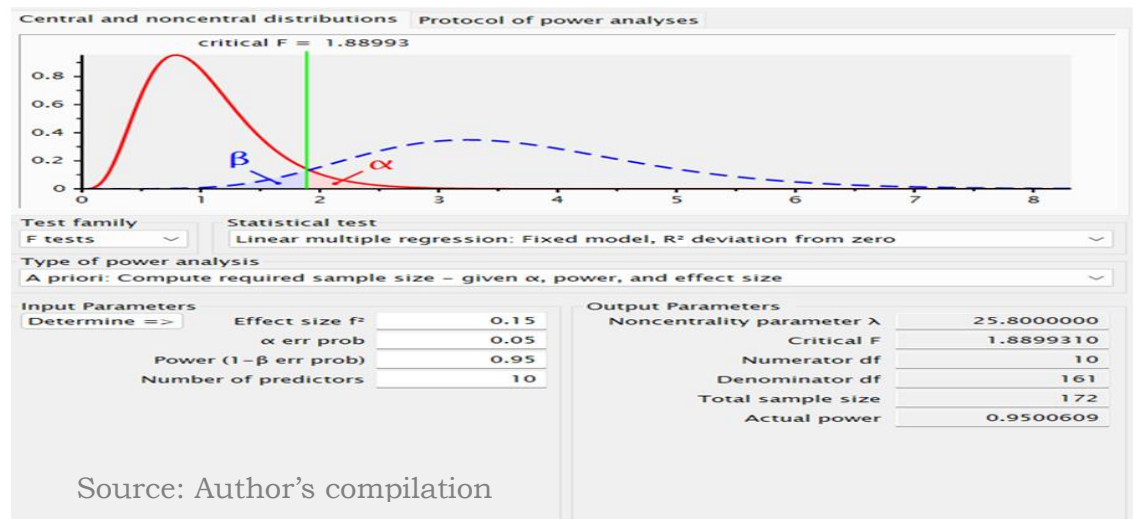


Figure No. 3. 2: Sample Size Calculation Using G-Power Software

G-Power software was used to calculate the required sample size for this study. The model included a maximum of 10 predictors for purchase intention towards cosmetic products. The effect size was set as medium (0.015), and the desired power level was 0.95, resulting in a required sample size of 172.

As per (Morgan, 1970) provide a table for determining sample sizes for infinite populations, suggesting a sample size of 384 for a population size considered infinite.

According to (Hair Jr et al., 2010), a common rule of thumb is to have at least 5 to 20 cases per observed variable. Therefore, for a model with 55 items, a minimum sample size of approximately 275 to 1100 respondents is recommended.

Considering these guidelines, the study used 846 valid responses, which exceeds the required minimum sample sizes as determined by G-Power (172), (Morgan,

1970) (384), and (Hair Jr et al., 2010). This sample size ensures robustness and reliability in the study's findings.

3.6 The Knowledge, Attitude, and Practice (KAP) Survey

The Knowledge, Attitude, and Practice (KAP) model is an important framework used to understand individuals' behaviours and practices regarding various topics, including cosmetics. This model explores how knowledge can influence attitudes, which subsequently affect practices or behaviours. When applied to the field of cosmetics, the KAP survey can provide valuable insights into consumer behaviour, such as how consumers use cosmetics, their perceptions of these products, and any safety concerns associated with cosmetic items. The data collected from the KAP survey helped in the development of scales and the selection of key constructs for the study.

By examining consumers' knowledge, the survey aimed to determine their awareness and understanding of cosmetic products, including their ingredients and benefits. Attitude assessment focused on consumers' feelings, beliefs, and perceptions towards cosmetics, which can influence their purchasing decisions. Lastly, the practice component evaluated how consumers use and integrate cosmetic products into their daily routines.

The application of the KAP survey in this study facilitated a comprehensive analysis of consumer behaviour in the cosmetic industry. It provided a structured approach to identify and measure the factors that drive consumer decisions, thereby aiding in the development of effective marketing strategies and product innovations tailored to consumer needs.

Overall, the KAP survey is a crucial tool for understanding the dynamics of consumer behaviour in the cosmetics market, offering actionable insights for marketers and researchers alike.

3.7 Data Collection Tools

The debate over the optimal number of response categories in Likert-type scales has been ongoing, with various studies providing insights into the advantages of seven-point scales over five-point scales. Research indicates that seven-point scales often provide a more accurate measure of participants' true evaluations, as they reduce the likelihood of interpolation, which is more common with five-point scales (Finstad, 2018). Additionally, seven-point scales have been found to offer better reliability, validity, discriminating power, and test-retest stability (Budiaji, 2013). Moreover, the seven-point scale tends to produce a more nuanced dimensional structure in exploratory factor analysis (Altuna & Arslan, 2016). However, it is important to note that five-point scales are often preferred for their ease and speed of response, although they may not capture the full extent of respondents' views as accurately as seven-point scales (Dalmoro & Vieira, 2013).

Studies suggest that while five- and seven-point scales can be re-scaled to produce comparable mean scores, the seven-point scale generally provides slightly higher mean scores relative to the highest possible attainable score compared to a ten-point scale (Dawes, 2008).

While both scales are widely used and have their merits, the seven-point Likert scale is generally favoured for its enhanced precision and reliability in capturing detailed respondent feedback (M. Kaur et al., 2023).

The responses from these studies, combined with a detailed literature review, facilitated the development of a measurement instrument for the quantitative survey aimed at identifying causal relationships between variables. The measurement instrument developed for the study consists of three sections. The first section focuses on factors influencing consumers' attitude-intention behavior. The second section measures the Big Five personality traits and their impact on cosmetic purchase intention. The third section collects demographic information about the respondents.

To provide precise quantification of responses, all scale items were measured using a seven-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (7). This scale ensures that the responses are nuanced and accurately reflect the respondents' attitudes and intentions. Thus, this study adopts the seven-point Likert scale for its enhanced precision and reliability in capturing detailed respondent feedback.

3.8 Data Collection Procedure

The study aimed to understand the determinants affecting customers' purchase intentions towards cosmetic products. The foundation of this research began with an extensive literature review in the relevant field. This initial phase was crucial in identifying key concepts and theoretical frameworks that informed the study's direction.

Before finalizing the questionnaire and proceeding with extensive data collection, a preliminary examination was conducted using a Knowledge, Attitude, and Practice survey and a pilot survey. The KAP survey assessed the community's level of knowledge, attitudes, and practices concerning cosmetic products. This evaluation was essential in identifying the critical factors and constructs necessary for developing the study model and hypotheses. Insights from the KAP survey were instrumental in

tailoring the research questions and objectives to align with the specific dynamics of the target group.

Following the KAP survey, a meticulously planned pilot study was conducted. The primary goal of the pilot study was to evaluate the research tool's initial reliability and the appropriateness of the Exploratory Factor Analysis (EFA). This study involved a smaller, representative sample of the target population, allowing for a thorough examination of the instrument's psychometric properties.

Exploratory Factor Analysis (EFA) was employed to uncover the underlying factor structure of the survey tool. EFA was pivotal in establishing the dimensionality of the constructs being assessed, ensuring that items grouped into factors represented coherent underlying themes supported by theoretical and empirical evidence. This stage was critical for refining the survey instrument by eliminating or modifying items that did not contribute to a clear and interpretable factor solution.

Simultaneously, the study's reliability was assessed using measures such as Cronbach's alpha. This statistical test evaluated the internal consistency of the survey instrument by examining the correlation between items within each factor, indicating how well they measured the same underlying construct. Achieving high reliability was essential to ensure that the instrument would yield consistent and reliable results across different samples in the target population.

Utilising both a KAP survey and a pilot study incorporating EFA and reliability assessments demonstrated the methodological rigor of the research. These initial steps were crucial in refining the research tool and methodology, laying a solid foundation for the final data collection phase. This approach enhanced the precision and reliability of the findings and reinforced the study's overall integrity and validity.

For the quantitative investigation, data were collected from respondents using questionnaires. These questionnaires were physically distributed to the respondents at their workplaces and residences. Upon distribution of the questionnaire, respondents were briefed on its format, objectives, and the scoring system to ensure clarity and consistency in their responses.

This comprehensive data collection procedure ensured that the research was grounded in robust and reliable methodologies, facilitating a deeper understanding of the factors influencing cosmetic product purchase intentions.

3.9 Data Analysis Procedure

A research study incorporating a KAP survey, a pilot study, and Structural Equation Modeling (SEM) for final data analysis follows a systematic and staged approach to ensure comprehensive data comprehension and robust findings.

3.9.1 KAP Survey Analysis

The initial step involves analysing the KAP survey data using descriptive statistics to summarise the dataset's main properties. Descriptive statistics include frequencies and percentages. For this study, a sample of 126 usable responses was analysed using IBM SPSS version 26 software. This analysis helped identify the target population's knowledge, attitudes, and practices, setting the stage for more extensive assessments.

3.9.2 Pilot Study and Exploratory Factor Analysis (EFA)

Following the KAP survey, a pilot study was conducted to refine the survey instrument and ensure its validity and reliability. Exploratory Factor Analysis (EFA) was employed to identify the dimensions of latent variables, helping to understand how many latent constructs influence observable variables and how well they represent

them. The pilot study involved 131 usable responses, and EFA was performed using IBM SPSS Statistics Version 26 software. Principal Component Analysis with varimax rotation was used to determine the dimensions of the components, allowing the exclusion or revision of items that did not contribute to a cohesive factor structure.

3.9.3 Confirmatory Factor Analysis (CFA)

The dimensions derived from EFA were confirmed through Confirmatory Factor Analysis (CFA). Before conducting CFA, Harman's single-factor test was utilized to evaluate Common Method Variance (CMV), ensuring that all variables did not load heavily on a single factor, which would indicate common method bias. After incorporating insights from the pilot study, the final questionnaire was administered, and 846 usable responses were collected. CFA was performed using SmartPLS version 4 software, following the two-stage analytical methodology suggested by (Anderson & Gerbing, 1988).

3.9.4 Measurement Model Assessment

The measurement model was assessed for convergent and discriminant validity. Convergent validity was evaluated using Average Variance Extracted (AVE), Composite Reliability (CR), and Outer Loadings, while discriminant validity was assessed using the Fornell-Larcker criterion.

3.9.5 Structural Equation Modelling (SEM)

Given the complexity of the proposed models, SEM was deemed the most appropriate method for data analysis. SEM is a comprehensive statistical technique for testing hypotheses about relationships among observed (measured) and latent (unobserved) variables (Rick H, 1995). It allows the simultaneous solution of several linked equations to obtain parameter estimates, considering directional and non-

directional relationships (MacCallum & Austin, 2000). The study used SEM to develop assertions about a collection of variables, converting a model diagram into equations to estimate parameters and test model fit. The structural model was then assessed to test the hypotheses, employing a bootstrapping approach with 10000 resamples to determine the significance of outer loadings and path coefficients (Sarstedt et al., 2021).

3.9.6 Mediation Data Analysis Procedure

The mediation analysis was conducted using the bootstrapping method with 10,000 subsamples in Smart PLS 4.0 software. This approach involves three steps: assessing the total effects, indirect effects, and direct effects to determine the mediation role of attitude between various factors and purchase intention (Sarstedt et al., 2021). The significance of mediation effects was evaluated using the bootstrapped confidence intervals and p-values. By analyzing the mediating impact of attitude, the study identified how intermediary relationships influence the direct paths between predictors and the dependent variable, providing a nuanced understanding of the causal mechanisms at play.

3.9.7 Continuous Moderation Analysis Procedure

Continuous moderation analysis was performed using Smart PLS 4.0 software to examine how personality traits moderate the relationship between dimensions of the Theory of Planned Behavior and purchase intention. The analysis involved creating interaction terms between the continuous moderator variables (personality traits) and the independent variables (attitude, subjective norms, and perceived behavioral control). Bootstrapping with 10,000 subsamples was employed to test the significance of these interaction effects (Sarstedt et al., 2021). The path coefficients of these interaction terms were evaluated to determine the strength and significance of the

moderation effects, thereby providing insights into how personality traits influence the relationship between TPB dimensions and purchase intention.

3.9.8 Multigroup Analysis

Multigroup analysis (MGA) was conducted to explore differences across demographic groups, such as gender, marital status, and place of residence, in the context of cosmetic product purchase intentions. Using the Measurement Invariance of Composite Models (MICOM) procedure, the study ensured that the constructs had identical meanings across all groups by establishing configural and compositional invariance (Henseler et al., 2015).

3.9.9 Necessary Condition Analysis

Necessary Condition Analysis (NCA) was used to identify essential conditions for achieving a specific level of purchase intention towards cosmetic products. Using the NCA methodology, the study examined the necessity of various factors by analysing their effect sizes and determining the minimum levels required for significant outcomes (Dul, 2016). The NCA procedure involved calculating bottleneck levels to pinpoint crucial factors and their thresholds, ensuring comprehensive insight into the conditions needed for desired purchase intentions (Dul, 2016). This approach provided a nuanced understanding of which factors are indispensable for influencing consumer behaviour in the cosmetic market.



Development of Hypotheses and Scale

This chapter outlines the hypothesis formulation, which will be tested within the models. It also provides definitions of the terms used in the research model. The chapter also details the development of scale items for measuring research study constructs, ensuring that they accurately reflect the concepts in question. Content validity and face validity were assessed to ensure that the items are representative and understandable, while a pilot study was conducted to refine the scales. Exploratory Factor Analysis (EFA) was applied to group similar variables, and Cronbach's alpha was utilized to assess the internal consistency or reliability of individual factors, resulting in the final measurement scale. This systematic approach lays the groundwork for the subsequent analysis and hypothesis testing.

4.1 Development of Hypotheses

The formulation of hypotheses was derived from inputs obtained through the KAP survey and an extensive review of relevant literature. This research aims to investigate customer intentions regarding the purchase of cosmetic products by integrating the

Theory of Planned Behaviour (TPB) and the Big Five Personality Traits theory. The TPB provides a framework for understanding how attitude, subjective norms, and perceived behavioural control influence purchase intentions. Meanwhile, the Big Five Personality Traits theory offers insights into how individual differences in personality affect consumer behaviour. By combining these theories, this study explores the multifaceted factors that drive consumers' purchase intentions in the cosmetic industry.

To further refine the hypotheses, measurement invariance of composite models (MICOM) analysis is employed to examine the moderating effects of gender, marital status, and place of residence, addressing gaps in existing cosmetic domain research. Additionally, Necessary Condition Analysis (NCA) identifies critical factors required to achieve the desired purchase intention level, offering marketers practical insights. This comprehensive approach ensures the development of robust hypotheses that explore the complex interactions influencing consumer purchase intentions in the cosmetic industry.

4.2 Development of Conceptual Models

A significant amount of research has supported the use of the Theory of Planned Behavior (TPB) to identify factors influencing purchase intention toward cosmetic products. (Ali et al., 2023; Bui et al., 2021; Delistavrou et al., 2023; C. Hsu et al., 2017; B. Kaur et al., 2022; Mamun et al., 2020; Moharam, 2023; Moslehpour et al., 2021; Premi et al., 2019; Shimul et al., 2022). Consequently, the Theory of Planned Behaviour has been selected as the foundation for developing the conceptual model for this study, as it is deemed most appropriate for investigating consumer intentions in the context of cosmetic purchases. (Shimul et al., 2022) suggested incorporating personality traits into future research to understand the significance of psychographic segmentation based on personality. During the literature review, no studies were found in the cosmetic domain

that integrated the Big Five Personality Traits theory with the Theory of planned behaviour. Therefore, this study aims to fill this gap by integrating the Theory of Planned Behaviour with the Big Five Personality Traits theory.

This study aims to investigate the factors that influence consumers' intentions to purchase cosmetic products from the Theory of Planned Behaviour perspective. The objectives include determining the Big Five Personality Traits influencing purchase intention, identifying personal and product factors contributing to positive attitude formation, and understanding how these factors subsequently influence purchase intention. Additionally, the study examines the mediating role of attitude between these factors and purchase intention and the moderating role of the Big Five Personality Traits in the relationship between the Theory of Planned Behaviour dimensions and purchase intention. The study also identifies differences through multigroup analysis and explores the necessary conditions for achieving desired levels of purchase intention using Necessary Condition Analysis (NCA).

The proposed research model (Figure no. 4.1) integrates the Big Five Personality Traits with the Theory of Planned Behavior (TPB) to investigate their combined influence on cosmetic purchase intentions. This model consists of several sub-models: Model 1 focuses on the Big Five Personality Traits and their direct impact on cosmetic purchase intention, and it is studied separately to obtain first-order construct scores. These scores are then utilised in the overall model, which includes Model 2 for attitude, Model 3A for purchase intention, Model 3B for the TPB model and Model 4 for Moderating role of personality.

Model 1, the Personality Model, separately studies the lower first-order constructs of the Big Five Personality Traits Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness to understand their influence on cosmetic purchase intention. The

overall model also examines the continuous moderation effect of the second-order formative construct "Personality" on the relationship between the TPB determinants and purchase intention towards cosmetic products.

Model 2, the Attitude Model, identifies the influence of appearance consciousness, utilitarian value, hedonic value, perceived price, product knowledge, perceived behavioural control, and subjective norms on the formation of attitudes towards cosmetic products.

Model 3, the Purchase Intention Model, examines the influence of attitude, appearance consciousness, hedonic value, utilitarian value, perceived price, perceived behavioural control, product knowledge, and subjective norms as determinants of purchase intention towards cosmetic products.

Model 3A, the TPB Model, examines the influence of attitude, perceived behavioural control, and subjective norms as antecedents to purchase intention.

Model 4, The moderating role of the second-order formative construct "Personality" on the relationship between attitude, subjective norms, and perceived behavioural control with purchase intention is also explored.

Additionally, the mediating effect of attitude on the relationship between appearance consciousness, utilitarian value, hedonic value, perceived price, product knowledge, perceived behavioural control, subjective norms, and purchase intention is examined in the overall model.

4.3 Development of Hypotheses for Proposed Model

4.3.1 Hypotheses proposed for the determinants of the Big Five Personality Traits Model

The Big Five Personality Traits Theory, also known as the Five Factor Model, is a widely accepted psychological framework that categorises personality into five core dimensions: Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (OCEAN). This model has been instrumental in understanding the relationship between personality traits and various life outcomes, such as behaviours, preferences, and intentions (DeYoung, 2015). Personality traits, including green consumption behaviour, have been extensively researched in different marketing domains. (Duong, 2022), online grocery shopping (Piroth et al., 2020), impulse buying behaviour (Ullah & İrfanoğlu, 2021), consumer engagement (J. U. Islam et al., 2017), intention towards organic food (Chaturvedi et al., 2020), purchase behaviour related to green products (Vu et al., 2022), and mobile shopping (Camoiras-Rodriguez & Varela, 2020).

4.3.1.1 Openness to experience

Individuals who score high on the dimension of openness to experience are typically more adaptable, inventive, original, imaginative, inquisitive, and unconventional. Conversely, those with low scores on this dimension tend to be conventional, limited in their interests, and less analytical (C. R. McCrae et al., 2021). In the realm of consumer behaviour, the impact of openness to experience has produced varied outcomes. For instance, (Piroth et al., 2020), found no significant effect of openness to experience on the intention to adopt online grocery shopping. However, (J.

U. Islam et al., 2017) reported a significant positive relationship between openness to experience and consumer engagement in online brand communities. Similarly, (Chaturvedi et al., 2020) found that openness to experience significantly predicted organic food purchase intentions. Based on these findings, we put forward a relationship between openness to experience and the intention to purchase cosmetic products, anticipating that individuals who are open to new experiences will be more inclined to explore and purchase cosmetic products.

H1. Openness to experience is significantly correlated with intention to purchase cosmetic products.

4.3.1.2 Conscientiousness

Conscientiousness refers to an individual's ability to organise behaviour, show perseverance, and display diligence and drive to achieve their goals. A conscientious person is characterised by a sense of purpose, strong determination, punctuality, and reliability (Phillips et al., 2023). This personality trait encompasses qualities such as effectiveness, orderliness, strategic thinking, dependability, and tidiness, indicating a solid motivation to perform tasks excellently (John & Srivastava, 1981). Research by (Chaturvedi et al., 2020) found that conscientiousness positively relates to the purchase intention for organic food. Similarly, (Vu et al., 2022) observed that conscientiousness impacts green purchase attitudes and positively influences consumers' green purchase intentions. Therefore, we propose the following hypothesis: individuals with higher levels of conscientiousness will exhibit stronger purchase intentions towards cosmetic products. This hypothesis is based on the understanding that conscientious individuals are typically more diligent and organized, which translates into a higher likelihood of engaging in intentional and thoughtful purchasing behaviours.

H2. Conscientiousness is significantly correlated with intention to purchase cosmetic products.

4.3.1.3 Extraversion

From the perspective of (Ahlskog, 2023), extraversion is characterised by the degree to which an individual is social, talkative, assertive, energetic, and outgoing. Previous research has shown a positive relationship between extraversion traits and intentions towards certain behaviours. For example, a study conducted by (J. U. Islam et al., 2017) indicates that extraversion is the most influential trait in driving customer engagement in online brand communities among all five personality traits. Similarly, a study by (Paliwal et al., 2018) on mutual funds investment intention found that individuals with extroverted traits are more inclined to engage in investments. These findings suggest a strong correlation between extraversion and purchase intention. Therefore, we propose the following hypothesis: individuals with higher levels of extraversion will exhibit stronger purchase intentions toward cosmetic products. This hypothesis is based on the understanding that extroverted individuals are typically more sociable and assertive, which translates into a higher likelihood of engaging in proactive purchasing behaviors.

H3. Extraversion is significantly correlated with the intention to purchase cosmetic products.

4.3.1.4 Agreeableness

Agreeableness pertains to an individual's degree of empathy, compassion, warmth, and generosity (Lim et al., 2023). People who score high in agreeableness typically exhibit qualities such as forgiveness, compassion, cooperation, trustworthiness,

empathy, and a willingness to assist others (Lim et al., 2023). Research on consumer behaviour has shown that agreeableness is positively related to purchase behaviour. For instance, (Vu et al., 2022) investigated the intention to purchase green products among Vietnamese consumers and found that agreeableness positively impacts purchase intentions. Another study by (Duong, 2022) discovered that agreeableness is strongly associated with pro-environmental behaviour among women, although not significantly among men. Additionally, (Brawijaya, 2018) observed that their impulse buying behavior partially influences young consumers with agreeableness traits. Based on these positive findings from previous studies, we propose the following hypothesis: individuals with higher levels of agreeableness will exhibit stronger purchase intentions towards cosmetic products. This hypothesis is grounded in the understanding that agreeable individuals' empathetic and cooperative nature makes them more likely to engage in purchasing behaviours that align with their values and social responsibilities.

H4. Agreeableness is significantly correlated with intention to purchase cosmetic products.

4.3.1.5 Neuroticism

Research has shown that neuroticism is linked to various negative emotions and behaviours, including social anxiety and a lack of motivation for social interaction (Huang & Yang, 2010). Moreover, neuroticism has been associated with obsessive purchase behaviour, highlighting its significant impact on consumer actions (Silvera et al., 2008). Individuals scoring high in neuroticism typically exhibit traits such as anxiety, aggression, sadness, self-consciousness, impulsiveness, and vulnerability (R. R. McCrae & John, 1992; Thompson, 2008). Previous studies have found a positive relationship between neuroticism and various consumer behaviours. For example, (Chaturvedi et al.,

2020; Duong, 2022; J. U. Islam et al., 2017) identified that higher levels of neuroticism correlate with distinct consumer behaviours, including impulse buying and engagement in specific purchasing patterns. Therefore, we propose the following hypothesis: individuals with higher levels of neuroticism will exhibit stronger purchase intentions towards cosmetic products. This hypothesis is based on the understanding that neurotic individuals' tendency towards anxiety and impulsiveness may drive them to engage more frequently in purchasing behaviours as a coping mechanism or form of emotional regulation.

H5. Neuroticism is significantly correlated with intention to purchase cosmetic products.

4.3.2 The hypotheses put forth for the comprehensive model on Attitude-Intention.

The comprehensive model integrates two established psychological theories: the Theory of Planned Behaviour and the Big Five Personality Traits theory. This integration aims to provide a holistic understanding of the factors influencing consumer intentions to purchase cosmetic products. The TPB framework analyses the impact of attitudes towards cosmetic products, the role of subjective norms, and perceived behavioural control on purchase intentions. Additionally, this model investigates attitude-intention behaviour by examining how appearance consciousness, utilitarian value, perceived price, hedonic value, perceived behavioural control, product knowledge, and subjective norms collectively shape attitudes and intentions towards cosmetic products. The proposed hypotheses explore how these factors contribute to forming attitudes and intentions towards purchasing cosmetic products. This approach allows for a comprehensive examination of the determinants that shape consumer behaviour in the cosmetic industry.

Research has uncovered evidence for a relationship between attitudes-intentions, demonstrating that attitudes indeed influence customers' intentions to form intention concerning purchase cosmetic products (Ansari & Mohammed, 2015; Ghazali et al., 2017).

4.3.2.1 Perceived Behavioural Control

Perceived behavioural control refers to an individual's perception of the ease or difficulty of performing a specific behaviour (Ajzen, 1991). More specifically, perceived behavioural control pertains to an individual's assessment of their own resources, talents, and opportunities required to carry out a behaviour, even in situations where they do not have complete control (Ajzen, 2002). In the context of cosmetic product purchases, factors such as price and product availability can either facilitate or hinder consumer buying decisions. It is, therefore, essential to consider perceived behavioural control, as consumers are more likely to engage in behaviours they feel they can execute autonomously (Conner & Armitage, 1998).

The research underscores the influence of perceived behavioural control on behaviour. For instance, (Ajzen, 1991) posits that an individual's behaviour is significantly shaped by their perceived control. Empirical studies have supported this notion, showing that perceived behavioural control impacts the purchase intentions for cosmetic products. (Bui et al., 2021) found that perceived behavioural control positively influences the purchase intention of green skincare products in Vietnam. Similarly, research on halal cosmetics in Malaysia indicates that perceived behavioural control positively affects purchase intentions for these products.

Moreover, (Ajzen, 2002) suggests that perceived control might indirectly influence purchasing intentions, positing that a higher sense of perceived control can enhance the intention to engage in specific behaviours.

Thus, the study hypothesises the following:

H6a. There is a significant positive relationship between perceived behavioural control and purchase intention towards cosmetic products.

H6b. There is a significant positive relationship between perceived behavioural control and attitude towards cosmetic products.

H6c. The effect of perceived behavioural control on cosmetic purchase intention is mediated by attitude towards cosmetic products.

4.3.2.2 Attitude

Attitudes refer to an individual's positive or negative evaluations about a specific behaviour (Ajzen, 1991). They play a crucial role in shaping intentions; the more favourable the attitude, the stronger the intention to engage in the behaviour (Tarkiainen & Sundqvist, 2005). Attitudes are formed based on behavioral beliefs, meaning if individuals believe that engaging in a particular behaviour will lead to favourable outcomes, they will develop a positive attitude towards that behaviour. Attitudes predict future purchase intentions and influence actual purchasing behaviour (Ajzen, 1991). The direct and positive impact of attitudes on intentions has been well-documented, showing that more positive attitudes result in stronger intentions to perform a behaviour (Tarkiainen & Sundqvist, 2005).

Research in the cosmetic industry supports the strong relationship between attitude and purchase intention. For instance, (Premi et al., 2019) found that attitude is

the most significant determinant influencing purchase intentions for green skincare products. Similarly, (Ali et al., 2023) demonstrated that men's attitudes positively affect their intention to purchase green cosmetics. Multiple studies in the halal cosmetics domain also confirm the influence of attitude on purchase intention (Haque et al., 2018; Irfany et al., 2024; Widyanto & Sitohang, 2022).

The study suggests the following hypotheses:

H7. There is a significant positive relationship between attitude and purchase intention towards cosmetic products.

4.3.2.3 Subjective Norms

Subjective norms refer to the perceived social pressure that individuals experience to engage in specific behaviours (Ajzen, 1991). When individuals are part of a community, established rules, conventions, or beliefs often dictate appropriate consumption behaviours. (Teng & Wang, 2015) found that consumers are more likely to exhibit favourable purchase intentions when they believe others hold positive attitudes and opinions about the product. This is supported by the work of (Tajeddini & Nikdavoodi, 2014), who explored how subjective norms impact customer attitudes and intentions to buy cosmetic products, underscoring the role of social factors in consumer behaviour in the cosmetic industry. Furthermore, (Khaulia, 2021) examined the influence of subjective norms on the intention to purchase halal cosmetic items, highlighting the importance of social approval in the decision-making process.

The study proposes the following hypotheses.

H8a. There is a significant positive relationship between subjective norms and purchase intention towards cosmetic products.

H8b. There is a significant positive relationship between subjective norms and attitudes towards cosmetic products.

H8c. The effect of subjective norms on cosmetic purchase intention is mediated by attitude towards cosmetic products

4.3.2.4 Appearance consciousness

Facial features and body image largely influence the perception of physical beauty (Handini & Antonio, 2023). Awareness of one's appearance motivates individuals to pursue cosmetics and clothing that enhance or transform their image (H. Y. Kim & Chung, 2011). Purchasing personal care products is a behavior that fulfils an individual's desire for beauty and maintaining their overall appearance (Todd, 2004). This concept is critical in understanding consumer behaviour towards cosmetic products, as it significantly influences their attitudes and purchasing decisions.

Research indicates that being conscious of one's appearance plays a vital role in shaping attitudes towards various cosmetics and influencing the intention to purchase them. For instance, (J.-Y. Lee & Ahn, 2023) found that men who are self-conscious about their looks are more likely to engage in cosmetic activities. Similarly, (Chan et al., 2022), in their study on organic cosmetic products in Malaysia, discovered that appearance and health consciousness positively impact attitudes towards these products, highlighting the role of personal values in cosmetic choices. Additionally, a study by (Y. Lee & Jung, 2012) revealed that the attitudes of Korean and Japanese consumers towards Korean herbal cosmetics were influenced by their well-being consciousness and appearance management, emphasizing the positive impact of these factors on consumer attitudes towards these products. Based on these findings, the following hypothesis is proposed:

H9a. There is a significant positive relationship between appearance consciousness and Purchase Intention towards cosmetic products.

H9b. There is a significant positive relationship between appearance consciousness and attitude towards cosmetic products.

H9c. The effect of appearance consciousness on cosmetic purchase intention is mediated by attitude towards cosmetic products.

4.3.2.5 Utilitarian value

Utilitarian value refers to the practical advantages consumers gain from a product, such as its effectiveness, convenience, and cost-efficiency. In the context of cosmetic products, utilitarian value encompasses benefits such as enhancing skin health, providing sun protection, and improving physical appearance. Prior research indicates that utilitarian values can significantly influence consumer behaviour. For instance, (Ho et al., 2020), explored how utilitarian and hedonic values impact men's intentions to purchase cosmetics. Their study revealed that both values significantly affect purchase intentions, with utilitarian value highlighting the practical benefits of cosmetics. This finding suggests that consumers seek pleasure and enjoyment from cosmetic products and value their practical benefits. Similarly, (Vergura et al., 2020) found a positive relationship between utilitarian attitudes and purchase intentions towards organic personal care products. Based on these insights, the study hypothesises the following:

H10a. There is a significant positive relationship between utilitarian value and purchase intention towards cosmetic products.

H10b. There is a significant positive relationship between utilitarian value and attitude towards cosmetic products.

H10c. The effect of utilitarian value on cosmetic purchase intention is mediated by attitude towards cosmetic products.

4.3.2.6 Hedonic value

Hedonic consumption, as defined by (Hirschman & Hilbrook, 1982), encompasses various aspects of consumer behavior related to the sensory, imaginative, and emotional elements of product usage experiences. In simpler terms, hedonic items are not merely viewed as tangible objects but as sources of experiential consumption, satisfaction, and pleasure. According to (Cervellon & Carey, 2014), these products are categorised based on the satisfaction they provide to the senses and the emotional experiences they evoke. Additionally, (Chitturi et al., 2008), state that products elicit positive emotional responses when they exceed consumers' expectations. Therefore, this study hypothesises the following:

H11a. There is a significant positive relationship between hedonic value and purchase intention towards cosmetic products.

H11b. There is a significant positive relationship between hedonic value and attitude towards cosmetic products.

H11c. The effect of hedonic value on cosmetic purchase intention is mediated by attitude towards cosmetic products.

4.3.2.7 Perceived Price

Perceived price is a crucial factor in consumers' decision-making process, particularly in the cosmetics industry, which encompasses halal, organic, green, and skincare products. Perceived price refers to the consumer's assessment of a product's cost, considering its value and benefits (C. Hsu et al., 2017). Research indicates that price

perceptions significantly influence customers' attitudes towards cosmetic products. A positive impression of price can enhance favorable attitudes towards these products (Chen, 2012). Furthermore, perceived pricing influences attitudes and directly affects consumers' purchase intentions. This means consumers are more inclined to buy cosmetic products when they believe the price accurately reflects the product's value (Nik Mud et al., 2020). The relationship between perceived price, attitude, and purchase intention is often mediated by attitude, suggesting that the effect of perceived price on purchase intention is partially channelled through its influence on consumers' attitudes towards the product (H. W. Kim et al., 2012). Therefore, this study hypothesises the following:

H12a. There is a significant positive relationship between perceived price and purchase intention towards cosmetic products.

H12b. There is a significant positive relationship between perceived price and attitude towards cosmetic products.

H12c. The effect of perceived price on cosmetic purchase intention is mediated by attitude towards cosmetic products.

4.3.2.8 Product Knowledge

Consumer decision-making and purchasing of products are significantly influenced by product knowledge (Cooper & Schindler, Pamela, 2013). Consumers with high product knowledge rely on intrinsic product characteristics to judge product quality and function. In contrast, consumers with low product knowledge tend to evaluate the product based on its extrinsic cues, such as price and brand (Samu et al., 2023).

Previous research supported that product knowledge positively influences attitudes and intentions to purchase cosmetic products. Product knowledge plays a crucial role in shaping attitudes towards cosmetic (Ahmad Harianto et al., 2023). Research

indicates that product knowledge positively influences attitudes towards cosmetic products, leading to a higher purchase intention (Stevani et al., 2023). Studies have shown that increasing product knowledge enhances consumer awareness of halal cosmetic products, thereby positively impacting attitudes towards them (Yusnidar, 2022). Additionally, in the context of halal cosmetics, knowledge about halal labels significantly influences purchasing decisions, highlighting the importance of understanding product specifics (Najib et al., 2022). (Ghazali et al., 2017) stated that better knowledge about personal care products would lead to a significant impact on attitudes towards repurchase intention. Further, Product knowledge plays a crucial role in influencing consumer intention towards cosmetic products (Ahmad Harianto et al., 2023; Najib et al., 2022). Studies have shown that product knowledge positively and significantly affects purchase intention, indicating that a deeper understanding of the product leads to a higher likelihood of purchase (Najib et al., 2022). Hence, we proposed the following hypothesis.

H13a. There is a significant positive relationship between product knowledge and purchase intention towards cosmetic products.

H13b. There is a significant positive relationship between product knowledge and attitude towards cosmetic products.

H13c. The effect of product knowledge on cosmetic purchase intention is mediated by attitude towards cosmetic products

4.3.3 Moderating Role of the Big Five Personality Traits

According to (Baron & Kenny, 1986), a moderator is a variable, either qualitative or quantitative, that influences the direction or intensity of the relationship between an independent or predictor variable and a dependent or criterion variable. Integrating the Big Five Personality Traits as a moderating variable in the Theory of Planned Behavior

(TPB) provides a detailed comprehension of consumer behaviour concerning cosmetic products. The Big Five framework, which includes the traits of Openness to experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism, offers a comprehensive model for forecasting variations in behaviour and attitudes among individuals.

The rationale for including personality traits as moderators in the TPB is based on the understanding that personality significantly impacts how individuals perceive behavioural controls, social expectations, and attitudes towards specific behaviours. Consequently, this influences their intentions and actions (Ajzen, 1991).

Prior research has shown that the Big Five Personality Traits play a moderating role in various contexts, such as pro-environmental behaviour intentions in response to climate change (Yu & Yu, 2017), electric vehicle purchase intentions (Irfan & Ahmad, 2021), and impulse buying behaviour (Husnain et al., 2016). For instance, (Husnain et al., 2016) found that personality traits significantly moderated the relationship between electronic word of mouth and impulse buying behaviour, indicating that differences in personality traits can impact both the strength and direction of this relationship.

In the field of cosmetic products, personality traits may also impact the relationship between attitudes, subjective norms, and purchase intentions. Individuals with high levels of openness to experience are more likely to try new cosmetic items due to their positive attitudes and favorable subjective norms (John & Srivastava, 1981). Conversely, individuals with high levels of Neuroticism may exhibit stronger purchase intentions as a result of negative views or perceived social pressures, suggesting their sensitivity to external opinions (R. R. McCrae & Costa, 1997).

Incorporating personality traits as moderating variables in the proposed model is crucial due to their ability to capture the complex and personalised aspects of consumer behaviour towards cosmetic products. This approach enhances the predictive capability of the proposed model and provides specific insights for marketers aiming to customize their strategies for different consumer profiles. Therefore, this study hypothesises as follows:

H14. The relationship between perceived behavioural control and purchase intention towards cosmetic products moderated by personality traits.

H15. The relationship between attitude and purchase intention towards cosmetic products is moderated by personality traits.

H16. The relationship between subjective norms and purchase intention towards cosmetic products is moderated by personality traits.

4.3.4 Moderation effect of Gender, Marital status and Place of Residence on the Theory of Planned Behaviour model

H01a. The Gender has no significant difference between Attitude and Purchase Intention.

H01b. The Gender has no significant difference between Perceived Behavioural Control and Purchase Intention

H01c. The Gender has no significant difference between Subjective Norms and Purchase Intention

H02a. The Marital status has no significant difference between Attitude and Purchase Intention.

H02b. The Marital status has no significant difference between Perceived Behavioural Control and Purchase Intention

H02c. The Marital status has no significant difference between Subjective Norms and Purchase Intention

H03a. The Place of Residence has no significant difference between Attitude and Purchase Intention.

H03b. The Place of Residence has no significant difference between Perceived Behavioural Control and Purchase Intention.

H03c. The Place of Residence has no significant difference between Subjective Norms and Purchase Intention.

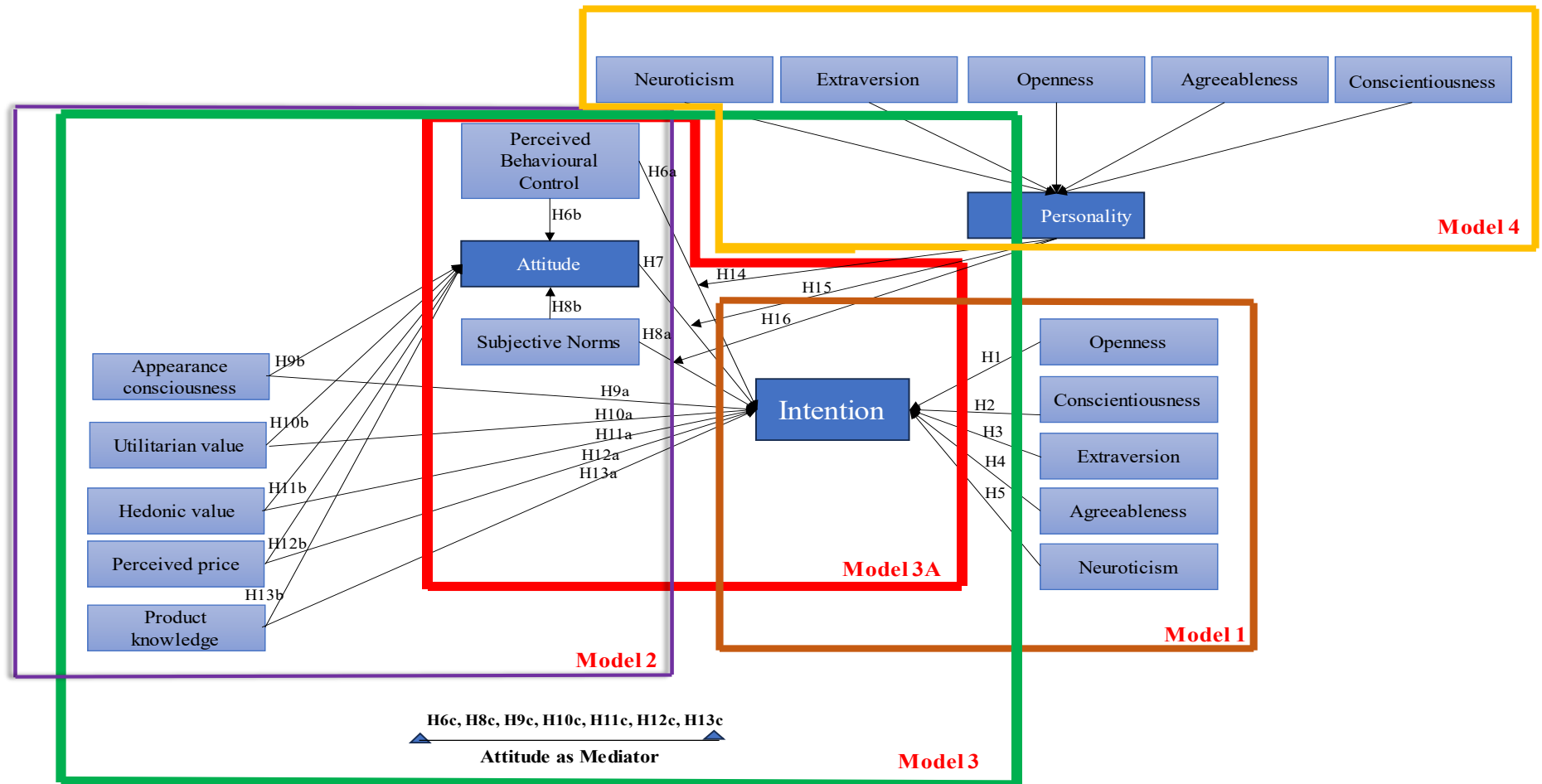


Figure No. 4. 1: The Attitude-Intention Proposed Research Model

Source: Author's Compilation

4.4 Definition of Terms

Multiple constructs have been included in the proposed model to be examined in this research. The following is a definition of each of these constructions that has been provided:

4.4.1 Purchase Intention

Ajzen (1991) defines behavioural intention as an individual's readiness to engage in a particular behaviour. Researcher asserts that behavioural intention is the primary predictor of actual behaviour. Intentions are considered to reflect the motivational factors that influence behaviour. The stronger an individual's intention to engage in a behaviour, the more likely they are to perform that behaviour (Ajzen, 1991). The Theory of Planned Behaviour suggests that accurate predictions of various behaviours can be made by examining attitudes towards the behaviour, subjective norms, and perceived behavioural control (Ajzen, 1991). In this study, "intention" specifically refers to the intention to purchase cosmetic products, which is termed as Purchase Intention.

4.4.2 Attitude

According to Ajzen (1991), a person with a positive attitude towards a specific behaviour is more inclined to participate in that behaviour. Ajzen (1991) attitude is a disposition to respond positively or negatively towards an item, person, institution, or event. In this study, "attitude" refers to the consumer's perspective of purchasing cosmetic items, termed "Attitude towards cosmetic products." This concept denotes the consumer's tendency to respond positively or negatively to purchasing cosmetic products.

4.4.3 Subjective Norms

Subjective norms (SN) refer to the perceived societal expectations that influence an individual's behaviour (Ajzen, 1991). When individuals are part of a community, there are established rules, conventions, or beliefs that dictate appropriate behaviour when it

comes to consumption. According to (Teng & Wang, 2015), consumers are more likely to have a favourable intention to acquire a product if they believe that the people who are significant to them hold positive attitudes and opinions about that product. In this study, subjective norms refer to examining the impact of social influences on consumers' decisions to purchase cosmetic products.

4.4.4 Perceived Behavioural Control (PBC)

Perceived behavioural control refers to an individual's belief in their possession of resources, abilities, and opportunities necessary to carry out a specific behaviour. In addition to an individual's attitude towards performing a particular behaviour and social norms, this component impacts both the desire to engage in the behavior and the actual behavior itself (Ajzen, 1991). Perceived behavioural control considers situations where individuals do not have complete control over their behavior due to insufficient resources or abilities to conduct a specific behavior (Ajzen, 1991). (Madden et al., 1992) it is stated that PBC influences an individual's behavioral intentions and actual behavior. In this study, perceived behavioral control refers to consumer's belief in their capacity to acquire cosmetics products in the context of cosmetic purchase intention. This might include available funds, product availability, and information access.

4.4.5 Appearance Consciousness

Appearance consciousness pertains to how individuals are concerned with their physical appearance and portray themselves to others. This term refers to the significance individuals attribute to their physical appearance and the dedication they are ready to commit to preserving or improving it. Appearance consciousness, as defined by (Workman & Johnson, 1993), refers to an individual's consciousness and fascination with their physical appearance and how this consciousness impacts their behaviour and self-perception. Appearance consciousness is a crucial factor in influencing consumer

behaviour when purchasing cosmetics. Individuals with a heightened concern for their physical appearance are more inclined to purchase cosmetic goods to improve or maintain their appearance. In this study, appearance consciousness refers to examining the effect of appearance consciousness, which is directly linked to appearance-related objectives.

4.4.6 Utilitarian value

Utilitarian value refers to a product's practical benefits and functional attributes that fulfill specific consumer needs. Utilitarian shopping value is the state where shopping meets specific consumption needs, resulting in a goal-oriented, cognitive, and non-emotional outcome (Babin et al., 1994). This value is linked to the functional product attributes of shopping (Suparno, 2020). In cosmetics, utilitarian value emphasises the practical and rational benefits offered by the products.

Utilitarianism, as a moral philosophy, prioritises practical and rational assessments characterised by a higher level of intellectual stimulation and a stronger focus on achieving specific goals. In this study, the term utilitarian value pertains to a brand's ability to deliver on its physical attractiveness and well-being promises. This includes benefits such as reducing wrinkles, slowing aging, lightening skin tone, combating dandruff, and hydrating the skin. Essentially, the primary incentive for purchasing cosmetics is to address and resolve specific issues or problems. This study focuses on understanding how these practical and goal-oriented benefits influence consumers' purchase intentions toward cosmetic products.

4.4.7 Hedonic value

Hedonic value refers to the aspects of consumer behaviour associated with the multisensory, imaginative, and emotional elements of the product usage experience (Hirschman & Hilbrook, 1982). In essence, hedonic items are perceived as tangible objects and as sources of experiential consumption, satisfaction, and pleasure. According

to (Cervellon & Carey, 2014), such products are categorised based on the satisfaction they provide to the senses and the emotional experiences they evoke. Products that exceed consumers' expectations tend to elicit positive emotional responses, as noted by (Chitturi et al., 2008).

In the context of this study, hedonic value refers to the experience, satisfaction, and pleasure that cosmetics provide consumers rather than their objective or practical benefits. Consumers purchase cosmetic products to address practical needs, maintain or demonstrate their status, and enhance their overall sensory and emotional experience. This study aims to understand how these hedonic aspects influence the purchase intentions of cosmetics consumers.

4.4.8 Product Knowledge

Product knowledge is crucial in influencing consumer decision-making and purchasing cosmetic products (Hill & Lynchehaun, 2002). Consumers with extensive product knowledge rely on intrinsic product attributes to evaluate quality and functionality. In contrast, those with limited understanding tend to assess products based primarily on external indicators like price and brand (Ghazali et al., 2017).

In this study, product knowledge refers to consumers' understanding of cosmetics, including their effects, benefits, ingredients, types available, and overall satisfaction with these products. A consumer's knowledge about a product can significantly alter their feelings and behaviours towards it. Detailed product information helps distinguish one cosmetic product or service from another based on its features, benefits, price, and ease of use. This understanding is essential as it influences attitudes and purchase intentions towards cosmetic products.

4.4.9 Perceived price

Perceived price refers to an individual's mental estimate of how much a product costs, influenced by both the actual price and the individual's subjective assessment of the value received compared to the cost. According to (Zeithaml, 1988), perceived price is defined as a customer's overall judgment of the utility of a product based on their perception of what they receive (the product or service) versus what they give up (the price paid).

In this study, perceived price pertains to customers' opinions of a product or service and how they impact their willingness to pay. Customers' perceived value from using the product or service determines their perception of the price. Regarding cosmetic products, the price is a significant consideration for many consumers, influencing their purchasing decisions. The perceived price is, therefore, a critical factor in understanding consumer behaviour in the cosmetic industry.

4.4.10 Openness to experience

Openness to experience is a key dimension in the Big Five Personality Traits model, representing an individual's propensity to engage with new experiences, explore innovative ideas, and exhibit creativity and imagination. According to (Costa & McCrae, 2012), openness to experience encompasses the breadth, depth, originality, and complexity of an individual's mental and experiential life. In this study, openness to experience pertains to consumers inclined to try new brands, products, and innovations. This trait may predispose individuals to experiment with new cosmetic products, seek out unique items, and stay abreast of the latest trends in the cosmetics industry.

4.4.11 Agreeableness

Agreeableness is a fundamental trait in the Big Five Personality model, characterised by altruism, trust, compassion, and a cooperative nature. According to

(Costa & McCrae, 1992), agreeableness reflects individual differences in their focus on cooperation and social harmony. Individuals with high agreeableness prioritise harmonious relationships and typically exhibit thoughtfulness, amiability, magnanimity, helpfulness, and a willingness to find common ground with others. In this study, agreeableness is associated with individuals who are likely to purchase cosmetic products recommended by friends, family, or trusted influencers. They show a higher interest in cosmetics from brands known for ethical practices. Marketing strategies that promote community, collaboration, and social benefits are likely to appeal to agreeable respondents, given their preference for cooperation and harmony.

4.4.12 Conscientiousness

Conscientiousness is a key component of the Big Five Personality Traits, reflecting an individual's degree of organisation, reliability, efficiency, and ambition. Conscientious individuals exhibit traits such as self-discipline, carefulness, thoroughness, and the ability to control and guide their actions to achieve long-term goals. According to (Costa & McCrae, 1992), conscientiousness includes being diligent dutiful, and having a preference for planned actions rather than spontaneous ones. In this study, conscientiousness can significantly impact consumer behavior in the context of cosmetic purchase intention. Conscientious consumers are likely to carefully assess products, preferring high quality or offering good value for money, and show loyalty to businesses that meet their rigorous standards. These individuals typically conduct thorough research on products before purchasing, considering factors such as product ingredients, brand reputation, and customer feedback. This meticulous approach ensures that their choices align with their high standards for reliability and effectiveness.

4.4.13 Extraversion

Extraversion refers to “a personality trait characterised by a preference for engaging in social activities, such as sports, social gatherings, and maintaining a large network of friends” (Rollings et al., 2023). Extroverts enjoy loud music and actively seek social experiences to avoid boredom (Costa & McCrae, 1992). They tend to become easily bored and make efforts to avoid monotonous situations. In the context of this study, extraversion is closely associated with consumer behaviour, particularly concerning cosmetic purchase intention. Extroverted individuals often choose products that enhance social interaction or personal visibility. Due to their sociable nature and desire for positive attention, extroverts are more likely to purchase cosmetics that they believe will improve their appearance or are trendy and popular among their social circles. This tendency highlights the influence of extraversion on cosmetic purchasing decisions, as these individuals seek products that align with their social and visibility needs.

4.4.14 Neuroticism

Neuroticism, often referred to as "emotional stability" on the positive end of the spectrum, encompasses a range of attributes, including the capacity to manage stress, anxiety, and depression (Judge et al., 2002; Robbins et al., 2001). Individuals with high levels of neuroticism typically exhibit traits such as anxiety, irritability, despondency, self-awareness, impulsivity, and vulnerability. This study examines neuroticism in the context of cosmetic product purchase behaviour. Individuals who score high in neuroticism may be driven to purchase cosmetic products to address self-image concerns and social sensitivity. These consumers might use cosmetics as a means to cope with insecurities or to enhance their appearance in order to receive positive social feedback. This behaviour underscores the significant impact of neuroticism on consumer

purchasing decisions, as these individuals seek products to help them manage their emotional and social vulnerabilities.

4.5 Questionnaire Development

The construction of the Questionnaire began with an extensive review of the literature on factors influencing cosmetic purchase behaviour across various contexts, such as organic, vegan, halal, natural beauty products, and green cosmetics. This systematic literature review aimed to identify and synthesise existing research findings to clarify the various factors influencing customer choices in the cosmetic industry. It also helped to understand the prevailing consumer behaviour theories, sampling methods, geographic focus, and statistical tools used in previous studies.

The literature review helped in identifying and adapting existing scales for constructs such as purchase intention (5 items), attitude (8 items), subjective norms (5 items), perceived behavioural control (3 items), appearance consciousness (4 items), utilitarian value (4 items), perceived price (3 items), product knowledge (3 items), hedonic value (3 items), neuroticism (4 items), openness (4 items), conscientiousness (3 items), agreeableness (3 items), and extraversion (3 items). These items were rephrased to align with the study's objectives.

Specifically, the 8 items assessing attitudes towards cosmetic behaviour were sourced from studies by (Ngah et al., 2023) (2 items), (Ghazali et al., 2017) (5 items), and (Mamun et al., 2020) (1 item). The 5 items for purchase intention were taken from (Ghazali et al., 2017) (1 item), (Shimul et al., 2022) (1 item), and (Pop & Zsuzsa, 2020) (3 items). The 5 items for subjective norms were borrowed from (Ghazali et al., 2017) (4 items) and (Mamun et al., 2020) (1 item). All 3 items for perceived behavioural control were taken from (Ghazali et al., 2017). The 4 items for appearance consciousness were

sourced from (Sayon et al., 2021) (3 items) and (Cash & Labarge, 1996) (1 item). The 4 items for utilitarian value were adapted from (Ho et al., 2020), with one item developed to suit the study's objectives. The 3 items for the perceived price were adopted from (Sweeney & Soutar, 2001). The 3 items for product knowledge were taken from (Ghazali et al., 2017) (2 items) and (Briliana & Mursito, 2017). The 3 items for hedonic value were sourced from (Ho et al., 2020) (2 items) and (Ajitha & Sivakumar, 2017) (1 item). The items for the Big Five Personality Traits neuroticism (4 items), openness (4 items), conscientiousness (3 items), agreeableness (3 items), and extraversion (3 items) were adopted from (Yoo & Gretzel, 2011).

All final items of the constructs were included in the questionnaire after conducting content validity checks with experts and exploratory factor analysis. Before developing the final measurement scale, a Knowledge, Attitude, and Practice (KAP) survey involving 128 participants was conducted to gauge community knowledge about cosmetic products. Pilot testing on a sample size of 131 was also performed to check the study's feasibility, and Cronbach's alpha and exploratory factor analysis were conducted to measure the reliability of the constructs and identify interrelations among variables.

This thorough approach ensures that the scale is robust and aligns well with the study's objectives, providing a solid foundation for investigating the factors influencing cosmetic purchase behaviour.

4.5.1 Content Validation

Before proceeding with the pilot study, the researcher conducted content analysis following the guidelines provided by (Yusoff, 2019). This six-step content validity procedure includes preparing a content validation form, selecting a review panel of experts, conducting content validation, reviewing domains and items, scoring each item, and calculating the Content Validity Index (CVI). This method ensures that the

questionnaire items are relevant and accurately measure the intended constructs, enhancing the questionnaire's validity before the pilot study.

Content Validity

Content validity refers to the extent to which the elements of an assessment tool are relevant and representative of the specific attribute being measured for a particular assessment purpose (Haynes et al., 1995). It is a qualitative evaluation ensuring that the items in a scale accurately represent the essence of the concepts and variables being measured. Content validity is crucial as it forms the foundation for other types of validity and should be prioritised during the creation of the measurement instrument (Zamanzadeh et al., 2015). The primary objective of conducting content validity is to evaluate the degree of suitability of the developed instrument. This involves an expert's evaluation of the relevance of the items to each dimension and their assessment of how well the items represent each dimension. According to (Yaghmaie, 2003), content validity assesses how well a scale covers and describes the content it is intended to measure. (Kazi, 2011) defines content validity as the extent to which the measured items accurately represent the meaning and scope of the construct. Since constructs are unobservable variables that cannot be directly measured, researchers must create a set of measured items that effectively capture the domain of the latent constructs. The content validity of the resulting instrument is primarily determined by the researcher's judgment, logic, and reasoning, with validation provided by a panel of experts in the relevant topic domain (Wynd et al., 2003).

(Sirajudeen et al., 2012) assert that for study conclusions to be trusted, the instrument employed must possess both validity and reliability. Ensuring that the tool consistently measures the intended construct when used appropriately is crucial.

A content validity letter was prepared and included in Appendix C to design an instrument that measures purchase intention towards cosmetic products. This letter was presented to experts for their review. Seven experts in the field evaluated the items for the constructs, assigning scores ranging from 1 to 4 based on specific criteria.

- Relevance (Rel): 1- not relevant, 2- item needs some revision, 3- relevant but needs minor revision, 4-very relevant.
- Clarity (Cla): 1- not clear, 2- item needs some revision, 3- clear but needs minor revision, 4- very clear.
- Simplicity (Sim): 1- not simple, 2- item needs some revision, 3- simple but needs minor revision, 4- very simple.

(Yusoff, 2019), his research article "ABC of Content Validation and Content Validity Index Calculation" provides a comprehensive guide on conducting content validation and calculating the content validity index (CVI) for assessment instruments and questionnaires explicitly used in research. The author emphasizes the importance of content validity, which refers to the degree to which the elements of an assessment tool are relevant and representative of the intended concept for a particular assessment purpose. Yusoff outlines a systematic approach to content validation consisting of six sequential steps:

Step 1: Preparing Content Validation Form

The initial step is to develop a content validation form, which serves as a structured guide for the panel of experts. The primary purpose of this form is to provide clear instructions and a rating system, ensuring that the experts fully understand the evaluation process. The form should include a detailed definition of the domain, the specific elements that represent the domain, and a recommended rating scale for assessing

the importance of each element. This approach ensures that the experts comprehensively understand the assessment procedure, enabling them to provide consistent and relevant feedback.

Step 2: Selecting a Review Panel of Experts

Selecting the review panel is a crucial step in the content validation process. The panel should consist of experts with specialised knowledge of the subject matter of the evaluation tool. Ideally, the number of experts should range between six and ten, as this size ensures a balance between diverse perspectives and manageability. The expertise of the panel members is essential to guarantee the accuracy and reliability of the content validation process. Their specialised knowledge and experience contribute to the robustness and credibility of the evaluation, ensuring that the tool accurately measures the intended constructs.

Step 3: Validating the Content of the Document

Content validation can be conducted using either a direct or an indirect approach. The direct method involves organising a face-to-face meeting with the panel of experts, allowing for immediate discussion and feedback. In contrast, the indirect method typically consists in distributing the content validation form online. The choice of method depends on factors such as budget, time constraints, and the expected response rate. Ensuring a high response rate and timely feedback is crucial for the non-face-to-face approach. This can be achieved through rigorous follow-up and regular reminders, ensuring the validation process is completed efficiently and effectively.

Step 4: Reviewing the Domain and Items

In this step, experts thoroughly evaluate the defined domain and the corresponding items. The content validation form provides the necessary information for

this review. Experts are encouraged to offer feedback and suggest improvements to enhance the items' relevance and comprehensiveness concerning the targeted domain. This thorough examination ensures that all items accurately represent the construct and that no essential aspect is overlooked. The expert review process is crucial for refining the items to ensure they effectively capture the intended dimensions of the measured construct.

Step 5: Assigning a score to each item.

Following the review, the experts are asked to individually assign a score to each item based on its relevance to the domain. This evaluation typically utilises a rating scale where higher scores indicate greater importance. The scores provided by the experts are then collected for further analysis. This step ensures that each item is quantitatively assessed for alignment with the domain, facilitating an objective evaluation of its relevance and comprehensiveness. The gathered scores enable a systematic examination of the items, ensuring that only the most pertinent and representative elements are included in the final assessment tool.

Step 6: Calculating Content Validity Index

The final step involves calculating the Content Validity Index (CVI), which measures the assessment tool's content validity. The CVI is calculated for both individual items (I-CVI) and the overall scale (S-CVI). The I-CVI represents the proportion of experts rated the item as relevant, while the S-CVI reflects the content validity of the entire scale. There are two methods to calculate S-CVI: the average technique (S-CVI/Ave), which is the average of the I-CVIs, and the universal agreement method (S-CVI/UA), which considers the proportion of items that all experts agree upon as valid. This calculation provides a quantitative assessment of the tool's validity, ensuring that the

items are relevant and representative of the measured construct. By determining the CVI, researchers can confirm the robustness and reliability of the assessment tool for further use.

Content Validity Index

The Content Validity Index (CVI) is a widely used statistical measure for assessing research instruments' content validity, such as questionnaires or tests. Content validity refers to the extent to which the items within an assessment tool are relevant and representative of the construct they are intended to measure. The CVI is calculated by compiling expert evaluations of the items, focusing on their relevance, clarity, and simplicity.

Experts rate each item on a scale from 1 to 4 to calculate the CVI, where higher scores indicate greater relevance. The ratings are then analysed to determine the proportion of experts who agree on the relevance of each item (I-CVI) and the overall scale (S-CVI). The I-CVI is calculated for each item, representing the proportion of experts who rated the item as relevant. At the same time, the S-CVI can be computed using the average method (S-CVI/Ave) or the universal agreement method (S-CVI/UA).

By aggregating these expert assessments, researchers can quantify the content validity of their assessment tool, ensuring that it effectively measures the intended construct. The feedback and recommendations provided by the experts during this process are crucial for refining and finalising the scale, enhancing its reliability and validity for subsequent research use.

The Content Validity Index (CVI) is computed at two different levels:

1. Item Content Validity Index (I-CVI)

The Item-Level Content Validity Index (I-CVI) measures how well individual items in an assessment tool represent the intended content. The I-CVI is calculated by dividing the number of experts who rated the item as relevant (typically with a score of 3 or 4 on a 4-point scale) by the total number of experts. For example, if 8 out of 10 experts deem an item relevant, the I-CVI for that item would be 0.8.

2. Scale-Level Content Validity Index (S-CVI)

The Scale-Level Content Validity Index (S-CVI) assesses the content validity of the entire scale. It can be calculated using two methods:

- S-CVI/Ave: This represents the average of the I-CVI scores for all items in the tool. It is calculated by summing the I-CVI scores of all items and dividing by the total number of items.
- S-CVI/UA (Universal Agreement): This method evaluates the proportion of items that all experts rated as relevant. It is calculated by dividing the number of items that received unanimous agreement (all experts rated them as relevant) by the total number of items.

The acceptable threshold for CVI depends on the number of experts and the method used. Generally, an I-CVI of 0.78 or higher and an S-CVI/Ave of 0.90 or higher indicate good content validity. These thresholds ensure that the items and scale adequately capture the construct they are intended to measure, providing a solid foundation for the assessment tool's validity.

Table No. 4. 1: Scale Content Validity Index (S-CVI) for the Constructs

Sr. No.	Construct	No. of items	S-CVI/UA	S-CVI/Avg
1	Product Knowledge	10	1	1
2	Hedonic Value	7	1	1
3	Utilitarian Value	5	0.8	0.97
4	Appearance consciousness	7	1	1
5	Health consciousness	6	0.83	0.98
6	Perceived Quality	6	0.83	0.93
7	Perceived Price	7	1	1
8	Purchase intention	8	1	1
9	Subjective Norm	11	1	1
10	Attitude towards cosmetics	9	1	1
11	Perceived Behavioural Control	7	1	1

Source: Author's Compilation

The number of experts involved in content validation is crucial in determining the appropriate cut-off score for the Content Validity Index (CVI). According to (Davis, 1992), if two experts participate in the validation process, the minimum acceptable CVI value should be 0.80. As the number of experts increases, the acceptable CVI values become more diverse. For instance, when three to five experts are involved, the CVI should ideally be 1, as recommended by (Polit et al., 2007). When there are at least six experts, the minimum acceptable CVI value slightly decreases to 0.83, as also suggested by (Polit et al., 2007). (Lynn, 1986) states that when six to eight experts are engaged, the acceptable CVI value remains at least 0.83. However, when the number of experts reaches nine or more, the acceptable CVI value lowers to at least 0.78, as proposed by (Lynn, 1986). This correlation between the number of experts and the permissible CVI values highlights the importance of considering panel size during the content validation process to ensure the reliability and accuracy of the assessment tool.

The Item Content Validity Index (I-CVI) for the scale items is determined by analysing the ratings of item relevance to the study's objective and scope. When revising the scale elements, the ratings of the items were considered in terms of their simplicity and clarity from the respondents' perspective. The instrument also incorporated the experts' suggestions for minor revisions related to the clarity of the wording of the items. The revised scale was subsequently introduced to assess Face Validity.

4.5.2 Face Validity

Face validity is an additional kind of validity that supplements content validity. It addresses whether an instrument appears to be valid for the subjects or participants (Zamanzadeh et al., 2015). Face validity is conducted after the instrument has undergone content validation during its development process. While content validity is established through careful planning and item construction before the instrument's creation, face validity refers to evaluating the items after the instrument has been developed.

Face validity assesses whether an instrument looks capable of measuring the construct of interest. It involves examining the end result and determining if the instrument effectively measures the intended ideas. This type of validity serves the purpose of introducing a limited number of respondents to the questionnaire to identify any issues with the data collection tool and implement necessary modifications. Experts evaluate whether the items in a questionnaire accurately measure the intended concepts (Bolarinwa, 2015).

An in-depth assessment was conducted to evaluate face validity and determine if the items on the scale accurately measure the specific concept. Items that met the criteria for content validity were then assessed for face validity. A face validity assessment involved seven experts with sufficient expertise in cosmetic products. Among these

experts, three were active users of cosmetic products, two were beauty salon operators, and two were academicians who clarified the measurement model.

The experts were asked to provide their input on the sensitivity of the scale, specifically regarding the suitability of the items for the constructs, potential ambiguity in the developed items, the readability and comprehensibility of the scale items, the length of the items, and the relationship between the items and the primary objective of the study. Their suggestions were used to reframe the components of the scale that needed improvement. Redundant items were eliminated, and ambiguous items were clarified and reformulated. Additionally, the experts were consulted on the appropriateness of the demographic questions, and modifications were made based on their recommendations.

4.5.3 Pilot Study

A pilot study is a preliminary investigation conducted to assess the practicality and viability of a more extensive research study before its full-scale implementation. According to (Lynn, 1986; Saunders et al., 2016), conducting a pilot test allows researchers to refine the questionnaire design and identify any issues that need to be addressed in the final version. This study conducted a pilot study in two distinct stages, pre-pilot, and post-pilot, to evaluate the reliability of the research instrument. The following sections provide detailed information on the pre-pilot and post-pilot tests.

The pre-pilot stage involved initial testing to identify apparent problems with the questionnaire, such as ambiguous wording or complex questions, allowing for early corrections. Following the pre-pilot, a post-pilot test was conducted to further refine the instrument based on feedback and preliminary data analysis. This two-stage pilot testing ensured that the final research instrument was reliable and valid, providing a solid foundation for the more extensive study.

Pilot-test results

After conducting the content validity and face validity of the items about the study's objectives, a pilot test was carried out to ensure the scale's reliability further. The goal of this pilot test was to confirm that respondents could answer the questions and evaluate the validity and reliability of the questionnaire before its final administration.

The initial questionnaire was distributed to a sample of 150 respondents who shared similar characteristics with the target demographic, as described in the study's scope. These respondents had experience using cosmetic products and were knowledgeable about their usage and benefits. Out of the distributed questionnaires, 131 were completed and returned, resulting in a high response rate of 87.33%. According to (Saunders et al., 2019), a response rate of 30% is considered acceptable for questionnaires distributed and collected in person, making the achieved response rate notably high.

To further validate the questionnaire and ensure the reliability of the scale, an Exploratory Factor Analysis (EFA) and reliability analysis using Coefficient Alpha were conducted on the data collected from the pilot study. These analyses helped to group related variables that measure a common underlying factor, ensuring that the questions accurately reflected the constructs they were intended to measure and that the scale was reliable for use in the main study.

4.5.3.1 Screening of Data for pilot study

The initial stage of data analysis involves examining and evaluating the data (Hair Jr et al., 2010). For the pilot study, the data entry was scrutinised for instances of missing data, unengaged responses, and incorrect value entries. The analysis revealed the following:

- a) Missing Data: The descriptive statistics did not reveal any missing data from the collected responses.
- b) Unengaged Responses: An unengaged response refers to answering with little attention or thought. No unengaged responses were found in the sample collected from the target population.
- c) Wrong entry of values: The descriptive statistics showed correct data entries.

By thoroughly screening the data, we ensured its accuracy and reliability, paving the way for subsequent analyses.

Table No. 4. 2: The Pilot Study Demographic Profile Respondent's (N=131)

Demography	Category	Frequency	Percentage
Gender	Male	45	34.40%
	Female	86	65.60%
	Total	131	100.00%
Age	20-30	51	38.90%
	31-40	46	35.10%
	41-50	22	16.80%
	51-60	10	7.60%
	61 & above	2	1.50%
	Total	131	100.00%
Marital Status	Married	76	58.00%
	Unmarried	55	42.00%
	Total	131	100.00%
Place of Residence	Urban	71	54.20%
	Rural	60	45.80%
	Total	131	100.00%
Qualification	SSC & below	2	1.50%
	HSSC	12	9.20%
	Graduation	36	27.50%
	Post-Graduation	74	56.50%
	Other if any	7	5.30%
	Total	131	100.00%

Total	131	100.00%
Below 10000	16	12.20%
10001 - 20000	14	10.70%
20001 - 30000	14	10.70%
30001 - 40000	18	13.70%
40001 - 50000	10	7.60%
50001 - & above	59	45.00%
Monthly Income		
Total	131	100.00%

Source: Author's Compilation

4.5.3.2 Exploratory Factor Analysis (EFA)

Exploratory factor analysis (EFA) is conducted to cluster similar variables to assess a singular construct. EFA is a complex, multi-stage procedure extensively employed and substantially implemented statistical technique in the field of social sciences (Costello & Osborne, 2005). EFA enables the reduction of several variables into a more concise and manageable set of fundamental concepts. The objective of EFA is to ascertain the underlying factor structure within a given data set.

To gain a deeper understanding of the dimensions represented by the scale items, an EFA was performed. Using SPSS Version 27, Principal Component Analysis was conducted with Varimax rotation and Kaiser Normalisation for the extraction of factors. The Varimax rotation method was applied to maximise the variance among the factors, enhancing interpretability. Factor loadings below 0.5 were dropped to ensure clarity and reliability in the factor structure. This approach helped identify distinct constructs that the scale items represented, thereby refining the measurement model.

Table No. 4. 3: Rotated Component Matrix

Rotated Component Matrix														
Component														
Items	1	2	3	4	5	6	7	8	9	10	11	12	13	14
ATT5	0.861													
ATT1	0.859													
ATT2	0.845													
ATT4	0.835													
ATT6	0.823													
ATT3	0.811													
ATT8	0.796													
ATT7	0.788													
INT5		0.812												
INT1		0.806												
INT2		0.801												
INT3		0.779												
INT4		0.696												
SN5			0.81											
SN4			0.802											
SN6			0.725											
SN1			0.725											
SN7			0.701											
NEW2				0.819										
NEW1				0.805										
NEW3				0.797										
NEW5				0.778										

OPE2					0.8									
OPE3					0.797									
OPE1					0.77									
OPE4					0.752									
AC4						0.796								
AC5						0.795								
AC2						0.788								
AC3						0.78								
UV3							0.789							
UV4							0.728							
UV2							0.711							
UV1							0.688							
AGG2								0.862						
AGG1								0.847						
AGG3								0.817						
PP2									0.877					
PP1									0.859					
PP3									0.825					
PBC5										0.88				
PBC4										0.796				
PBC3										0.761				
CON3											0.815			
CON4											0.811			
CON2											0.757			
PK6												0.851		
PK7												0.799		

PK4												0.726		
EXT2													0.837	
EXT1													0.769	
EXT3													0.699	
HV1														0.813
HV2														0.773
HV3														0.692
Extraction Method: Principal Component Analysis.														
Rotation Method: Varimax with Kaiser Normalization. A														
a Rotation converged in 8 iterations.														

Source: Author's Compilation

4.5.3.3 Coefficient alpha

The term "coefficient alpha" refers to a statistical measure used to assess a test or scale's internal consistency or reliability. Coefficient alpha, commonly known as Cronbach's alpha, is utilised to determine the reliability of individual factors within a scale (Bagozzi & Yi, 2012). It measures how well a set of items or variables measures a single, unidimensional latent construct.

The reliability of the questionnaire collected from respondents was assessed using IBM SPSS Statistical Version 27. The findings indicated that Cronbach's alpha values for all the constructs exceeded the threshold of 0.7. This suggests that the instrument has internal solid consistency, indicating that the items within each construct reliably measure the same underlying concept. Therefore, the questionnaire is validated and suitable for further data collection.

Table No. 4. 4: Cronbach's Alpha for Constructs

No.	Construct	Cronbach's Alpha	No. of Items
1	Attitude	0.94	8
2	Intention	0.9	5
3	Subjective Norms	0.88	5
4	Neuroticism	0.84	4
5	Openness	0.82	4
6	Appearance consciousness	0.83	4
7	Utilitarian value	0.81	4
8	Agreeableness	0.88	3
9	Perceived price	0.89	3
10	Perceived Behavioural control	0.8	3
11	Consciousness	0.81	3
12	Product knowledge	0.79	3
13	Hedonic value	0.8	3

Source: Author's Compilation

The preliminary assessments indicated that the participants could comprehend and respond to the questions presented in the survey, with only minor difficulties observed. On average, the respondents took about 14 minutes to complete the questionnaire.

After completing the Content Validity, Face Validity, and Pre-testing of the scale, the number of items was subsequently reduced. Table No. 4.5 below shows the initial and final pool of items included in the scale. Finally, one global item was developed to test the validity and reliability of the formative construct of personality.

Table No. 4. 5: Reduction of Items in Constructs

No.	Construct	The initial pool of items	Final items to the scale
1	Attitude	9	8
2	Intention	8	5
3	Subjective Norms	11	5
4	Neuroticism	5	4
5	Openness	5	4
6	Appearance consciousness	7	4
7	Utilitarian value	5	4
8	Agreeableness	5	3
9	Perceived price	7	3
10	Perceived Behavioural control	7	3
11	Consciousness	5	3
12	Product knowledge	8	3
13	Hedonic value	7	3
14	Extraversion	5	3

Source: Author's Compilation

Table No. 4. 6: Constructs and sources of measurement items

Constructs	Items Details	Sources
Attitude	I think using cosmetic products would be beneficial to me.	(Ghazali et al., 2017)
	I think using cosmetic products would be desirable to me.	
	I think using cosmetic products would be a wise decision for me.	
	I think using cosmetic products would be pleasant for me.	(Ngh et al., 2023)
	I think buying cosmetic products is safe.	
	I think using cosmetics would be a good idea for me.	
	I have a positive attitude towards cosmetic products.	(Cronan & Al-Rafee, 2008)
	I think using cosmetic products is favourable to me.	
Purchase Intention	I have decided to purchase cosmetic products on a regular basis	(Pop & Zsuzsa, 2020)
	I would like to recommend cosmetic products to other people.	
	I will buy cosmetic products as soon as I run out of them.	(Shimul et al., 2022)
	The probability that I would purchase cosmetic products is high.	
	I intend to continue buying cosmetic products in future.	(Ghazali et al., 2017)
Subjective Norms	My family members believe that buying cosmetics is a good idea for me.	(Ghazali et al., 2017)
	The majority of people who matter to me believe that I should buy cosmetic products	
	People I listen to have the ability to convince me to purchase cosmetic products	
	Buying cosmetic products would help me feel accepted.	(Mamun et al., 2020)
	I learned about cosmetic products from my friends	
Appearance consciousness	I would feel embarrassed if I did not look my best when I am around people.	(Sayon et al., 2021)
	Using cosmetic products to look good is worth the effort.	
	It is important that I always look good.	(Cash & Labarge, 1996)
	I should do whatever I can to always look my best.	

Utilitarian value	Cosmetic products which I use have good functionality Using cosmetic products helps me in solving physical appearance-related problems. Cosmetic products satisfy my physical appearance-related needs well. Using cosmetic products gives me a confidence.	(Ho et al., 2020)
Perceived price	I believe that the cosmetic product I am using is reasonably priced. I think that the cosmetic product I am using offers Value for money. I believe that the cosmetic products I am using are a good product for the price.	(Sweeney & Soutar, 2001)
Perceived behavioural control	I ultimately have control over the purchase of cosmetic products. I have the resources and ability to buy cosmetic products. I am confident that I can buy them if I want cosmetic products.	(Ghazali et al., 2017)
Product knowledge	I understand the features of cosmetic products. I have better knowledge of cosmetic products compared to my friends and relatives. I have enough knowledge to differentiate between chemical, cosmetic products, and green cosmetic products.	(Ghazali et al., 2017) (Briliana & Mursito, 2017)
Hedonic value	Using cosmetics products would give me pleasure. Using cosmetics products is enjoyable. Cosmetic product consumption enhances the quality of my life.	(Ho et al., 2020) (Ajitha & Sivakumar, 2017)
Neuroticism	I worry about things. I get stressed out easily. I fear for the worst. I panic easily.	(Yoo & Gretzel, 2011)
Openness	I enjoy thinking about things. I enjoy hearing new ideas. I get excited by new ideas. I enjoy looking for a deeper meaning in things.	(Yoo & Gretzel, 2011)
Agreeableness	I am concerned about others. I sympathise with others' feelings. I respect others.	(Yoo & Gretzel, 2011)

Consciousness	I am always prepared.	(Yoo & Gretzel, 2011)
	I make plans and stick to them.	
	I pay attention to details.	
Extraversion	I feel comfortable around people.	(Yoo & Gretzel, 2011)
	I talk a lot to different people at parties.	
	I start conversations.	

Source: Author's Compilation

After conducting content validity with experts and exploratory factor analysis, these final items for the constructs were included in the questionnaire.



Analysis and Results

This chapter delves into the preliminary analysis of the data. This includes response rate, data coding, initial data screening, missing data, and unengaged response. Second, this study's measurement model was evaluated by examining the reliability, convergent reliability, and discriminant validity of both the first and second-order constructs in the model. Last, the structural model of this study was conducted to test the proposed hypotheses.

5.1 Preliminary analysis of the data

This section provides an overview of the initial data analysis process, which includes the preparation, organisation, and examination of the data and demographic profile of the respondents. This process lays the groundwork for subsequent data analysis to address the research questions and achieve the research objectives. The

initial phase involves data cleaning and validation to ensure accuracy and completeness. Following this, the data is systematically organised to facilitate practical analysis. The examination of the data is conducted to identify patterns, trends, and relationships that are pertinent to the research objectives. This foundational analysis is crucial for informing the direction and methodology of further data.

5.1.1. Response Rate

According to Hair Jr et al. (2010), a minimum sample size of 5:1 is recommended when dealing with a high number of constructs in Confirmatory Factor Analysis (CFA).

This study's target population includes cosmetic product customers who had purchased these products within the previous 12 months and are aged 20 years and above. As shown in Table 5.1, a total of 998 questionnaires were distributed to the target population in the state of Goa, India. Out of these, 863 responses were returned, resulting in a response rate of 86.47%. Following a preliminary examination, 11 responses were excluded from the analysis due to more than 5% missing data, and 6 additional responses were excluded due to unengaged responses. Consequently, 846 responses were considered for the CFA analysis, reducing the actual response rate to 84.7%. Hence, for this study, the sample size exceeded the minimum sample size.

Table No. 5. 1: Response Rate

Questionnaires	Frequency	Percentage
Questionnaire Distributed	998	100%
Questionnaire Returned	863	86.47%
Questionnaire Rejected	17	1.70%
Questionnaire Retained	846	84.76%

Source: Author's Compilation

5.1.2. Data Coding

Data coding expedites the process of data entry and minimises the occurrence of errors Saunders et al. (2016). The data was coded using a two-step process. In the initial phase, numerical values were assigned to the responses provided by the participants. In the second step, conventional acronyms were used to code the constructs before data entry (see Table 5.2). This systematic approach ensures that data is organised and input efficiently, reducing potential mistakes and enhancing the accuracy of the analysis.

Table No. 5. 2: Data coding

Constructs	Code
Purchase Intention	PI
Attitude	ATTI
Appearance Consciousness	AC
Hedonic Value	HV
Perceived Behavioural Control	PBC
Perceived Price	PP
Product Knowledge	PK
Subjective Norms	SN
Utilitarian Value	UV
Agreeableness	AGR
Conscientiousness	CON
Extraversion	EXT
Neuroticism	NEU
Openness	OPE
Personality	PER

Source: Author's Compilation

5.1.3. Initial Data Screening

Once the data had been coded, it was subsequently entered into the IBM SPSS Statistics software, Version 27. The data entered were scrutinised to identify inaccuracies during the input procedure.

5.1.4. Missing Data

Missing data is a significant concern in social science research, mainly when researchers employ surveys to gather data (Carter, 2006). Missing data refers to situations where a researcher fails to input data or when respondents do not answer specific questions due to the lack of necessary information to address certain study aspects. Consequently, they may refuse to respond to those questions.

According to Pan & Chen (2023), imputation methods can be employed as a corrective measure when the proportion of missing data is approximately 10% or less of the total items. Nevertheless, it is imperative to remove the missing data if it exceeds 10% of the total number of items. In this study, it was observed that 11 cases had a missing data rate of over 10% for the total items. Consequently, they were eliminated to ensure the integrity and reliability of the dataset. This step is crucial to maintain the research findings' validity and avoid any potential bias or errors that could arise from incomplete data.

5.1.5. Unengaged response

The term "unengaged response" refers to a type of response provided by a participant in a survey, which indicates a lack of genuine or thoughtful engagement with the survey content Baumgartner & Weijters, (2022). Unengaged responses can compromise the quality and reliability of survey data, as they may not accurately reflect the actual opinions or experiences of the respondents. Researchers often employ various methods to detect and mitigate unengaged responses, such as incorporating attention-check questions, using open-ended questions to encourage reflective responses, and discarding responses that clearly demonstrate a lack of engagement Alvarez & Li, (2022).

In this study, 6 responses were found unengaged, as evidenced by participants ticking the same codes repeatedly. These unengaged responses were subsequently removed from the dataset to maintain the integrity and accuracy of the research findings. Ensuring that only engaged and thoughtful responses are included in the analysis helps to enhance the validity of the results. It provides a more accurate representation of the participants' genuine opinions and experiences.

5.2 Demographic Profile

This section presents comprehensive information regarding the demographic profiles derived from the questionnaire. The respondents' information is presented using descriptive statistics, precise frequencies, and percentages. This approach ensures a clear and concise representation of the sample's demographic characteristics, allowing for an accurate understanding of the participant distribution across various demographic categories. This demographic analysis forms the foundation for interpreting the subsequent data and provides context for the research findings.

Table No. 5. 3: Demographic Profile of the Respondents

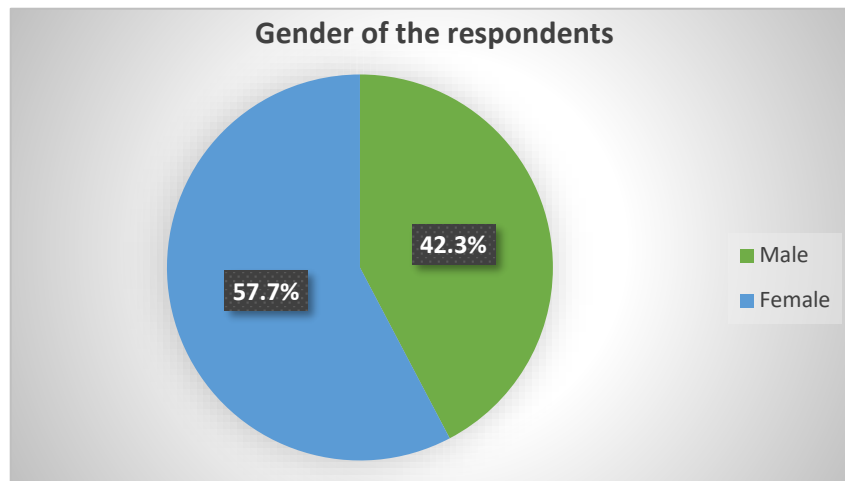
Demography	Category	Frequency	Percentage
Gender	Male	358	42.3
	Female	488	57.7
	Total	846	100
Age	20-30	310	36.6
	31-40	328	38.8
	41-50	134	15.8
	51-60	66	7.8
	61 & above	8	0.9
	Total	846	100
Marital Status	Married	492	58.2
	Unmarried	346	40.9
	Widow	8	0.9

	Total	846	100
Place of residence	Urban	469	55.4
	Rural	377	44.6
	Total	846	100
Educational Qualification	SSC & below	43	5.1
	HSSC	99	11.7
	Graduation	340	40.2
	Post-Graduation	336	39.7
	Others	28	3.3
	Total	846	100
Employment Status	Service	666	78.7
	Business	96	11.3
	Professional	35	4.1
	Homemaker	34	4
	Others	15	1.8
	Total	846	100
Monthly Income	Below 10000	85	10
	10001-20000	165	19.5
	20001-30000	161	19
	30001-40000	135	16
	40001-50000	96	11.3
	50001 & above	204	24.1
	Total	846	100

Source: Author's Compilation

5.2.1. Gender

The gender distribution of cosmetic users is critical in understanding consumption patterns and preferences within the market. This section presents the gender breakdown of the respondents, providing a foundational demographic perspective for the study. Figure 5.1 illustrates the gender distribution of respondents.



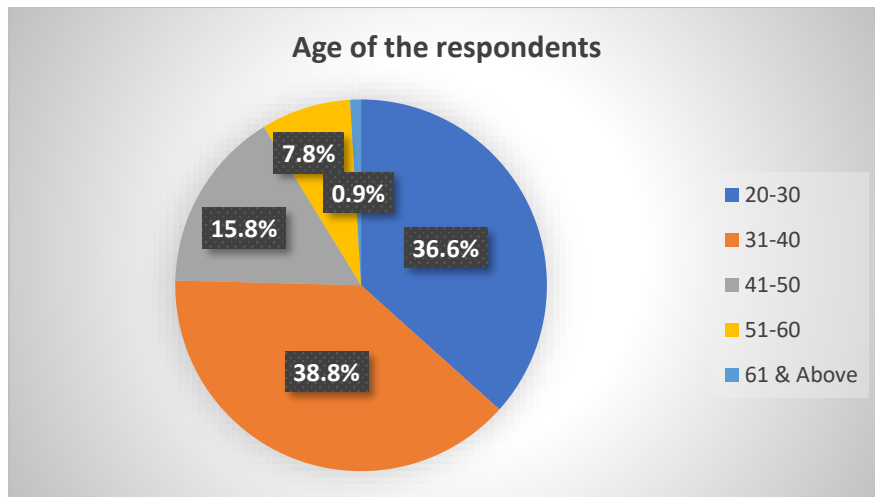
Source: Primary Data

Figure No. 5. 1: Gender of the respondents

According to the data presented in Table No. 5.3 and Figure No. 5.1 above, the findings indicate that 57.7% of the participants identified as female, whereas 42.3% identified as male. This suggests that the majority of the participants are female consumers. This demographic distribution highlights a significant representation of female consumers in the study, which could indicate a higher interest or involvement in cosmetic products among women than men.

5.2.2. Age of the respondents

The age distribution of respondents offers valuable insights into the preferences and behaviors of different age groups regarding cosmetic usage. This section highlights the age composition of the sample, which is crucial for understanding age-specific trends in the market. Figure 5.2 presents the age distribution of the respondents.



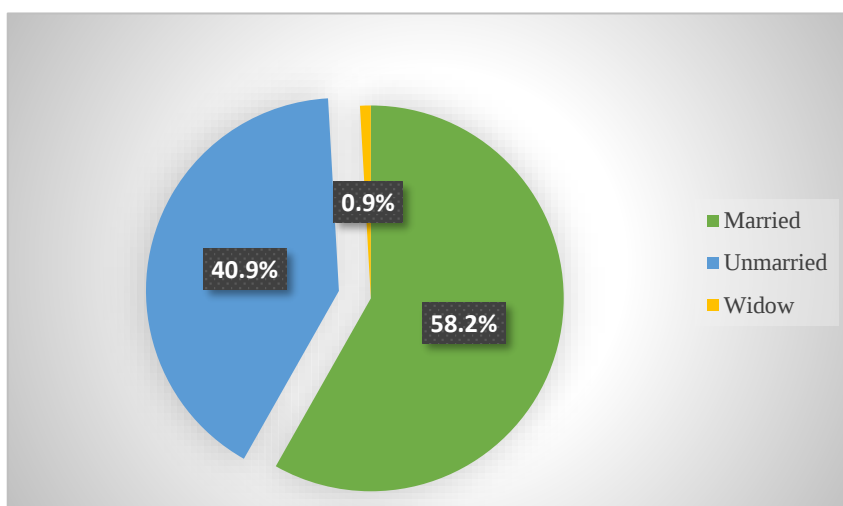
Source: Primary Data

Figure 5.2. Age of the respondents

According to the data presented in Table No. 5.3 and Figure No. 5.2, the age profile of the respondents reveals that the majority are younger adults, with 36.6% in the 20-30 age range and 38.8% in the 31-40 age range. A smaller proportion of the respondents, 15.8%, are 41-50. The 51-60 age range constitutes 7.8% of the respondents, while only 0.9% are 61 and above. This distribution suggests that cosmetics primarily attract a younger demographic group.

5.2.3. Marital Status

The marital status of respondents provides insights into the influence of relationship status on cosmetic usage. This section examines the marital status distribution, offering a demographic perspective that may impact purchasing behavior and product preferences. Figure 5.3 depicts the marital status of the respondents.



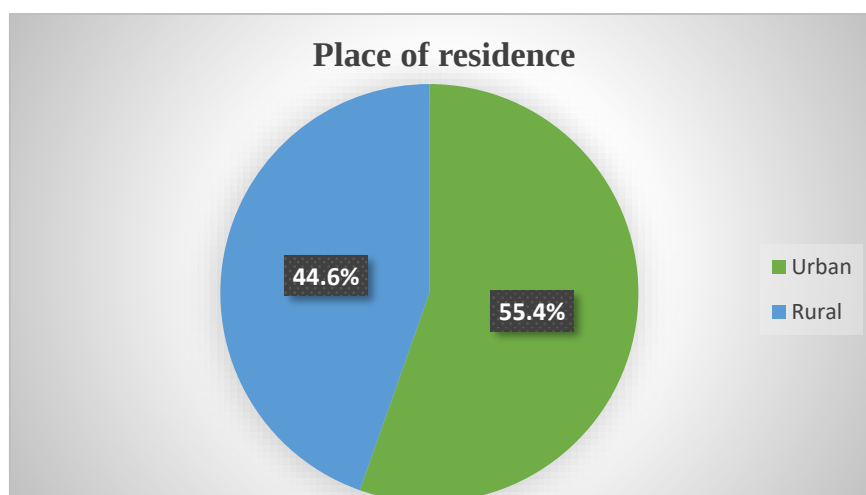
Source: Primary Data

Figure No. 5. 3: Marital Status of the respondents

According to the data presented in Table No. 5.3 and Figure No. 5.3 above, the marital status profile of the respondents indicates that a significant majority, 58.2%, are married. This is followed by 40.9% who are unmarried. A very small percentage, 0.9%, of the respondents are widowed. This distribution suggests that the market for cosmetic products is predominantly influenced by married individuals, with a substantial contribution from unmarried individuals as well. The minimal percentage of widowed respondents highlights a diverse customer base within the cosmetic sector.

5.2.4. Place of residence

The place of residence of respondents is a key factor that may influence their cosmetic purchasing habits and preferences. This section explores the distribution of respondents based on their place of residence, providing insights into urban-rural differences and regional trends.



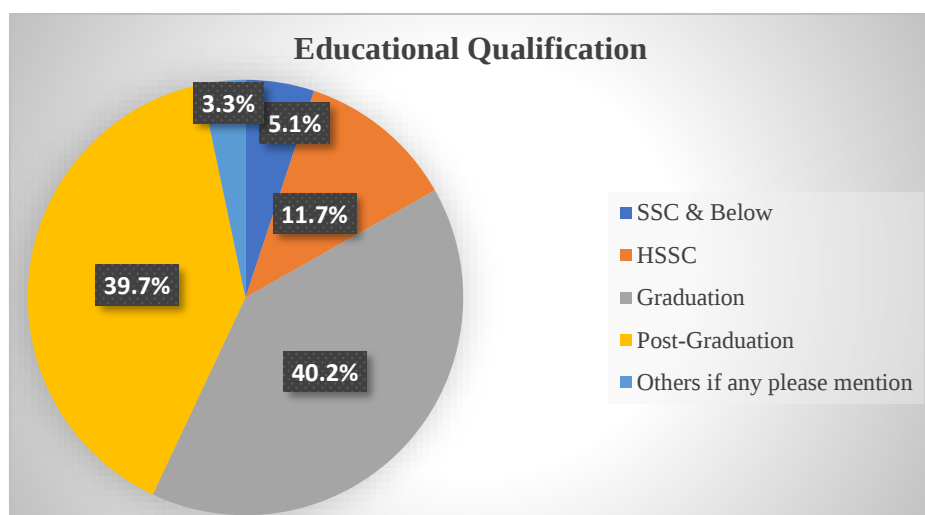
Source: Primary Data

Figure No. 5. 4 : Place of residence of the respondents

According to the data presented in the above Table No. 5.3 and Figure No. 5.4, the place of residence profile of the respondents shows that a majority, 55.4%, reside in urban areas, while 44.6% live in rural areas. This distribution indicates that urban consumers constitute a more significant portion of the market for cosmetic products, likely due to greater access to various cosmetic brands and products. However, the substantial percentage of rural consumers highlights the potential market for cosmetic products in non-urban areas, emphasising the need for targeted marketing strategies to cater to the diverse needs of both urban and rural populations.

5.2.5. Educational Qualification

The educational qualifications of respondents provide an understanding of how different levels of education may influence cosmetic usage and preferences. This section examines the educational background of the sample, offering insights into the correlation between education and consumer behavior.



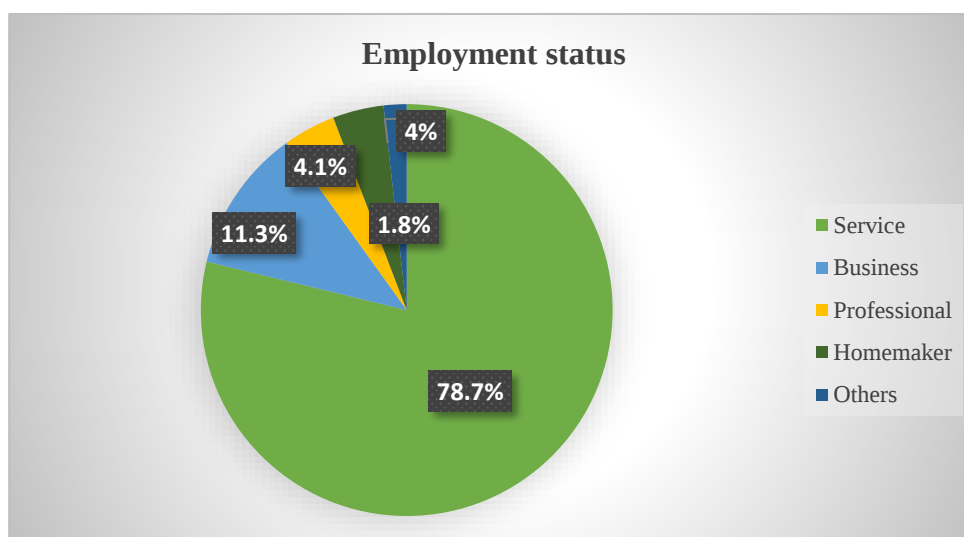
Source: Primary Data

Figure No. 5.5 Education Qualification of the respondents

According to the data presented in the above Table No. 5.3 and Figure No.5.5, the educational qualification profile of the respondents reveals a diverse range of academic backgrounds. A significant portion, 40.2%, hold a graduation degree, closely followed by 39.7% with post-graduation qualifications. Respondents with an HSSC level of education account for 11.7%, while 5.1% have SSC and below qualifications. Additionally, 3.3% of respondents fall into the "Others" category. This distribution highlights the respondents' predominance of higher education levels, indicating a well-educated demographic engaged in purchasing cosmetic products. This suggests that a majority of the respondents are highly educated, which could influence their purchasing behaviour and preferences for cosmetic products.

5.2.6. Employment Status

The employment status of respondents offers valuable insights into how occupational roles and economic conditions may influence cosmetic usage. This section explores the distribution of respondents across various employment categories, highlighting potential trends in consumer behavior.



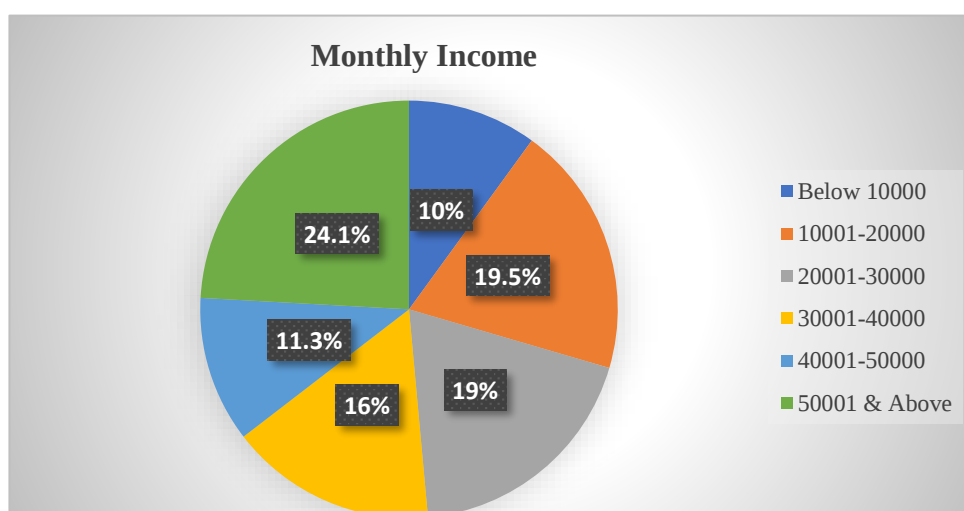
Source: Primary Data

Figure No. 5. 6 : Employment Status of the respondents

According to the data presented above in Table No. 5.3 and Figure No. 5.6, the employment status profile of the respondents shows that a large majority, 78.7%, are employed in service sector. This is followed by 11.3% who are engaged in business activities. Professionals account for 4.1% of the respondents, while homemakers constitute 4%. Additionally, 1.8% of the respondents fall into the "Others" category. This distribution highlights the dominance of service sector employees among the respondents, indicating that most participants are actively employed and likely have a stable income, which could influence their purchasing decisions for cosmetic products.

5.2.7. Monthly Income

The monthly income of respondents is a significant factor that can influence spending patterns and preferences in cosmetic products. This section analyzes the income distribution, providing insights into the financial capacity of different income groups within the sample.



Source: Primary Data

Figure No. 5. 7 : Monthly Income of the respondents

According to the data presented in the above Table No.5.3 and Figure No. 5.7, the monthly income profile of the respondents shows a diverse range of income levels. A significant portion, 24.1%, have a monthly income of ₹50,001 and above, followed by 19.5% earning between ₹10,001 and ₹20,000. Those with an income range of ₹20,001 to ₹30,000 account for 19%, while 16% earn between ₹30,001 and ₹40,000. Respondents with an income of ₹40,001 to ₹50,000 constitute 11.3%, and 10% have a monthly income below ₹10,000. This distribution highlights the varied economic backgrounds among the respondents, indicating that cosmetic product consumption spans across different income groups, with a notable segment of higher earners.

5.3 Normal Distribution of Data

The normality of the data was evaluated using skewness and kurtosis measurements (Pallant, 2020). Data is considered to be normally distributed when skewness and kurtosis values are equal to zero, as stated by (Sheridan J, 2009). According to (J. F. Hair et al., 2012), data are considered normal if skewness values fall within the range of -2 to 2 and kurtosis values fall within the range of -3 to 3.

Table No. 5. 4: Normal distribution (items wise)

Item	Excess kurtosis	Skewness
ATT1	1.375	-0.699
ATT2	1.372	-0.684
ATT3	0.742	-0.54
ATT4	0.275	-0.38
ATT5	0.458	-0.489
ATT6	0.657	-0.538
ATT7	0.425	-0.466
ATT8	-0.371	-0.269
PI1	-0.335	-0.571
PI2	1.066	-0.896
PI3	1.288	-0.895
PI4	1.685	-0.977
PI5	1.395	-1.006
SN1	-0.397	-0.443
SN2	-0.279	-0.441
SN3	-0.186	-0.545
SN4	-0.46	-0.377
SN5	-0.392	-0.428
AC1	-0.13	-0.434
AC2	-0.002	-0.41
AC3	-0.166	-0.463
AC4	-0.306	-0.29
UV1	-0.228	-0.353
UV2	0.138	-0.374
UV3	-0.193	-0.264
UV4	0.068	-0.384
PP1	1.797	-0.905
PP2	1.742	-0.938
PP3	1.991	-0.891
PBC1	0.987	-0.768

PBC2	0.887	-0.735
PBC3	1.316	-0.839
PK1	-0.177	-0.563
PK2	0.309	-0.809
PK3	0.606	-0.688
PP4	-0.124	-0.468
PP5	-0.363	-0.273
PP6	-0.246	-0.384
HV1	1.296	-0.749
HV2	1.523	-0.864
HV3	1.267	-0.759
NEU1	0.427	-0.762
NEU2	0.078	-0.699
NEU3	0.057	-0.633
NEU4	-0.24	-0.54
OPE1	0.729	-0.73
OPE2	0.853	-0.698
OPE3	0.372	-0.586
OPE4	0.034	-0.596
AGR1	-0.227	-0.397
AGR2	0.066	-0.418
AGR3	-0.188	-0.481
CON1	-0.31	-0.32
CON2	0.102	-0.541
CON3	0.113	-0.495
EXT1	1.176	-0.734
EXT2	0.328	-0.713
EXT3	0.627	-0.786
PGI	-0.33	-0.147

Source: Author's Compilation

In this study, as per the Table No. 5.4 all 58 observed variables had skewness and kurtosis values within the permitted ranges, indicating that the data is normally distributed. Hence, the results demonstrate that the distribution of the sample is not significantly skewed, suggesting that it approximates a normal distribution (Kim, 2013).

5.4 Common Method Variance

This study relies exclusively on the perceptual judgments of the respondents to measure the study's constructs, including both predictors and criteria. As a result, there is potential concern regarding same-source bias or general method variance. To address this, the researcher employed Harman's single-factor test to evaluate Common Method Variance (CMV) (Podsakoff et al., 2003). CMV is indicated when all variables load onto a single factor or when a single factor accounts for the majority of the variance (Podsakoff et al., 2003). According to (Podsakoff et al., 2003), an observed value of less than 50% suggests that method variance is not a significant concern in the present study. An un-rotated factor analysis was conducted on all items, revealing that the initial factor accounted for just 26.903% of the total variance explained by fourteen factors, which together accounted for 73.223% of the variance, as shown in Table No. 5.5 This indicates that the data in this study do not have concerns about common method variance.

Table No. 5. 5: Harman's one-factor test for Common Method Variance

Total Variance Explained						
Component	Initial Eigenvalues		Extraction Sums of Squared Loadings			
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	14.797	26.903	26.903	14.797	26.903	26.903
2	3.606	6.557	33.461			
3	3.138	5.705	39.166			
4	2.526	4.593	43.758			
5	2.453	4.46	48.219			
6	2.237	4.067	52.285			
7	1.958	3.561	55.846			
8	1.623	2.95	58.797			
9	1.607	2.922	61.719			
10	1.389	2.525	64.243			
11	1.303	2.369	66.613			
12	1.242	2.258	68.871			
13	1.204	2.189	71.06			
14	1.19	2.163	73.223			
15	0.724	1.316	74.539			
16	0.64	1.164	75.703			
17	0.598	1.087	76.79			
18	0.579	1.053	77.843			
19	0.54	0.982	78.825			
20	0.521	0.947	79.772			
21	0.502	0.912	80.684			
22	0.499	0.907	81.591			

23	0.488	0.887	82.477
24	0.479	0.87	83.348
25	0.463	0.842	84.19
26	0.442	0.804	84.994
27	0.422	0.767	85.761
28	0.41	0.745	86.506
29	0.394	0.717	87.223
30	0.376	0.684	87.907
31	0.364	0.662	88.569
32	0.357	0.65	89.218
33	0.344	0.625	89.843
34	0.336	0.61	90.454
35	0.333	0.605	91.058
36	0.324	0.589	91.648
37	0.322	0.586	92.233
38	0.301	0.548	92.781
39	0.292	0.531	93.312
40	0.287	0.523	93.835
41	0.278	0.505	94.34
42	0.273	0.497	94.837
43	0.268	0.487	95.324
44	0.258	0.469	95.792
45	0.255	0.464	96.257
46	0.243	0.442	96.698
47	0.236	0.428	97.127
48	0.227	0.414	97.54
49	0.219	0.397	97.938
50	0.214	0.389	98.326
51	0.211	0.383	98.71

52	0.201	0.365	99.074
53	0.185	0.336	99.41
54	0.17	0.309	99.719
55	0.154	0.281	100
Extraction Method: Principal Component Analysis.			

Source: Author's Compilation

5.5 Collinearity Test

Collinearity tests are essential for detecting multicollinearity, which occurs when predictor variables are highly correlated, potentially affecting the accuracy of regression estimates (Hair et al., 2015). This is typically assessed by examining variance inflation factor (VIF) values, with a threshold of less than 10 indicating that multicollinearity is not problematic (Kline, 2015). Furthermore, Common Method Bias (CMB) is evaluated to ensure that measurement errors are not attributed to the data collection method but to the constructs being measured Podsakoff et al. (2003).

Table No. 5. 6. Collinearity Test

Constructs	VIF	Cut-off Value
Appearance consciousness	1.228	< 3.3
Agreeableness	1.611	
Attitude	2.030	
Consciousness	1.276	
Extraversion	1.351	
Hedonic Value	1.497	
Neuroticism	1.180	
Openness	1.142	
Perceived Behavioural Control	1.570	
Product Knowledges	1.590	
Perceived Price	1.114	
Subjective Norms	1.079	
Utilitarian Value	1.843	

Source: Author's Compilation

The study also employed the Full Collinearity test, as suggested by (Kock, 2015), to identify potential Common Method Bias (CMB). The Variance Inflation Factor (VIF) test findings indicate that the VIF values for the constructs AC, AGR, ATT, CON, EXT, HV, NEU, OPE, PBC, PK, PP, SN, and UV were 1.228, 1.611, 2.030, 1.276, 1.351, 1.497, 1.180, 1.142, 1.570, 1.590, 1.114, 1.079, and 1.843, respectively. These values are below the critical threshold of 3.3 (Craney & Surles, 2002), as shown in

Table No.5.6 This finding suggests that the model used in the present study is not affected by CMB contamination (Kock, 2015). Thus, the data from this study does not exhibit significant concerns related to common method bias.

5.6 Justifications for the application of Partial Least Squares Structural Equation Modelling (PLS-SEM)

The application of Partial Least Squares Structural Equation Modelling (PLS-SEM) in this research is justified for several reasons. Recent studies have highlighted the debate between Partial Least Squares Structural Equation Modelling (PLS-SEM) and Covariance-Based Structural Equation Modelling (CB-SEM), demonstrating that PLS-SEM is particularly suited for analysing models with composite-based paths (J. F. Hair et al., 2020; Rigdon, 2012). The rationale for employing PLS-SEM instead of CB-SEM in this research is outlined as follows:

- 1) This study aims to evaluate the theoretical framework by examining its predictive capabilities within the research model.
- 2) The study's structural model is complex, involving numerous constructs and model associations.
- 3) The present study incorporates a formative construct, specifically Personality, into this model.
- 4) The investigation requires the inclusion of latent variable scores to facilitate the subsequent analysis of second-order constructs.

These points underscore the appropriateness of using PLS-SEM for this study, given its strengths in handling complex models and its predictive focus, making it a valuable tool for the research objectives.

5.7 The Assessment of the Measurement Model (Confirmatory Factor Analysis)

Assessment of the measurement model is a statistical procedure used to validate the constructs of the underlying proposed model. This is conducted by evaluating the items' reliability, constructs' convergent reliability and discriminant validity. This enhances the rigour and validity of research outcomes. The questionnaire of this study includes items with factor loadings above 0.5 taken from the EFA. The details of the questionnaire used for data collection is provided in the Appendix F.

The measurement model was validated using the Partial Least Squares Structural Equation Modelling (PLS-SEM) technique through Smart PLS 4 software. First, an examination of the outer loadings was used to assess the indicators' reliability. Second, internal consistency is assessed by two measures, 'Cronbach's alpha coefficient' (α), and 'Composite Reliability (CR)', (Shmueli et al., 2019). Third, Convergent validity is then established by evaluating the internal consistency of the items used to measure each latent construct through Average Variance Extracted (AVE) (Shmueli et al., 2019). Finally, discriminant validity is assessed through two metrics, the Fornell-Larcker criterion and the Heterotrait-Monotrait Ratio (HTMT), to ensure that the constructs are conceptually distinct from one another (Shmueli et al., 2019). The results are presented in the following subsections.

5.7.1. Convergent Validity

Convergent validity is a critical aspect of construct validity that ensures multiple indicators designed to measure the same concept are indeed related, thereby reflecting the coherence of the construct being assessed. It is established when these indicators demonstrate strong correlations, signifying that they accurately converge on the same theoretical dimension. High convergent validity implies that the measures are not only

consistent but also robust in representing the construct. Convergent validity is typically evaluated using statistical measures such as Cronbach's alpha, Composite Reliability, and Average Variance Extracted (Hair et al., 2019).

5.7.1.1 Outer Loadings

The degree to which indicators relate to one another via their latent construct is known as outer loading. For each indicator, an outer loading value greater than 0.708 is preferred (Sarstedt et al., 2021a). Outer loading in structural equation modelling (SEM) refers to the relationship between an observed variable (indicator) and its associated latent variable model. It indicates the strength of the relationship between the latent and observable variables and how well the observed variable reflects the underlying construct (Dong et al., 2024).

In this study, items with outer loadings below 0.708 were considered for deletion to ensure robustness and reliability. The outer loadings for all items ranged from 0.709 to 0.912, confirming the reliability of each measurement indicator associated with their respective latent constructs, as shown in Table No. 5.7. This ensures that each indicator reliably measures the intended construct, strengthening the overall measurement model.

Table No. 5.7 Measurement items and outer loadings.

Constructs	Items	Details	Outer loadings
Appearance consciousness	AC1 <- AC	It is important that I always look good	0.842
	AC2 <- AC	I should do whatever I can to always look my best	0.851
	AC3 <- AC	I would feel embarrassed if I did not look my best when I am around people	0.850
	AC4 <- AC	Using cosmetic products to look good is worth the efforts	0.854
Agreeableness	AGR1 <- AGR	I am concerned about others	0.901
	AGR2 <- AGR	I sympathise with others' feelings	0.912
	AGR3 <- AGR	I respect others	0.862
Attitude	ATT1 <- ATT	I think using cosmetic products is good for me	0.801
	ATT2 <- ATT	I think using cosmetic products is pleasant for me	0.827
	ATT3 <- ATT	I think using cosmetic products is beneficial to me	0.849
	ATT4 <- ATT	I think using cosmetic products is a wise decision for me	0.834
	ATT5 <- ATT	I think using cosmetic products is desirable to me.	0.836
	ATT6 <- ATT	I have a positive attitude towards cosmetic products	0.842
	ATT7 <- ATT	I think using cosmetic products is favourable to me	0.827
	ATT8 <- ATT	I think using cosmetic products is safe for me	0.839
Consciousness	CON1 <- CON	I am always prepared	0.867
	CON2 <- CON	I make plans and stick to them	0.893
	CON3 <- CON	I pay attention to details	0.837
Extraversion	EXT1 <- EXT	I feel comfortable around people	0.807
	EXT2 <- EXT	I talk a lot to different people at parties	0.902
	EXT3 <- EXT	I start conversations	0.885
Hedonic Value	HV1 <- HV	Using cosmetic products would give me pleasure	0.892
	HV2 <- HV	Using cosmetic products is enjoyable	0.909
	HV3 <- HV	Cosmetic product consumption enhances the quality of my life.	0.881

Neuroticism	NEU1 <- NEU	I worry about things	0.856
	NEU2 <- NEU	I get stressed out easily	0.895
	NEU3 <- NEU	I fear for the worst	0.889
	NEU4 <- NEU	I panic easily	0.830
Openness	OPE1 <- OPE	I enjoy thinking about things	0.709
	OPE2 <- OPE	I enjoy hearing new ideas	0.906
	OPE3 <- OPE	I get excited by new ideas	0.893
	OPE4 <- OPE	I enjoy looking for a deeper meaning in things	0.778
Perceived Behavioural Control	PBC1 <- PBC	I am confident that I can buy cosmetic products if I want them	0.870
	PBC2 <- PBC	I have the resources and ability to buy cosmetic products	0.893
	PBC3 <- PBC	I completely have control over the purchase of cosmetic products	0.814
Purchase intention	PI1 <- PI	I would like to recommend cosmetic products to other people	0.859
	PI2 <- PI	I intend to continue buying cosmetic products in future	0.861
	PI3 <- PI	I will buy cosmetic products as soon as I run out of them	0.873
	PI4 <- PI	The probability that I would purchase cosmetic products is high	0.865
	PI5 <- PI	I have decided to purchase cosmetic products on a regular basis	0.843
Product Knowledge	PK1 <- PK	I have better knowledge of cosmetic products compared to my friends and relatives	0.778
	PK2 <- PK	I have enough knowledge to differentiate between chemical cosmetic products and green cosmetic products	0.854
	PK3 <- PK	I understand the features of cosmetic products	0.827
Perceived Price	PP1 <- PP	I think that the cosmetic products I use offer value for money	0.847
	PP2 <- PP	I believe that the cosmetic products I use are reasonably priced	0.858
	PP3 <- PP	I believe that the cosmetic products I am using are good products for the price	0.875
Subjective Norms	SN1 <- SN	Buying cosmetic products would help me feel accepted	0.821

	SN2 <- SN	People I listen to have the ability to convince me to purchase cosmetic products	0.819
	SN3 <- SN	The majority of people who matter to me believe that I should buy cosmetic products	0.803
	SN4 <- SN	My family members believe that buying cosmetic products is good for me	0.768
	SN5 <- SN	I learned about cosmetic products from my friends	0.777
Utilitarian Value	UV1 <- UV	Cosmetic products satisfy my physical appearance-related needs well	0.862
	UV2 <- UV	Using cosmetic products gives me confidence	0.883
	UV3 <- UV	Using cosmetic products helps me in solving Physical appearance-related problems	0.891
	UV4 <- UV	Cosmetic products which I use have good functionality	0.802

Source: Author's Compilation

5.7.1.2 Internal consistency

According to Castellano et al. (2022), internal consistency reliability is “the degree to which all indicators on a certain scale measure a similar variable.” Commonly employed measures of internal consistency reliability in research are Cronbach's alpha coefficient (α), and ‘Composite Reliability (CR). The results of the three metrics are presented in the following subsections.

5.7.1.3 Cronbach's alpha

Scale reliability measures how consistently various variables are measured in relation to one another (Sarstedt et al., 2021a). Cronbach's alpha is a commonly used measure of scale reliability. According to Jum C (1978), a Cronbach's alpha value greater than 0.7 indicates that the measures are reliable. In this study, as shown in Table No. 5.8, Cronbach's alpha coefficients for the constructs were computed and found to range between 0.756 and 0.936, which falls within the acceptable range of 0.70 (Cronbach, 1951). This demonstrates that the constructs exhibit good internal consistency reliability, thereby enhancing the overall reliability of the measuring tool used in the study.

Table No. 5. 8: Cronbach's alpha

Construct	Number of Items	Cronbach's alpha
Appearance consciousness	4	0.871
Agreeableness	3	0.871
Attitude	8	0.936
Consciousness	3	0.835
Extraversion	3	0.831
Hedonic Value	3	0.875
Neuroticism	4	0.891
Openness	4	0.846
Perceived Behavioural Control	3	0.824
Purchase intention	5	0.912
Product Knowledge	3	0.756

Perceived Price	3	0.825
Subjective Norms	5	0.857
Utilitarian Value	4	0.883

Source: Author's Compilation

5.7.1.4 Composite Reliability

Composite reliability measures the degree to which a latent construct is internally consistent when assessed using a set of observed variables, often called indicators. This metric indicates the extent to which the indicators consistently measure the underlying concept. Unlike Cronbach's alpha, composite reliability is considered more suitable for confirmatory factor analysis (CFA) because it incorporates factor loadings for the indicators (J. Hair et al., 2015). In this study, all composite reliability values of the indicators exceeded the threshold of 0.70, as stated by Chin et al. (1998) and J. F. Hair et al. (2019). The values, ranging from 0.860 to 0.947, demonstrate a high level of internal consistency among the items (see Table 5.9). This confirms the reliability of the constructs and supports their use in the measurement model.

Table No. 5.9.Composite Reliability

Construct	Number of Items	Composite reliability (CR)
Appearance consciousness	4	0.912
Agreeableness	3	0.921
Attitude	8	0.947
Consciousness	3	0.900
Extraversion	3	0.899
Hedonic Value	3	0.923
Neuroticism	4	0.924
Openness	4	0.894
Perceived Behavioural Control	3	0.895
Purchase intention	5	0.934
Product Knowledge	3	0.860
Perceived Price	3	0.895
Subjective Norms	5	0.897
Utilitarian Value	4	0.919

Source: Author's Compilation

5.7.1.5 Average Variance Extracted

As defined by J. et al. et al. (2020), convergent reliability is "the extent to which the construct converges to explain the variance of its items." In other words, convergent reliability examines relationships between a construct and its indicators to determine whether they are appropriate for measuring the construct. In this study, we utilised the Average Variance Extracted (AVE) as a common metric to assess the convergent reliability of the latent constructs. The AVE represents the amount of variance that is captured by the indicators of a construct relative to the variance due to measurement error. The AVE values range from 0 to 1, with higher values indicating better convergent validity. According to J. Hair et al. (2015), AVE values should exceed 0.50 to confirm adequate convergent validity.

In this study, all AVE values surpassed the 0.50 threshold (see Table No. 5.10.), indicating that the constructs explain more than 50% of the variance in their respective indicators. This confirms that the latent variables have sufficient convergent validity, meaning they effectively represent the underlying constructs they are intended to measure.

Table No. 5. 10: Average Variance Extracted

Construct	Average variance extracted (AVE)
Appearance consciousness	0.721
Agreeableness	0.795
Attitude	0.692
Consciousness	0.750
Extraversion	0.749
Hedonic Value	0.799
Neuroticism	0.753
Openness	0.681
Perceived Behavioural Control	0.739
Purchase intention	0.740
Product Knowledge	0.673
Perceived Price	0.740

Subjective Norms	0.636
Utilitarian Value	0.740

Source: Author's Compilation

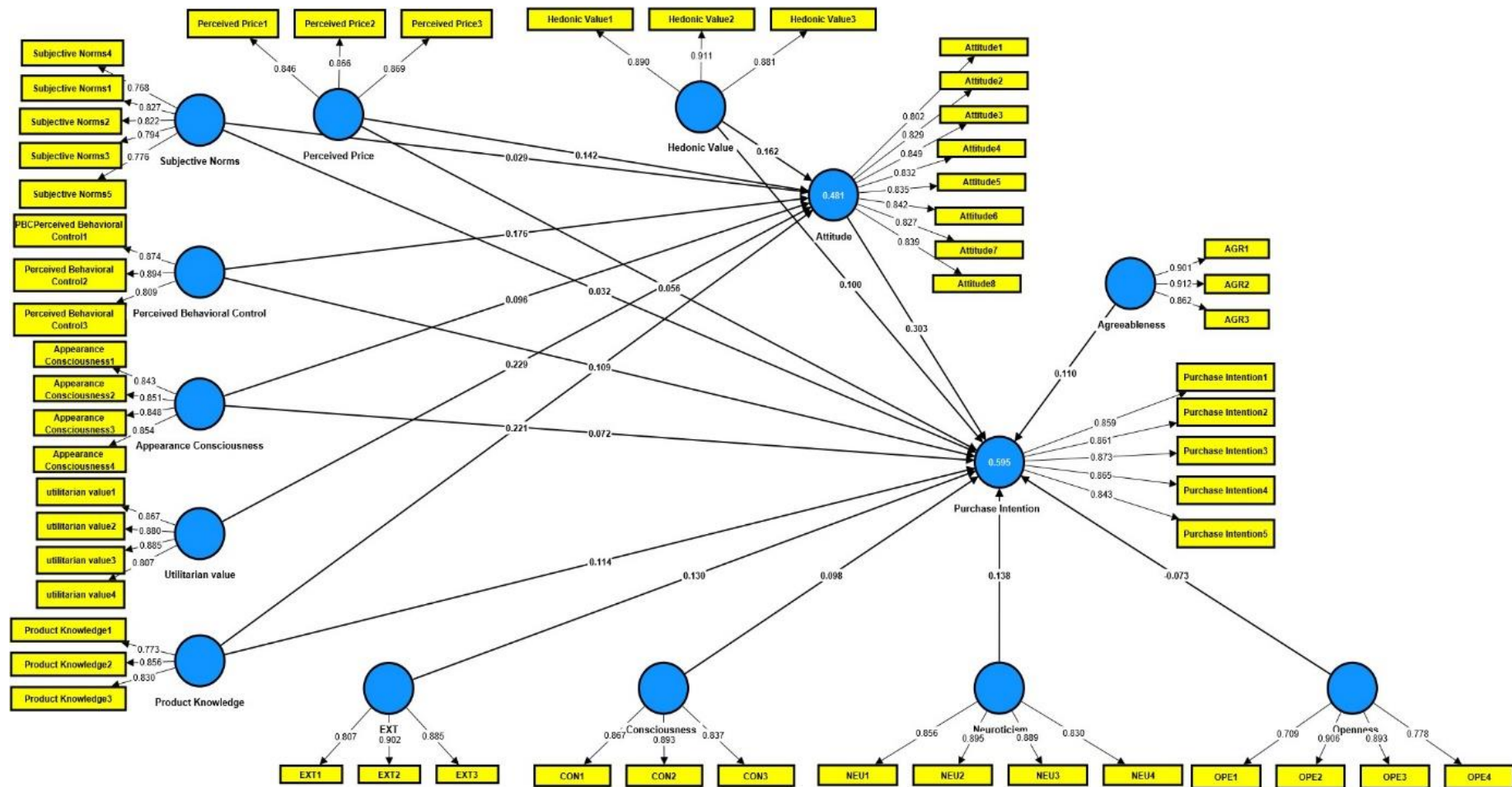


Figure No. 5. 8: The measurement model of first-order constructs

Source: Author's Compilation

Based on the results of Outer Loadings, Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE) for all variables, including independent, dependent, and mediating variables, it can be concluded that the convergent validity of measurement model of this study's first order constructs has been established. The data is, therefore, adequate and satisfactory for conducting further discriminant validity.

5.7.2 Discriminant validity

Discriminant validity is another method for evaluating the validity of constructs. This type of validity assesses the distinctiveness of a construct in relation to other constructs within a model. Cross-loadings, the Fornell and Larcker criterion, and the Heterotrait-Monotrait ratio (HTMT) are the common measures to assess the discriminant validity (J. F. Hair et al., 2019). Each of these metrics provides insight into how well a construct is distinct from other constructs within the measurement model.

In this study, discriminant validity is assessed using three metrics: the Fornell and Larcker criterion, cross-loadings, and the Heterotrait-Monotrait ratio (HTMT). The Fornell and Larcker criterion compares the square root of the AVE values with the correlations among constructs. Cross-loadings are examined to ensure that items load higher on their respective constructs than on any other constructs. The HTMT ratio, which is a more stringent method, evaluates the ratio of between-trait correlations to within-trait correlations (Sarstedt et al., 2021b).

The subsequent sub-sections demonstrate the application of these three metrics to determine the discriminant validity of the constructs in this research study (J. Hair et al., 2015). These analyses are crucial for establishing that each construct is unique and accurately measures its intended concept.

5.7.2.1 Cross Loadings

Cross-loading is a statistical technique used to assess the validity of constructs in a model by examining the magnitude of their loading values. Typically, items that assess a specific concept should have higher loadings on their parent construct compared to other constructs in the model. According to the findings presented in Table 5.11, it was observed that the loadings of the items were higher on their respective construct (indicated by bold) compared to the loadings on other constructs in the model. This higher loading on the parent construct confirms the specificity and uniqueness of the items for their respective constructs. Consequently, discriminant validity is established, indicating that the constructs are distinct and the items measure the intended concepts accurately.

5.7.2.2 Fornell-Larcker's criteria

Fornell and Larker's criterion is the first metric used to assess discriminant validity. This method involves comparing the square root of the average variance extracted (AVE) for each construct with the correlations between latent constructs. According to (Fornell & Larcker, 1981), the square root of the AVE value for a construct should be greater than its correlation with any other construct in the model.

In this study, Table No. 5.12 demonstrates that the square roots of the average variance extracted (AVE) on the diagonals (highlighted in bold) exceeded the correlations between constructs (highlighted on the corresponding row and column). This indicates that each reflective construct exhibited stronger associations with its own indicators compared to others. Consequently, the study successfully established discriminant validity. Therefore, the construct measurements demonstrated strong

discriminant validity, affirming that the constructs are distinct and accurately measured by their respective indicators.

5.7.2.3 The Heterotrait-Monotrait (HTMT)

The second metric, the HTMT criterion, has been proposed as a potential alternative to the Fornell and Larcker criterion. This suggestion is based on criticisms that the Fornell and Larcker criterion might not fully capture the variations in item loadings on a specific concept (Henseler et al., 2015). The HTMT criterion evaluates the average correlations between items across constructs relative to the geometric mean of the average correlations among items within the same construct.

According to Henseler et al. (2015), a discriminant validity issue arises when the HTMT value exceeds 0.90 for a model with conceptually similar constructs or 0.85 for a model with conceptually distinct constructs. In this study, as shown in Table No. 5.13, the HTMT ratio results indicate that the constructs exhibit satisfactory levels of discriminant validity since all values fall below the generally accepted criterion of 0.85. This confirms that the constructs are distinct and measure different concepts accurately, ensuring the reliability and validity of the measurement model.

Table No. 5. 11: Discriminant validity – Cross loadings of first-order constructs

Constructs	Items	AGR	AC	ATT	CON	EXT	HV	NEU	OPE	PBC	PP	PK	PI	SN	UV
Agreeableness	AGR1	0.901	0.269	0.481	0.254	0.263	0.322	0.265	0.149	0.381	0.146	0.363	0.460	0.091	0.433
	AGR2	0.912	0.248	0.457	0.243	0.286	0.326	0.256	0.148	0.402	0.102	0.387	0.468	0.081	0.394
	AGR3	0.862	0.238	0.436	0.204	0.243	0.342	0.204	0.131	0.403	0.153	0.324	0.457	0.085	0.373
Appearance consciousness	AC1	0.245	0.843	0.308	0.146	0.181	0.242	0.175	-0.008	0.218	0.106	0.207	0.334	0.054	0.289
	AC2	0.225	0.851	0.288	0.155	0.175	0.240	0.156	0.031	0.232	0.111	0.225	0.310	0.071	0.274
	AC3	0.234	0.848	0.278	0.134	0.204	0.236	0.153	0.006	0.227	0.130	0.262	0.317	0.076	0.275
	AC4	0.252	0.854	0.312	0.150	0.238	0.255	0.178	0.030	0.227	0.119	0.273	0.335	0.076	0.285
Attitude	ATT1	0.391	0.276	0.802	0.176	0.229	0.373	0.168	0.027	0.450	0.202	0.388	0.509	0.128	0.463
	ATT2	0.427	0.285	0.829	0.159	0.217	0.393	0.182	0.033	0.415	0.230	0.422	0.496	0.136	0.435
	ATT3	0.433	0.305	0.849	0.185	0.214	0.380	0.165	0.060	0.405	0.229	0.448	0.548	0.135	0.458
	ATT4	0.430	0.300	0.832	0.207	0.235	0.353	0.136	0.047	0.393	0.239	0.454	0.561	0.132	0.447
	ATT5	0.421	0.293	0.835	0.195	0.253	0.359	0.157	0.046	0.366	0.203	0.415	0.524	0.145	0.434
	ATT6	0.425	0.262	0.842	0.177	0.275	0.411	0.204	0.064	0.414	0.214	0.386	0.530	0.209	0.440
	ATT7	0.435	0.300	0.827	0.184	0.265	0.422	0.179	0.066	0.394	0.230	0.428	0.542	0.151	0.426
	ATT8	0.453	0.304	0.839	0.241	0.299	0.461	0.184	0.023	0.443	0.237	0.488	0.611	0.200	0.538
Consciousness	CON1	0.249	0.193	0.235	0.867	0.329	0.243	0.112	0.172	0.183	0.168	0.298	0.339	0.111	0.302
	CON2	0.210	0.149	0.197	0.893	0.309	0.167	0.088	0.148	0.148	0.099	0.262	0.291	0.090	0.237
	CON3	0.220	0.094	0.157	0.837	0.297	0.155	0.068	0.174	0.189	0.114	0.243	0.263	0.067	0.220
Extraversion	EXT1	0.250	0.207	0.240	0.333	0.807	0.260	0.146	0.133	0.214	0.149	0.294	0.368	0.142	0.304
	EXT2	0.261	0.186	0.267	0.316	0.902	0.286	0.226	0.161	0.198	0.082	0.282	0.370	0.119	0.278
	EXT3	0.258	0.218	0.270	0.291	0.885	0.294	0.232	0.134	0.239	0.130	0.282	0.391	0.138	0.270
Hedonic Value	HV1	0.366	0.282	0.430	0.238	0.320	0.890	0.151	0.078	0.371	0.108	0.350	0.454	0.141	0.411

Neuroticism	HV2	0.323	0.235	0.435	0.181	0.268	0.911	0.121	0.042	0.360	0.111	0.357	0.425	0.153	0.428
	HV3	0.301	0.252	0.409	0.175	0.279	0.881	0.146	0.064	0.327	0.119	0.342	0.421	0.132	0.418
	NEU1	0.204	0.181	0.145	0.059	0.187	0.118	0.856	0.213	0.127	0.039	0.094	0.248	0.047	0.146
	NEU2	0.239	0.172	0.181	0.083	0.217	0.152	0.895	0.208	0.190	0.097	0.111	0.303	0.098	0.180
	NEU3	0.231	0.152	0.184	0.095	0.203	0.125	0.889	0.211	0.161	0.074	0.117	0.287	0.060	0.174
	NEU4	0.264	0.175	0.204	0.125	0.201	0.143	0.830	0.210	0.110	0.052	0.149	0.282	0.070	0.189
Openness	OPE1	0.148	0.038	0.077	0.144	0.128	0.070	0.248	0.709	0.018	0.055	0.107	0.032	0.009	0.015
	OPE2	0.134	0.014	0.038	0.157	0.133	0.072	0.212	0.906	0.063	0.072	0.042	0.063	0.040	-0.017
	OPE3	0.112	0.008	0.032	0.138	0.141	0.043	0.186	0.893	0.054	0.067	0.009	0.057	0.045	-0.047
	OPE4	0.160	0.008	0.055	0.215	0.155	0.047	0.181	0.778	0.044	0.030	0.054	0.037	0.027	-0.006
Perceived Behavioural Control	PBC1	0.375	0.247	0.462	0.168	0.240	0.354	0.155	0.038	0.874	0.121	0.384	0.447	0.143	0.450
	PBC2	0.400	0.227	0.455	0.179	0.217	0.368	0.157	0.056	0.894	0.144	0.379	0.455	0.147	0.438
	PBC3	0.371	0.210	0.342	0.170	0.187	0.289	0.125	0.058	0.809	0.032	0.303	0.370	0.102	0.392
Perceived Price	PP1	0.119	0.138	0.240	0.144	0.127	0.130	0.083	0.051	0.122	0.846	0.171	0.227	0.148	0.147
	PP2	0.102	0.113	0.221	0.112	0.106	0.088	0.035	0.088	0.068	0.866	0.123	0.184	0.166	0.076
	PP3	0.161	0.102	0.231	0.128	0.125	0.103	0.076	0.046	0.117	0.869	0.124	0.234	0.152	0.123
Product Knowledge	PK1	0.334	0.259	0.400	0.253	0.253	0.304	0.120	0.010	0.280	0.107	0.773	0.421	0.111	0.379
	PK2	0.322	0.204	0.405	0.251	0.267	0.303	0.091	0.069	0.347	0.089	0.856	0.400	0.125	0.342
	PK3	0.332	0.236	0.462	0.262	0.290	0.351	0.122	0.053	0.392	0.196	0.830	0.458	0.149	0.395
Purchase intention	PI1	0.445	0.324	0.561	0.341	0.412	0.400	0.266	0.074	0.406	0.217	0.452	0.859	0.206	0.510
	PI2	0.461	0.308	0.576	0.291	0.366	0.398	0.251	0.062	0.438	0.235	0.425	0.861	0.150	0.505
	PI3	0.468	0.328	0.560	0.293	0.371	0.438	0.315	0.056	0.439	0.186	0.472	0.873	0.162	0.507
	PI4	0.441	0.335	0.572	0.291	0.358	0.441	0.278	0.063	0.438	0.215	0.447	0.865	0.164	0.494
	PI5	0.411	0.349	0.533	0.278	0.365	0.409	0.284	0.002	0.413	0.230	0.448	0.843	0.197	0.510
Subjective Norms	SN1	0.069	0.094	0.174	0.089	0.125	0.127	0.089	0.030	0.117	0.152	0.120	0.173	0.827	0.139

Utilitarian Value	SN2	0.083	0.054	0.146	0.095	0.117	0.120	0.063	0.024	0.138	0.112	0.169	0.151	0.822	0.147
	SN3	0.046	0.048	0.122	0.073	0.169	0.141	0.042	0.033	0.126	0.177	0.087	0.162	0.794	0.100
	SN4	0.126	0.089	0.159	0.123	0.109	0.139	0.090	0.058	0.104	0.153	0.144	0.174	0.768	0.141
	SN5	0.052	0.030	0.137	0.031	0.097	0.105	0.029	0.009	0.133	0.122	0.103	0.152	0.776	0.118
	UV1	0.413	0.312	0.523	0.308	0.299	0.459	0.163	0.004	0.427	0.141	0.404	0.533	0.159	0.867
	UV2	0.377	0.305	0.485	0.221	0.284	0.431	0.209	-0.056	0.428	0.112	0.388	0.534	0.142	0.880
	UV3	0.381	0.261	0.458	0.230	0.266	0.390	0.159	-0.027	0.443	0.107	0.397	0.526	0.126	0.885
	UV4	0.369	0.255	0.410	0.257	0.277	0.316	0.153	0.005	0.416	0.106	0.378	0.415	0.130	0.807

Source: Author's Compilation

Table No. 5. 12: Discriminant validity - Fornell-Larcker's criteria of first-order constructs

Constructs	AGR	AC	ATT	CON	EXT	HV	NEU	OPE	PBC	PP	PK	PI	PI	UV
AGR	0.892													
AC	0.282	0.849												
ATT	0.514	0.350	0.832											
CON	0.262	0.172	0.230	0.866										
EXT	0.296	0.236	0.300	0.361	0.866									
HV	0.370	0.287	0.475	0.222	0.324	0.894								
NEU	0.271	0.195	0.207	0.105	0.233	0.156	0.868							
OPE	0.160	0.018	0.055	0.190	0.165	0.069	0.242	0.825						
PBC	0.444	0.266	0.493	0.200	0.251	0.395	0.171	0.058	0.860					
PP	0.149	0.137	0.269	0.150	0.139	0.126	0.077	0.070	0.121	0.860				
PK	0.402	0.285	0.517	0.312	0.330	0.391	0.136	0.054	0.417	0.163	0.820			
PI	0.518	0.382	0.651	0.347	0.436	0.485	0.324	0.060	0.496	0.252	0.522	0.860		
PI	0.096	0.081	0.187	0.105	0.154	0.159	0.080	0.040	0.154	0.180	0.157	0.204	0.798	
UV	0.449	0.331	0.549	0.296	0.328	0.469	0.199	-0.022	0.498	0.136	0.455	0.587	0.163	0.860

Source: Author's Compilation

Table No. 5. 13: Heterotrait-Monotrait Criterion (HTMT) of first-order constructs

Constructs	AGR	AC	ATT	CON	EXT	HV	NEU	OPE	PBC	PP	PK	PI	SN	UV
AGR														
AC	0.324													
ATT	0.568	0.386												
CON	0.306	0.196	0.255											
EXT	0.348	0.276	0.338	0.433										
HV	0.423	0.328	0.523	0.254	0.379									
NEU	0.307	0.222	0.225	0.119	0.270	0.176								
OPE	0.195	0.030	0.069	0.235	0.201	0.081	0.288							
PBC	0.524	0.313	0.555	0.242	0.301	0.461	0.196	0.067						
PP	0.175	0.161	0.305	0.176	0.167	0.147	0.086	0.083	0.137					
PK	0.495	0.350	0.610	0.389	0.416	0.479	0.165	0.092	0.521	0.200				
PI	0.581	0.428	0.703	0.394	0.500	0.543	0.358	0.066	0.569	0.288	0.626			
SN	0.109	0.092	0.206	0.119	0.183	0.183	0.088	0.049	0.182	0.214	0.193	0.230		
UV	0.511	0.375	0.598	0.339	0.383	0.528	0.223	0.048	0.582	0.156	0.555	0.651	0.185	

Source: Author's Compilation

5.7.3 The evaluation of the Reflective-Formative model of second order construct

The distinction between formative and reflective constructs is that the indicators of a formative construct define its characteristics. Changes in these indicators will result in changes to the construct due to the differences in their contents and lack of correlation among them (Hanafiah, 2020).

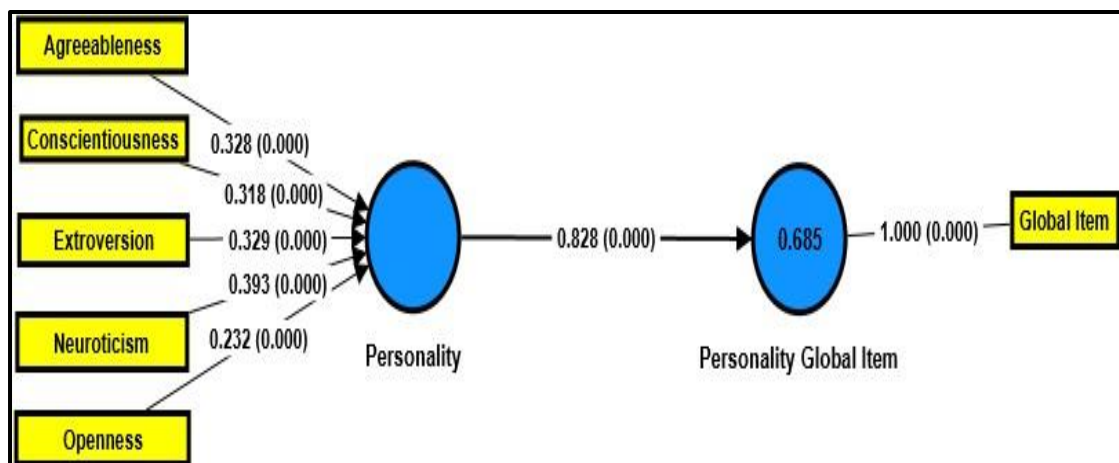
This section outlines the assessment criteria used to test and validate the reflective-formative measurement methodology proposed by Becker et al. (2012) to establish its reliability and validity in measuring the personality construct. The study employed three tests for analysis: ‘redundancy analysis’, ‘collinearity assessment’ of indicators/sub-constructs (first-order constructs), and evaluation of ‘the significance of outer weight and outer loading of each indicator/sub-construct’ using ‘t-values’ and ‘p-values’(Sarstedt et al., 2021a).

Typically, the correlation between the formative construct and the single global item is expected to exceed 0.70, while the R^2 value should be above 0.5. Otherwise, the model may exhibit a deficiency in convergent validity (T. C. Hsu et al., 2023). The variance inflation factor (VIF) should ideally be less than 5. Indicators with a VIF value over 5 are deemed suitable for deletion due to their propensity to generate collinearity problems and contaminate the model (Kermarrec et al., 2022).

The significance level for the outer weight of each indicator should be set at 0.05. If the weight of an indicator is shown to be statistically insignificant, but the related indicator's loading is higher than 0.5 and statistically significant, it is recommended that the indicator be retained. If the outer weight does not exhibit statistical significance and the outer loading of an indicator is less than 0.5, the formative indicator should be removed from the model.

5.7.3.1 The Redundancy Analysis

The study employed redundancy analysis to examine the relationship between the construct of personality and a single global item (Chin et al., 1998). The Big Five Personality Traits were utilized as an exogenous construct of the formative construct, while the single global item served as the endogenous construct (Diamantopoulos & Winklhofer, 2001). This research employed the Partial Least Squares Structural Equation Modelling (PLS-SEM) algorithm through SMARTPLS version 4 to examine the convergent validity of the reflective-formative model through redundancy analysis. The findings from the redundancy analysis, as depicted in Figure No. 5.9 reveal that the path coefficient between the formative Personality construct and the single global item is 0.828, exceeding the suggested critical threshold of 0.70. Furthermore, the R^2 value was found to be 0.685. These results establish the convergent validity for the reflective-formative construct.



Source: Primary Data

Figure No. 5. 9: Redundancy Analysis

5.7.3.2 Variance inflation factor (VIF) of the Big Five Personality Traits

To assess multi-collinearity issues, the Variance Inflation Factor (VIF) test was calculated for each indicator/subconstruct. High VIF values suggest a strong correlation among predictor variables, which can lead to unreliable coefficients in the SEM model. In the context of formative constructs, VIF is crucial to ensure that indicators are not excessively correlated, which could undermine the construct's validity. The VIF values for the first-order constructs, namely, Agreeableness, Conscientiousness, Extraversion, Neuroticism, and Openness, were calculated. As presented in Table No. 5.14, these values (Agreeableness: 1.189, Conscientiousness: 1.205, Extraversion: 1.245, Neuroticism: 1.160, and Openness: 1.105) are well below the critical threshold of 3.3. This indicates that multi-collinearity is not a concern for the first-order constructs related to user acceptance, ensuring the reliability and validity of the measurement model.

Table No. 5. 14: The Variance Inflation Factor (VIF) of the Big Five Personality Traits

Construct	VIF
Agreeableness	1.189
Conscientiousness	1.205
Extroversion	1.245
Neuroticism	1.160
Openness	1.105

Source: Author's Compilation

5.7.3.3 The significance of the outer weight and outer loading

The final criterion used to assess the measurement model of the second-order construct involves examining the significance of the outer weight and outer loading of each indicator or sub-construct. This determination is achieved by analysing t-values,

p-values, and overall significance. The present investigation utilised the bootstrapping nonparametric approach, wherein 10,000 sub-samples were extracted from the initial sample. The statistical significance of the weights and loadings associated with the second-order components was assessed using this method, as suggested by Sarstedt et al. (2021a).

The analysis presented in Table No. 5.15 indicates that the outer weights for Agreeableness, Conscientiousness, Extraversion, Neuroticism, and Openness exhibit statistical significance, as evidenced by p-values below the threshold of 0.05. Additionally, the findings confirm that the outer loadings for these factors also demonstrate statistical significance at the 0.05 level as shown in Table No.5.16. This demonstrates a strong and significant impact of these indicators on their corresponding personality construct and validates the reliability of the indicators in assessing the constructs within the model. Therefore, the results indicate that the five first-order constructs significantly influence the shaping of the second-order personality construct. These findings validate the measurement model, affirming that the chosen indicators reliably represent their respective constructs, thereby supporting the overall model's robustness.

Table No. 5. 15: Outer weights and Confidence interval for the measurement of Reflective-Formative second-order model

FOC	Outer Weights	t-values	p-values	Confidence Interval	
				2.50%	97.50%
Agreeableness	0.328	14.059	0.0	0.283	0.373
Conscientiousness	0.318	11.694	0.0	0.263	0.369
Extroversion	0.329	12.621	0.0	0.278	0.380
Neuroticism	0.393	15.158	0.0	0.341	0.443
Openness	0.232	9.836	0.0	0.186	0.278

Source: Author's Compilation

Table No. 5. 16: Outer Loadings and Confidence Interval for the Measurement of Reflective-Formative Second-Order Model

FOC	Outer Loadings	t-values	p-values	Confidence Interval	
				2.50%	97.50%
Agreeableness	0.654	24.909	0.0	0.599	0.702
Conscientiousness	0.607	21.718	0.0	0.548	0.659
Extroversion	0.671	25.363	0.0	0.615	0.720
Neuroticism	0.650	24.563	0.0	0.596	0.700
Openness	0.504	14.799	0.0	0.434	0.567

Source: Author's Compilation

5.8 Structural Equation Models

After confirming the accuracy of the measurement model, both for lower-order and higher-order formative scales, the subsequent step involves testing the structural models. A structural theory refers to a theoretical framework that conceptualises the interconnections and relationships among various constructs (J. Hair et al., 2015). This concept is often articulated using a structural model, which visually represents the underlying theory. Applying the structural model involves utilising the structural theory to determine the inter-relationships between various constructs and the characteristics of these relationships. The primary objective of structural modeling is to estimate the associations between hypothesised latent constructs. The structural model illustrates the relationships between latent constructs and observed variables, resembling the process of structural equation modeling (SEM).

Structural equation modeling (SEM) enables researchers to examine and evaluate theoretical claims concerning the theoretical relationship between constructs and the direction of significant associations (Kline, 2023). This method provides a robust framework for understanding and quantifying the complex relationships within a theoretical model, ensuring a comprehensive analysis of the data. This approach

ensures that researchers can test and refine the theoretical model. SEM is particularly useful in social sciences for confirming theoretical constructs and exploring the intricate relationships between variables, ultimately contributing to a deeper understanding of the studied phenomena.

The data were examined for both the individual model and the overall model. Additionally, the findings of mediation and the continuous moderation of personality in the relationship between determinants of the Theory of Planned Behaviour were analysed. The data analysis was conducted using SPSS version 27 and Smart PLS version 4.

The study employs a set of commonly utilized assessment criteria, including the variance inflation factor (VIF), coefficient of determination (R^2), effect size (f^2), statistical significance and relevance of path coefficients (p-value), Importance-Performance Map Analysis (IPMA), and Predictive Power (PLS-Predict) (J. F. Hair et al., 2020).

5.8.1 Structural Equation Model for the Big Five Personality Traits

The Big Five Personality Traits influence customers' intention to purchase cosmetic products. Five hypotheses were tested based on the Big Five Personality Traits: Openness to experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism, and their impact on the intention to purchase cosmetic products.

5.8.1.1 Analysis of the Big Five Personality Traits Structural Equation Model

As seen in Table 5.17 and Figure No. 5.10, the results show significant effects for all the Big Five Personality Traits on purchase intention. It was found that Agreeableness (Agree) ($\beta = 0.373$, $t = 13.244$, $p < 0.00$, CI [0.315, 0.425]), Conscientiousness (Cons) ($\beta = 0.165$, $t = 5.584$, $p < 0.00$, CI [0.106, 0.222]), Extraversion (Ext) ($\beta = 0.243$, $t =$

7.587, $p < 0.00$, CI [0.180, 0.306]), and Neuroticism (Neur) ($\beta = 0.176$, $t = 5.778$, $p < 0.00$, CI [0.113, 0.233]) had a significant positive effect on purchase intention towards cosmetic products. Additionally, Openness (Open) ($\beta = -0.113$, $t = 2.965$, $p < 0.00$, CI [-0.176, -0.016]) had a significant negative effect on purchase intention. Thus, H1, H2, H3, H4, and H5 are all accepted.

Table No. 5. 17: Structural Equation Model for the Big Five Personality Traits Influencing Purchase Intention (SEM Output)

Hypo	Path	β	SD	T value	P values	2.50%	97.50%	Remark
						Confidence Interval		
H1	Open-> PI	-0.113	0.038	2.965	0.003	-0.176	-0.016	Accepted
H2	Cons -> PI	0.165	0.030	5.584	0.000	0.106	0.222	Accepted
H3	Ext -> PI	0.243	0.032	7.587	0.000	0.180	0.306	Accepted
H4	Agree -> PI	0.373	0.028	13.244	0.000	0.315	0.425	Accepted
H5	Neur -> PI	0.176	0.030	5.778	0.000	0.113	0.233	Accepted

Note: ** represents 5% level of significance, and *** represents 1% level of significance

Source: Author's Compilation

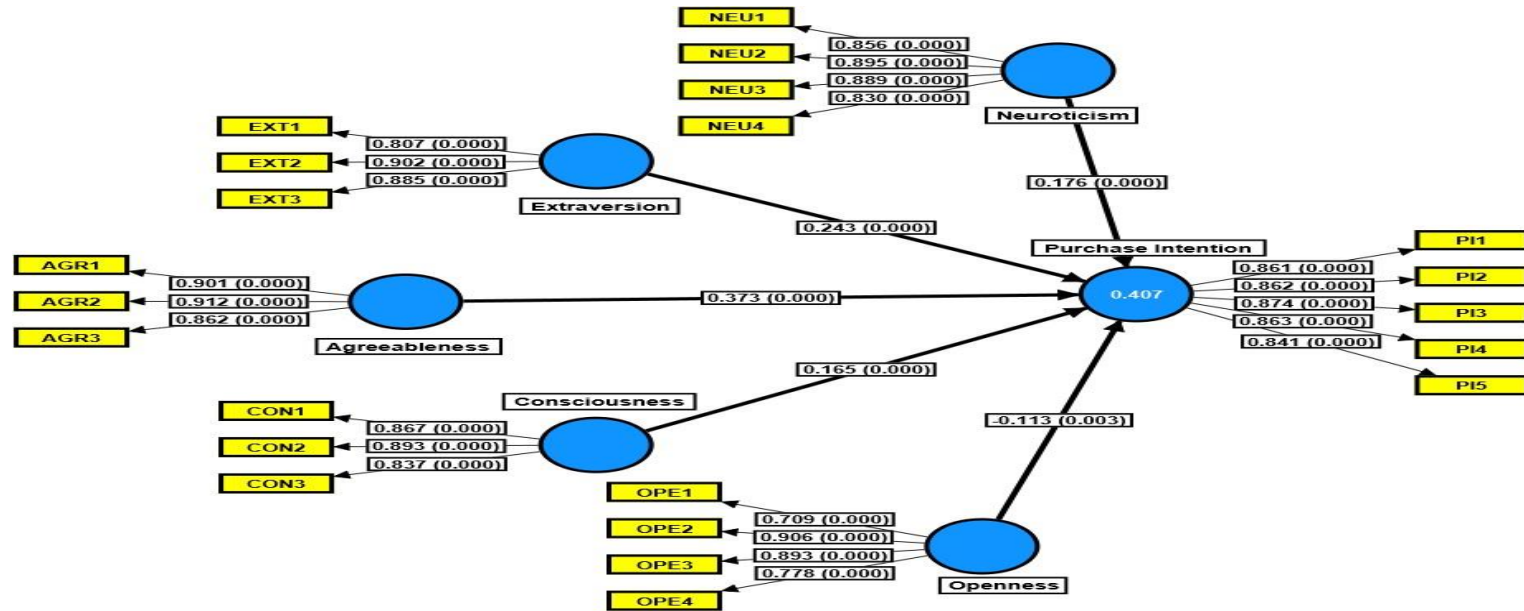


Figure No. 5. 10: Structural Equation Model of the Big Five Personality Traits

5.8.1.2 The Coefficient of Determination (R^2) for the Big Five Personality Traits Model

The coefficient of determination (R^2) for the variable Purchase Intension is 0.407, as indicated by the data presented in Table No. 5.18. Additionally, the adjusted R^2 value is 0.403. These findings suggest that the Big Five personality trait constructs explain a substantial variation in the Model. The R^2 value for purchase intention is also reported as 0.407, with an adjusted R^2 value of 0.407. This data indicates that the exogenous variables explain approximately 40.7% of the variation in purchase intention. Thus, the Big Five personality traits significantly account for the variance in purchase intention towards cosmetic products, demonstrating the substantial influence of these personality traits on consumer behaviour.

Table No. 5. 18: The Coefficient of Determination (R^2) for the Big Five Personality Traits Model

Endogenous Construct	R-square	R-square adjusted
Purchase Intention	0.407	0.403

Source: Author's Compilation

5.8.1.3 f-Square for the Big Five Personality Traits Model

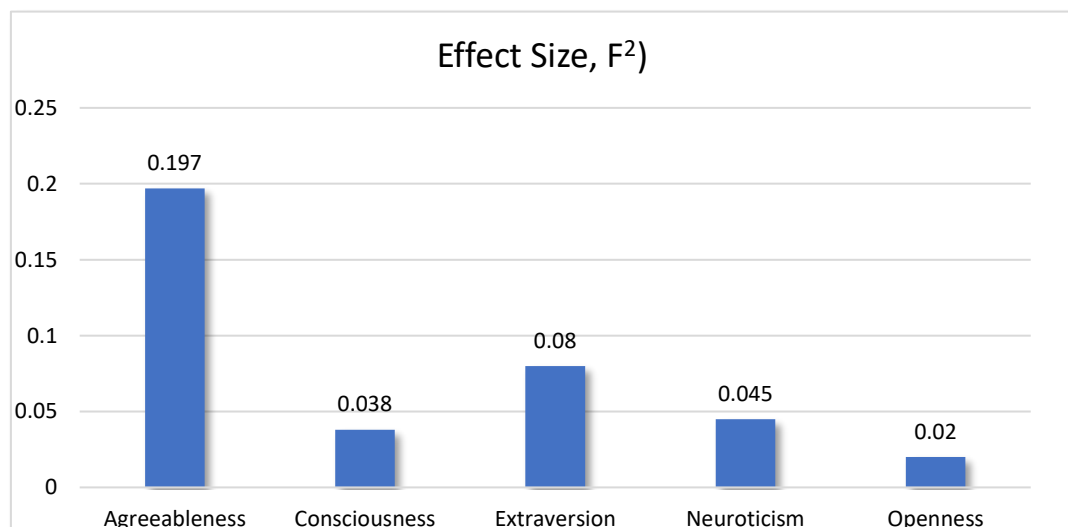
Table No. 5.19 and Figure No. 5.11 illustrate the effect size (f^2) for the Big Five personality traits model, focusing on their path and interpretation. The data reveals that all relationships except one have a small effect size. Specifically, the relationship between agreeableness and purchase intention exhibits a medium effect size with an f^2 value of 0.197. The effect sizes for consciousness, extraversion, neuroticism, and openness are 0.038, 0.080, 0.045, and 0.020, respectively, indicating small effect sizes. Thus, four of the relationships have small effect sizes, while one has a medium effect size, highlighting the varying degrees of influence each personality trait has on purchase

intention. This analysis underscores the significant role of agreeableness in shaping purchase intentions, more so than the other personality traits.

Table No. 5. 19: The effect size (f^2) for the Big Five Personality Traits Model

Exogeneous Construct	Path	Effect size	Interpretation
Agreeableness	Agree -> PI	0.197	Medium
Consciousness	Cons -> PI	0.038	Small
Extraversion	Ext -> PI	0.080	Small
Neuroticism	Neur -> PI	0.045	Small
Openness	Open -> PI	0.020	Small

Source: Author's Compilation



Source: Primary Data

Figure No. 5. 11: Effect size for the Big Five Personality Traits

5.8.1.4 Predictive Relevance (Q^2_{predict}) for the Big Five Personality Traits Model

The predictive relevance of the Big Five Personality Trait Model is presented in Table No. 5.20, which shows the value of Q^2_{predict} for the endogenous construct of purchase intention. The results indicate that the model has a Q^2_{predict} value of 0.399, suggesting that the predictive accuracy of the endogenous construct is 39.9%, highlighting that the model can reliably predict 39.9% of the variance in purchase intention based on the Big Five Personality Traits.

Table No. 5. 20: Predictive Relevance (Q^2_{predict}) for the Big Five Personality Trait Model

Endogenous Construct	Q^2_{predict}
Purchase Intention	0.399

Source: Author's Compilation

5.8.1.5 Importance-Performance Map Analysis (IPMA) for the Big Five Personality Traits Model

The Importance-Performance Map Analysis (IPMA) extends the results of Partial Least Squares Structural Equation Modeling (PLS-SEM) by also considering the performance of each construct. This dual focus on both importance and performance allows for conclusions to be drawn on two dimensions, making it particularly valuable for prioritising managerial actions. By improving the performance of constructs that significantly impact a target construct but currently exhibit low performance, managers can more effectively enhance outcomes. Consequently, focusing on these high-importance, low-performance constructs is preferable for optimising overall performance and achieving better results (Haverila et al., 2020).

i) Performance Analysis for the Big Five Personality Traits Model

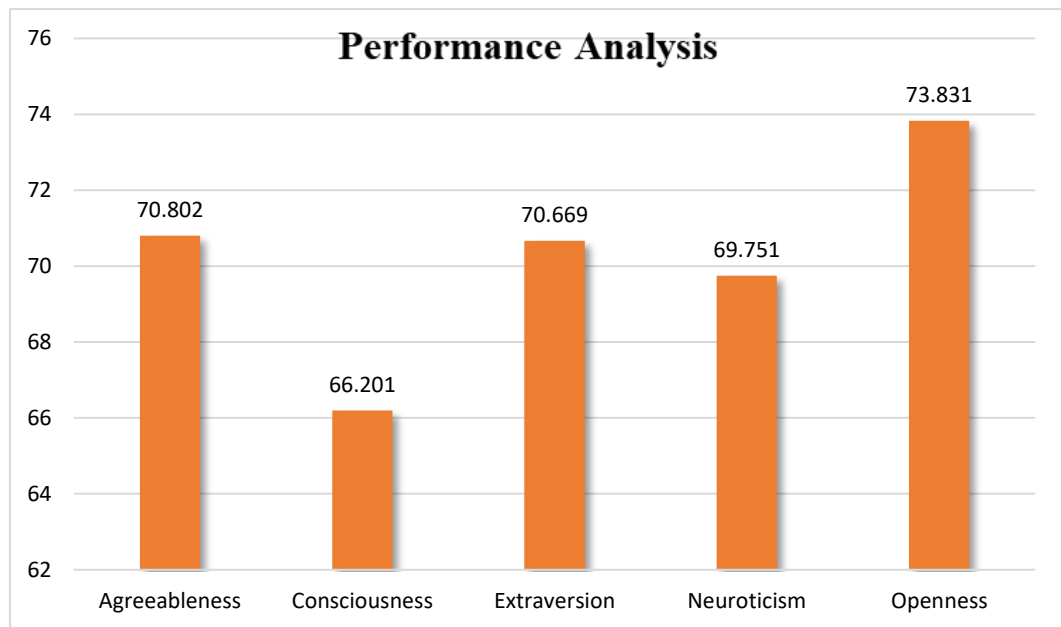
Table No. 5.21 and Figure No. 5.12 illustrate the results of the performance analysis. The data indicates that respondents consider the personality trait of openness to be the most influential among the Big Five Personality Traits in driving their tendency to purchase cosmetics. Openness achieves the highest mean score of 73.831, suggesting that customers who are open to new experiences are significantly more inclined to purchase cosmetics. Following closely is agreeableness, with a mean score of 70.802, indicating its substantial influence as well. Extraversion and neuroticism also show significant performance scores of 70.669 and 69.751, respectively, highlighting their relevance in cosmetic purchasing behaviour. Conscientiousness, with the lowest

mean score of 66.201, is perceived to have a lesser impact on the purchase intention for cosmetics. This pattern underscores the importance of targeting customers who are open to new experiences, as they are the most likely to be influenced to purchase cosmetic products.

Table No. 5. 21: Performance Analysis for the Big Five Personality Traits Model

Construct	Performance
Agreeableness	70.802
Consciousness	66.201
Extraversion	70.669
Neuroticism	69.751
Openness	73.831

Source: Author's Compilation



Source: Primary Data

Figure No. 5. 12: Performance Analysis for the Big Five Personality Traits Model

ii) Importance Analysis for the Big Five Personality Traits Model

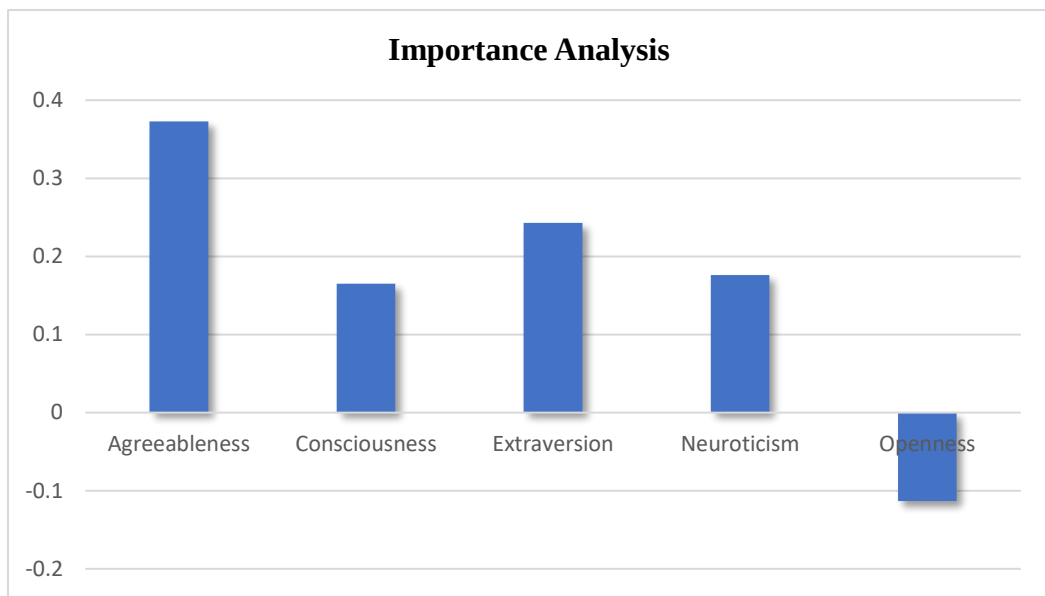
The results presented in Table No. 5.22 and Figure No. 5.13 indicate that the personality trait of agreeableness (0.373) has the most significant positive overall impact on purchase intention towards cosmetic products. This establishes its prominence as the most important trait among the Big Five Personality Traits in influencing cosmetic purchasing decisions. Extraversion (0.243) also demonstrates a favourable impact, although to a lesser extent compared to agreeableness. Conscientiousness (0.165) and neuroticism (0.176) exhibit modest positive impacts, indicating a relatively modest yet significant influence on purchase intention. Interestingly, the trait of openness has a negative overall impact (-0.113), suggesting that higher levels of Openness may potentially decrease the intention to purchase cosmetics.

These findings highlight the importance of focusing on agreeableness and extraversion in marketing strategies to enhance customer engagement and purchase intentions in the cosmetics industry.

Table No. 5. 22: Importance Analysis for the Big Five Personality Traits Model

Construct	Total effect
Agreeableness	0.373
Conscientiousness	0.165
Extraversion	0.243
Neuroticism	0.176
Openness	-0.113

Source: Author's Compilation



Source: Primary Data

Figure No. 5. 13: Importance Analysis for the Big Five Personality Traits Model

iii) Importance-Performance Map Analysis (IPMA) for the Big Five Personality Traits Model



Source: Primary Data

Figure No. 5. 14: Importance-Performance Map Analysis for Cosmetic Purchase Intention in the Big Five Personality Trait Model

Table No. 5. 23: Importance–Performance Map Analysis of the Big Five Personality Traits (construct-wise unstandardized effects).

Construct	Performance	Importance
Agreeableness	70.802	0.373
Consciousness	66.201	0.165
Extraversion	70.669	0.243
Neuroticism	69.751	0.176
Openness	73.831	-0.113

Source: Author’s Compilation

Table No. 5.23 and Figure No. 5.14 present the results of the Importance-Performance Map Analysis (IPMA) for cosmetic purchase intention. Agreeableness stands out as the most influential personality trait among the Big Five in affecting customers' intention to purchase cosmetics. This is evidenced by its highest importance score of 0.373 coupled with a strong performance score of 70.802. Despite Openness having the highest performance score of 73.831, it shows a negative importance score of -0.113, suggesting it may not positively impact purchase intentions. Extraversion and neuroticism display moderate importance levels, while conscientiousness has the least influence on individuals' intention to purchase cosmetics, as indicated by its lower scores in both performance and importance.

These findings highlight that while openness may lead to high engagement, it does not necessarily translate to increased purchase intention. On the other hand, agreeableness, with its high importance and performance scores, appears to be a critical trait for driving cosmetic purchase decisions.

5.8.2 Structural Equation Model for Factors Influencing Purchase Intention Towards Cosmetic Products

5.8.2.1 Analysis of Factors Influencing Purchase Intention Towards Cosmetic Products

As seen in Table No. 5.24 and Figure No. 5.15, the structural model for factors influencing the intention to purchase cosmetic products revealed several significant relationships. The analysis showed that Perceived Behavioural Control ($\beta = 0.102$, $t = 3.559$, $P < 0.00$, CI [0.047, 0.157]), Attitude ($\beta = 0.303$, $t = 7.602$, $P < 0.00$, CI [0.224, 0.375]), Appearance Consciousness ($\beta = 0.096$, $t = 3.617$, $P < 0.00$, CI [0.044, 0.150]), Utilitarian value ($\beta = 0.210$, $t = 6.873$, $P < 0.00$, CI [0.150, 0.271]), Hedonic value ($\beta = 0.105$, $t = 3.673$, $P < 0.00$, CI [0.051, 0.161]), Perceived price ($\beta = 0.074$, $t = 2.856$, $P < 0.00$, CI [0.023, 0.125]) and Product knowledge ($\beta = 0.141$, $t = 4.374$, $P < 0.00$, CI [0.079, 0.205]) all have a significant positive impact on purchase intention towards cosmetic products, collectively explaining 55.9% of the variance in the exogenous variable purchase intention. Thus, hypotheses H6a, H7, H9a, H10a, H11a, H12a, and H13a are supported. However, the results indicate no significant relationship between Subjective Norms (SN) ($\beta = 0.039$, $t = 1.491$, $P > 0.140$, CI [-0.010, 0.091]) and purchase intention, leading to the rejection of H8a. This suggests that, in this study, subjective norms do not significantly influence the intention to purchase cosmetic products.

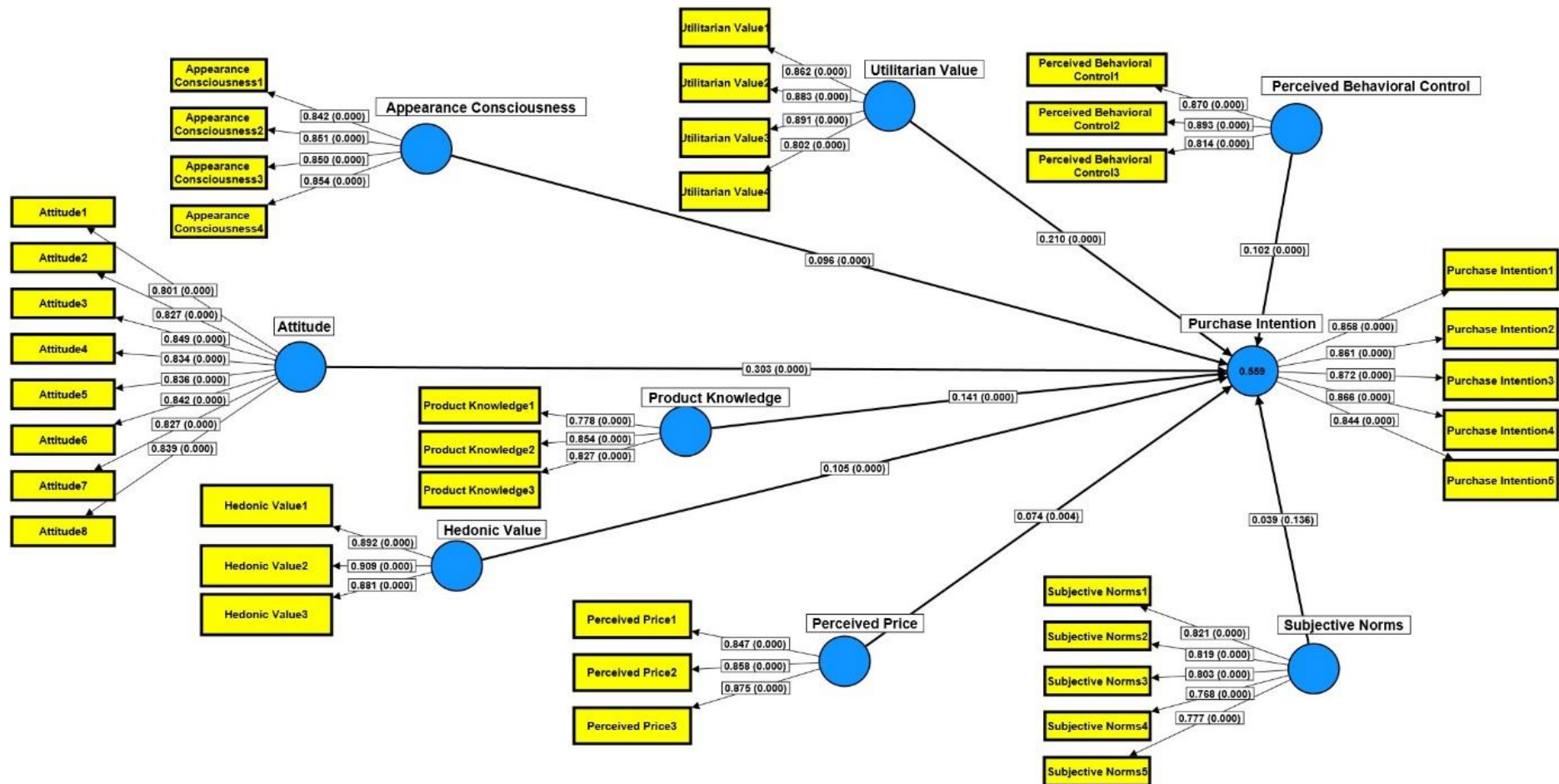


Figure No. 5. 15: Structural Equation Model for Factors Influencing Purchase Intention Towards Cosmetic Products

Source: Author's Compilation

Table No. 5. 24: Impact of Factors Influencing Purchase Intention towards Cosmetic Products

Hypo	Path	β	SD	T value	P values	2.50%	97.50%	Remark
						Confidence Interval		
H6a	PBC -> PI	0.102	0.029	3.559	0.000	0.047	0.157	Accepted
H7	Atti -> PI	0.303	0.040	7.602	0.000	0.224	0.375	Accepted
H8a	SN -> PI	0.039	0.026	1.491	0.140	-0.010	0.091	Rejected
H9a	AC -> PI	0.096	0.027	3.617	0.000	0.044	0.150	Accepted
H10a	UV -> PI	0.210	0.031	6.873	0.000	0.150	0.271	Accepted
H11a	HV -> PI	0.105	0.029	3.673	0.000	0.051	0.161	Accepted
H12a	PP -> PI	0.074	0.026	2.856	0.000	0.023	0.125	Accepted
H13a	PK -> PI	0.141	0.032	4.374	0.000	0.079	0.205	Accepted

Source: Author's Compilation

5.8.2.2 The coefficient of determination (R^2) for factors influencing intention towards cosmetic products

The coefficient of determination (R^2) for the endogenous variable, purchase intention, is 0.559, as shown in Table No. 5.25. Additionally, the adjusted R^2 value is 0.555. These findings indicate that the significant exogenous constructs collectively explain a substantial variation in the model. Specifically, the R^2 value of 0.559 signifies that approximately 55.9% of the variance in purchase intention is accounted for by the exogenous variables. This substantial degree of variance suggests that the identified factors play a critical role in influencing purchase intention within the context of this study.

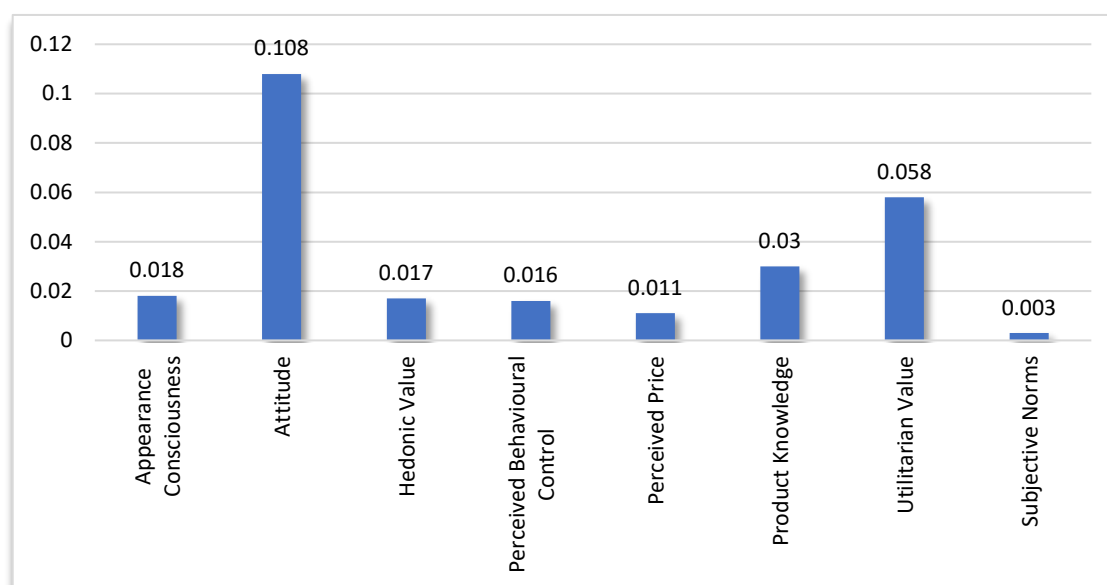
Table No. 5. 25: The coefficient of determination (R^2) for factors influencing intention towards cosmetic products

Endogenous variable	R-square	R-square adjusted
Purchase Intention	0.559	0.555

Source: Author's Compilation

Table No. 5.26 and Figure No. 5.16, show the values of f-square, which represent the effect size, path, and interpretation of the findings. The analysis reveals that attitude ($f^2 = 0.108$), product knowledge ($f^2 = 0.030$), and utilitarian value ($f^2 = 0.058$) have a small effect on purchase intention. Conversely, appearance consciousness ($f^2 = 0.018$), hedonic value ($f^2 = 0.017$), perceived behavioural control ($f^2 = 0.016$), perceived price ($f^2 = 0.011$), and subjective norms ($f^2 = 0.003$) do not exhibit a significant effect size on purchase intention. Thus, three relationships, attitude, product knowledge, and utilitarian value, show a small effect size, while the remaining relationships show no significant effect size on purchase intention towards cosmetic products. These findings suggest that while certain factors moderately influence purchase intention, others have minimal to no impact, highlighting the importance of focusing on the most

impactful variables when examining consumer behaviour in the context of cosmetic products.



Source: Primary Data

Figure No. 5. 16 : The effect size (f^2) for factors influencing intention towards cosmetic products

Table No. 5. 26: The effect size (f^2) for factors influencing intention towards cosmetic products.

Exogenous variable	Path	Effect size	Interpretation
Appearance Consciousness	AC -> PI	0.018	-
Attitude	Atti -> PI	0.108	Small
Hedonic Value	HV -> PI	0.017	-
Perceived Behavioural Control	PBC -> PI	0.016	-
Perceived Price	PP -> PI	0.011	-
Product Knowledge	PK -> PI	0.03	Small
Utilitarian Value	UV -> PI	0.058	Small
Subjective Norms	SN -> PI	0.003	-

Source: Author's Compilation

Table No. 5. 27: Predictive Relevance ($Q^2_{predict}$) of the factors influencing purchase intention

Endogenous variable	$Q^2_{predict}$
Purchase Intention	0.546

Source: Author's Compilation

The predictive importance of the model was assessed using PLS predict. The results shown in Table No. 5.27 reveal that the model's predictive relevance is 0.546 for purchase intention towards cosmetic products, indicating a moderate level of predictive relevance. This means that the construct of purchase intention demonstrates a predictive relevance of 54.6%. Hence, these results support the model's relevance and effectiveness in predicting purchase intentions for cosmetic products.

5.8.2.3 Importance-Performance Map Analysis (IPMA) for factors influencing intention towards cosmetic products

i) Performance Analysis for factors influencing intention towards cosmetic products

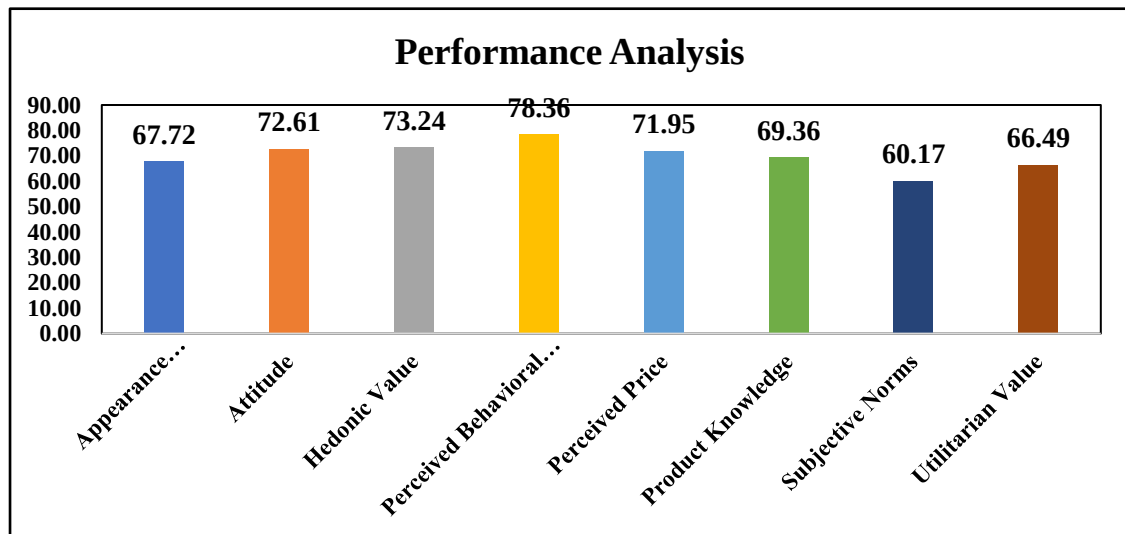
Table No. 5.28 and Figure No. 5.17, illustrate the performance analysis results obtained from the IPMA. The analysis reveals that customers consider perceived behavioural control (78.361%) to be the most significant factor influencing their purchase intentions in this study. This is followed by hedonic value (73.239%) and attitude (72.611%). On the other hand, subjective norms, with a score of 60.173%, are perceived as the least influential factor among the variables considered. These findings highlight the critical importance of customers' perceived control and the pleasure derived from cosmetic products in shaping their purchase intentions, while social influences appear to be less impactful.

Table No. 5. 28: Performance Analysis for factors influencing purchase intention towards cosmetic products

Construct	Performance
Appearance Consciousness	67.722
Attitude	72.611
Hedonic Value	73.239
Perceived Behavioural Control	78.361
Perceived Price	71.954

Product Knowledge	69.359
Subjective Norms	60.173
Utilitarian Value	66.485

Source: Author's Compilation



Source: Primary Data

Figure No. 5. 17: Performance Analysis Graph for factors influencing purchase intention towards cosmetic products

ii) Importance Analysis for factors influencing purchase intention towards cosmetic products

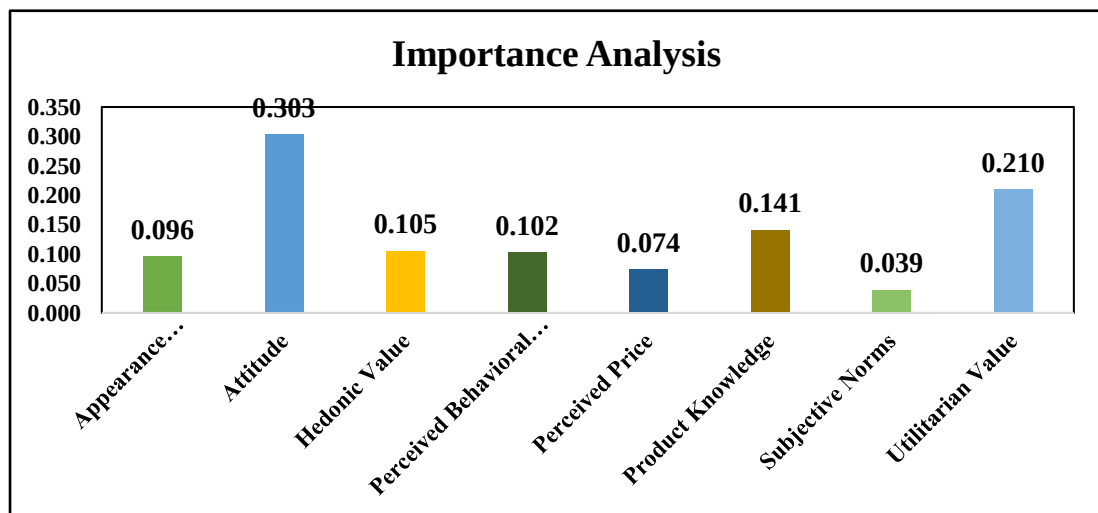
The results of the Importance Analysis, presented in Table No. 5.29 and Figure No. 5.18, reveal that Attitude is the most influential predictor of cosmetic purchase intention, with an effect score of 0.303. This indicates that a consumer's positive evaluation of cosmetics significantly impacts their willingness to purchase. Utilitarian Value follows with an effect score of 0.210, highlighting the importance consumers place on the practical benefits of cosmetic products. Product Knowledge, with an effect score of 0.141, and Hedonic Value, at 0.105, also show moderate influence, signifying that informed decisions and the enjoyment derived from products are essential factors. Perceived Behavioural Control (0.102) and Appearance Consciousness (0.096)

contribute to the purchase intention, though to a lesser extent. In contrast, Subjective Norms, with the lowest effect score of 0.039, suggest that social influences and peer evaluations have a relatively minimal impact on individual purchase decisions. These findings emphasise the importance of attitudes and practical benefits in shaping consumer behaviour towards cosmetic products.

Table No. 5. 29: Importance Analysis for factors influencing purchase intention towards cosmetic products

Construct	Effect scores
Appearance Consciousness	0.096
Attitude	0.303
Hedonic Value	0.105
Perceived Behavioural Control	0.102
Perceived Price	0.074
Product Knowledge	0.141
Subjective Norms	0.039
Utilitarian Value	0.210

Source: Author's Compilation



Source: Primary Data

Figure No. 5. 18: Importance Analysis Graph for factors influencing intention towards cosmetic products

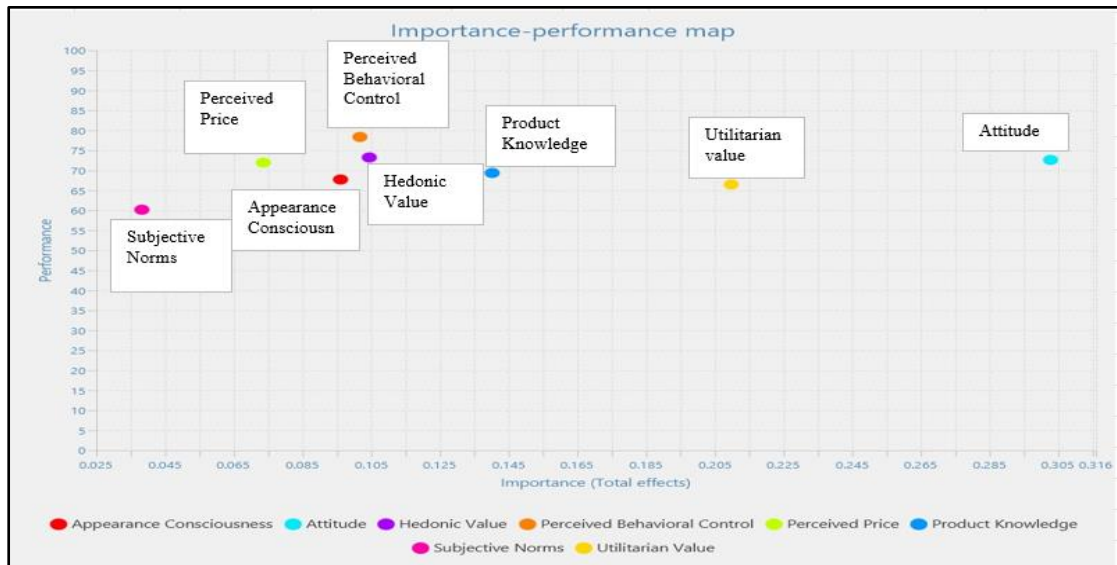
ii) Importance-Performance Map Analysis for factors influencing purchase intention towards cosmetic products

The results shown in Table No. 5.30 and Figure No. 5.19 of the IPMA analysis reveal that Attitude emerges as the primary determinant of cosmetic purchase intention, evidenced by the highest effect score of 0.303 and a robust performance score of 72.61. These findings suggest that consumers' favourable attitudes significantly influence their purchasing choices. Perceived Behavioural Control also shows notable significance, with a performance score of 78.36 and an effect size of 0.102, indicating the importance of customers' perception of the ease or difficulty of acquiring cosmetics. The Utilitarian Value, with an impact score of 0.210, underscores the practical benefits of cosmetics as influential factors. Conversely, Subjective Norms exert the least influence, as reflected by a minimal effect size of 0.039, indicating a minor impact from societal pressure or expectations. Product Knowledge has a moderate influence, suggesting that customers' access to information significantly affects their purchasing decisions. These findings highlight the critical role of individual attitudes and practical benefits in shaping consumer behaviour towards cosmetic products.

Table No. 5. 30: Importance-Performance Map Analysis for factors influencing intention towards cosmetic products

Construct	Performance	Importance
Appearance Consciousness	67.72	0.096
Attitude	72.61	0.303
Hedonic Value	73.24	0.105
Perceived Behavioural Control	78.36	0.102
Perceived Price	71.95	0.074
Product Knowledge	69.36	0.141
Subjective Norms	60.17	0.039
Utilitarian Value	66.49	0.210

Source: Author's Compilation



Source: Primary Data

Figure No. 5. 19: Importance- Performance Map Analysis for factors influencing intention towards cosmetic products

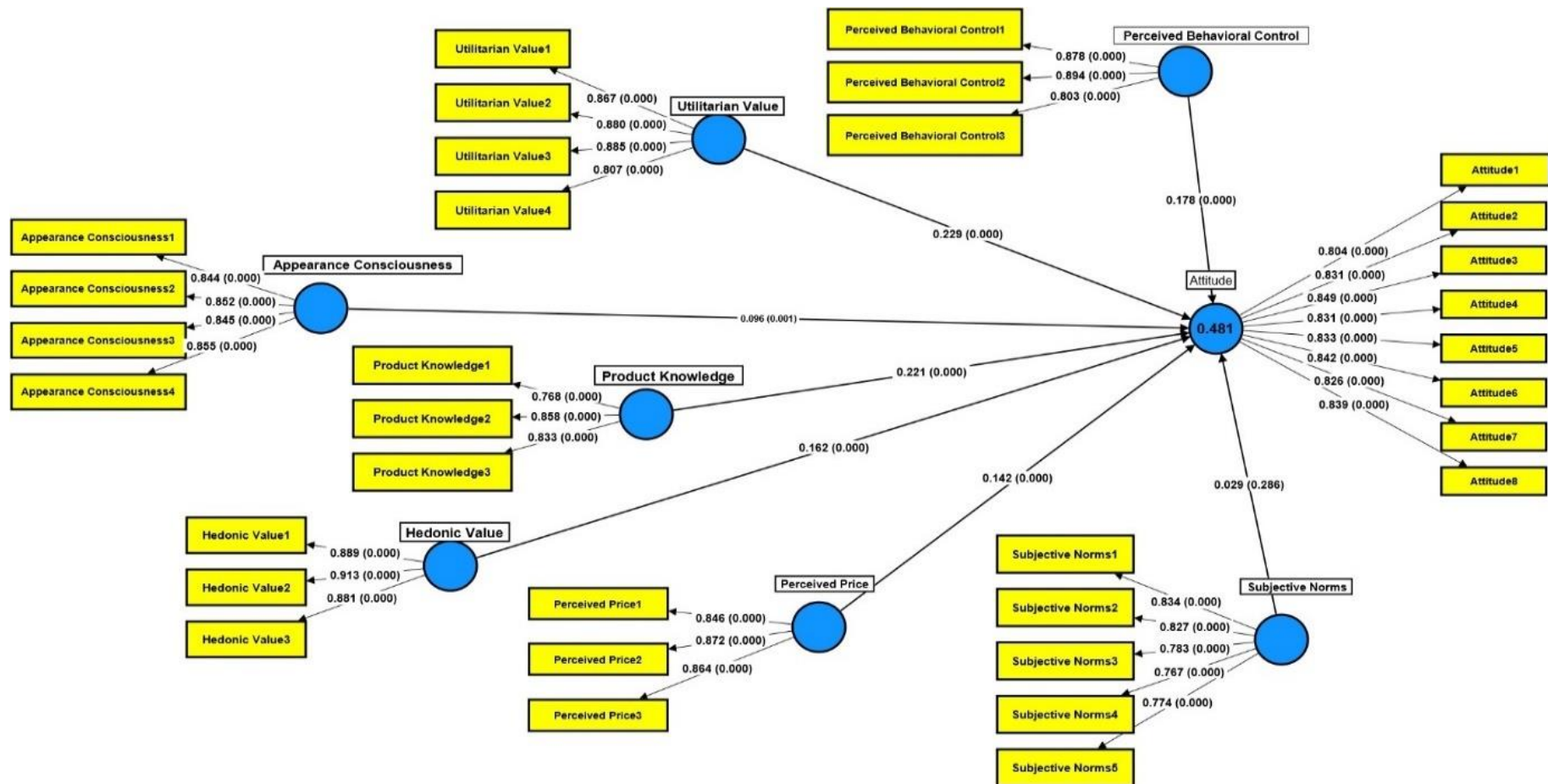
5.8.3 Structural Equation Model for Factors Influencing Attitude Towards Cosmetic Product

5.8.3.1 Structural Equation Model for Attitude Towards Cosmetics

The structural model for factors influencing attitudes towards cosmetic products was examined through various hypotheses. The results from Table No. 5.31 and Figure No. 5.20 show that Perceived Behavioral Control ($\beta = 0.178$, $t = 5.723$, $p < 0.00$, CI [0.117, 0.237]), Appearance Consciousness ($\beta = 0.096$, $t = 3.465$, $p < 0.00$, CI [0.043, 0.153]), Utilitarian Value ($\beta = 0.229$, $t = 7.325$, $p < 0.00$, CI [0.167, 0.289]), Hedonic Value ($\beta = 0.162$, $t = 5.314$, $p < 0.00$, CI [0.102, 0.221]), Perceived Price ($\beta = 0.142$, $t = 4.586$, $p < 0.00$, CI [0.081, 0.202]), and Product Knowledge ($\beta = 0.221$, $t = 7.260$, $p < 0.00$, CI [0.160, 0.280]) positively impact attitudes towards cosmetic products, explaining 48.1% of the variance in the dependent variable (Attitude). Thus, H6b, H9b, H10b, H11b, H12b, and H13b are supported. However, there is no significant

relationship between Subjective Norms ($\beta = 0.029$, $t = 1.068$, $p < 0.290$, CI [-0.023, 0.084]) and attitudes towards cosmetic products, thus, H8b is not supported.

These findings indicate that factors such as Perceived Behavioural Control, Appearance Consciousness, Utilitarian Value and Hedonic Values, Perceived Price, and Product Knowledge play crucial roles in shaping consumer Attitudes toward cosmetic products. Conversely, Subjective Norms do not significantly influence these Attitude. This highlights the importance of personal and product-related factors over social factor influences in determining consumer attitudes in the cosmetic industry.



Source: Primary Data

Figure No. 5. 20:Structural Equation Model for attitude towards cosmetic product

Table No. 5. 31: Impact of factors on shaping attitude towards cosmetic products

Hypo.	Path	β	SD	T value	P values	Confidence Interval		Remark
						2.50%	97.50%	
H6b	PBC -> Atti	0.178	0.031	5.723	0.000	0.117	0.237	Accepted
H8b	SN -> Atti	0.029	0.027	1.068	0.290	-0.023	0.084	Rejected
H9b	AC -> Atti	0.096	0.028	3.465	0.000	0.043	0.153	Accepted
H10b	UV -> Atti	0.229	0.031	7.325	0.000	0.167	0.289	Accepted
H11b	HV -> Atti	0.162	0.030	5.314	0.000	0.102	0.221	Accepted
H12b	PP -> Atti	0.142	0.031	4.586	0.000	0.081	0.202	Accepted
H13b	PK -> Atti	0.221	0.030	7.260	0.000	0.160	0.280	Accepted

Source: Author's Compilation

5.8.3.2 The coefficient of determination (R^2) for Factors Influencing Attitude Towards Cosmetic Product

The coefficient of determination (R^2) for the endogenous variable, attitude towards cosmetic products, is 0.481, as indicated by the data presented in Table No. 5.32. Additionally, the adjusted R^2 value is 0.477. These findings suggest that all the significant exogenous constructs explain a substantial variation in the model. The R^2 value for attitude in Table No. 5.32 is reported as 0.481, accompanied by an adjusted R^2 value of 0.477. This indicates that the exogenous variables explain around 48.1% of the variation in attitude towards cosmetic products, signifying a substantial degree of variance accounted for by all the significant factors.

Table No. 5. 32: The coefficient of determination (R^2) for Factors Influencing Attitude Towards Cosmetic Product

Endogenous construct	R-square	R-square adjusted
Attitude	0.481	0.477

Source: Author's compilation

5.8.3.3 f-square for Factors Influencing Attitude Towards Cosmetic Product

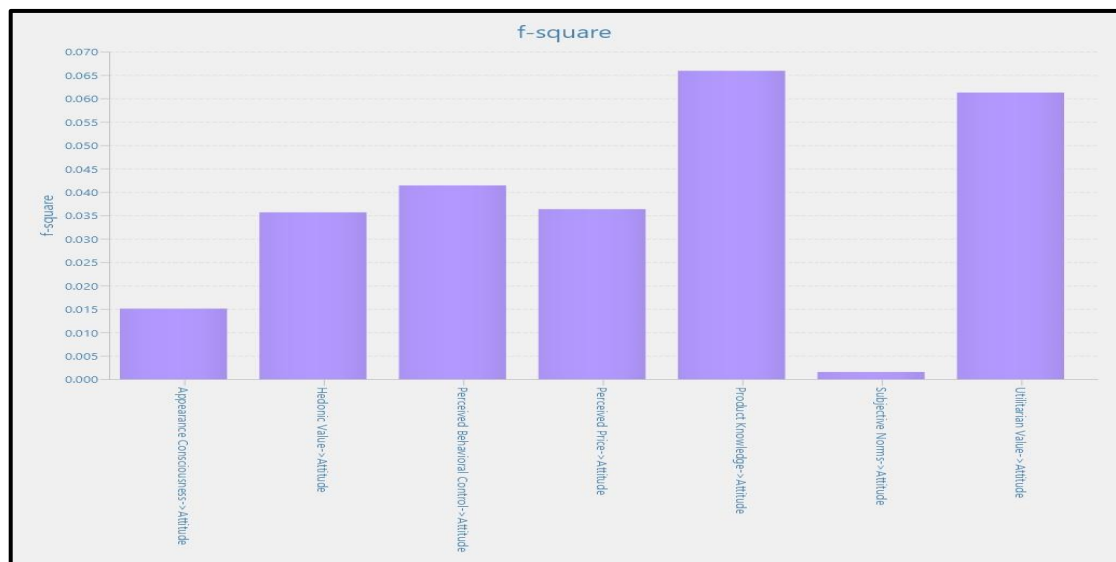
Table No. 5.33. and Figure No. 5.21, show the values of f^2 , which represent the effect size, path, and interpretation of the findings. It is observed that Hedonic Value, Perceived Behavioural Control, Perceived Price, Product Knowledge, and Utilitarian Value have small effect sizes on attitudes towards cosmetic products. Specifically, Hedonic Value, Perceived Behavioural Control, Perceived Price, Product Knowledge, and Utilitarian Value exhibit small effect sizes, indicating their modest influence on shaping consumer attitudes. On the other hand, Appearance Consciousness and Subjective Norms do not significantly affect attitude, as their effect sizes are negligible.

In summary, five relationships exhibit a small effect size, while two relationships do not significantly impact attitudes towards cosmetic products.

Table No. 5. 33: The effect size (f^2) for Factors Influencing Attitude Towards Cosmetic Products

Exogeneous construct	Effect size	Interpretation
Appearance Consciousness	0.015	-
Hedonic Value	0.036	Small
Perceived Behavioural Control	0.041	Small
Perceived Price	0.036	Small
Product Knowledge	0.066	Small
Subjective Norms	0.002	-
Utilitarian Value	0.061	Small

Source: Author's Compilation



Source: Author's Compilation

Figure No. 5. 21: The effect size (f^2) for Factors Influencing Attitude Towards Cosmetic Product

5.8.3.4 Predictive Relevance (Q^2_{predict}) for Factors Influencing Attitude Towards Cosmetic Product

Table No. 5. 34: Predictive Relevance (Q^2_{predict}) for Factors Influencing Attitude Towards Cosmetic Product

Endogenous Construct	Q^2_{predict}
Attitude	0.468

Source: Author's Compilation

The model's predictive relevance was assessed using Smart PLS predict. The results demonstrated in Table No. 5.34 indicate that the model's predictive relevance for attitude towards cosmetic products is 0.468, suggesting a moderate level of predictive relevance.

5.8.3.5 Importance-Performance Map Analysis (IPMA) for Factors Influencing Attitude Towards Cosmetic Product

i) Performance Analysis for Factors Influencing Attitude Towards Cosmetic Product

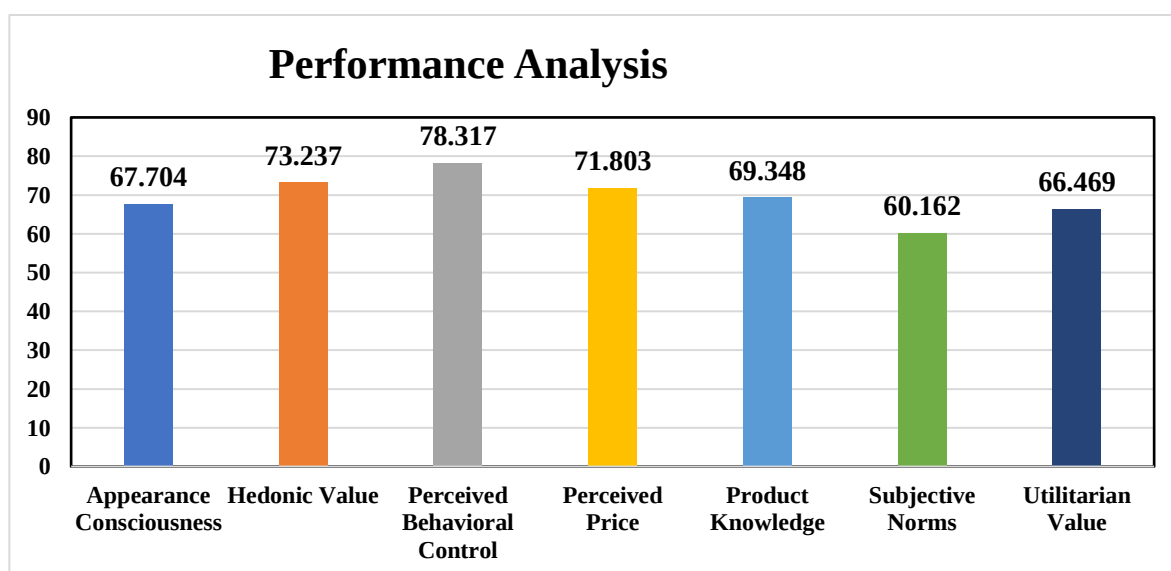
The results of the performance analysis in Table No. 5.35 and Figure No. 5.22, reveal that Perceived Behavioural Control, with the highest performance score of 78.317, is the most significant factor influencing attitudes towards cosmetic products. This indicates that consumers highly value their perceived ability to make purchases. Hedonic Value (73.237) and Perceived Price (71.803) follow closely, suggesting that sensory satisfaction and affordability are also important. Product Knowledge (69.348) and Appearance Consciousness (67.704) are moderate factors, highlighting the importance of being informed and caring about one's appearance in shaping attitudes towards cosmetics. In contrast, Utilitarian Value (66.469) and Subjective Norms

(60.162) are seen as less influential, reflecting that practical benefits and social pressures are less critical in determining consumer attitudes towards cosmetic products.

Table No. 5. 35: Performance Analysis for Factors Influencing Attitude Towards Cosmetic Product

Construct	Performance
Appearance Consciousness	67.704
Hedonic Value	73.237
Perceived Behavioural Control	78.317
Perceived Price	71.803
Product Knowledge	69.348
Subjective Norms	60.162
Utilitarian Value	66.469

Source: Author's Compilation



Source: Primary Data

Figure No. 5. 22: Performance Analysis for factors influencing Attitude Towards Cosmetic Product

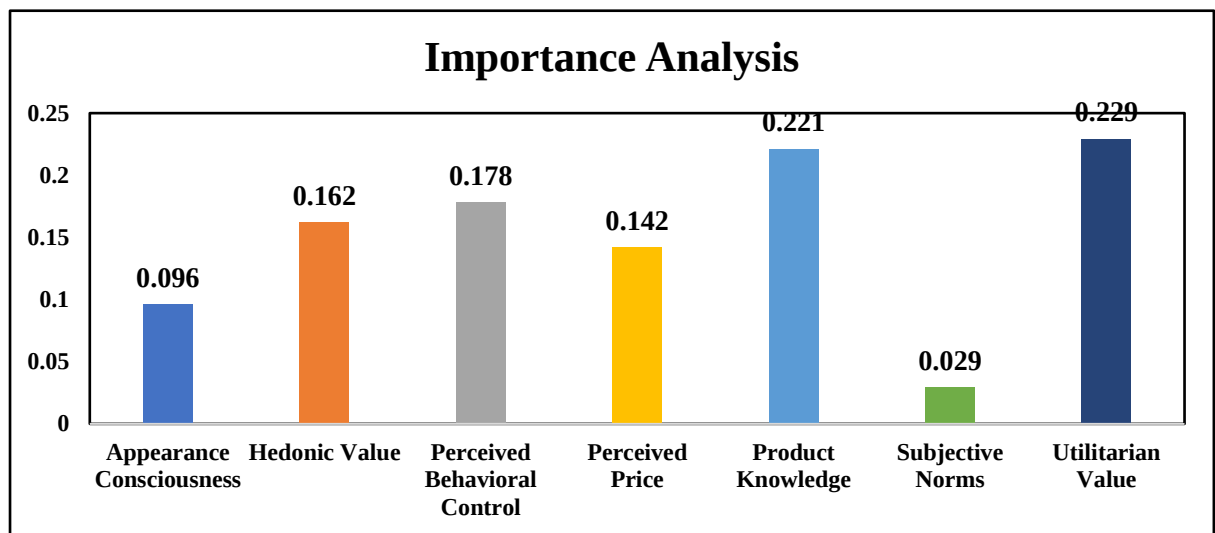
ii) Importance Analysis for Factors Influencing Attitude Towards Cosmetic Product

Table No. 5.36 and Figure No. 5.23, present the results of the Importance analysis. The analysis reveals that Utilitarian Value ranks highest in significance, with a score of 0.229, indicating its substantial effect on attitudes towards cosmetic products. Product Knowledge follows as the second most influential factor, with a score of 0.221. Perceived Behavioural Control, with a score of 0.178, suggests a moderate influence on consumer attitudes. Hedonic Value and Perceived Price, scoring 0.162 and 0.142, respectively, also play important roles in shaping customer attitudes. Appearance Consciousness, with a score of 0.096, and Subjective Norms, with the lowest score of 0.029, are ranked as the least significant factors, indicating their minimal impact on consumer sentiments towards cosmetic products.

Table No. 5. 36: Importance Analysis for Factors Influencing Attitude Towards Cosmetic Product

Construct	Importance
Appearance Consciousness	0.096
Hedonic Value	0.162
Perceived Behavioural Control	0.178
Perceived Price	0.142
Product Knowledge	0.221
Subjective Norms	0.029
Utilitarian Value	0.229

Source: Author's Compilation



Source: Primary Data

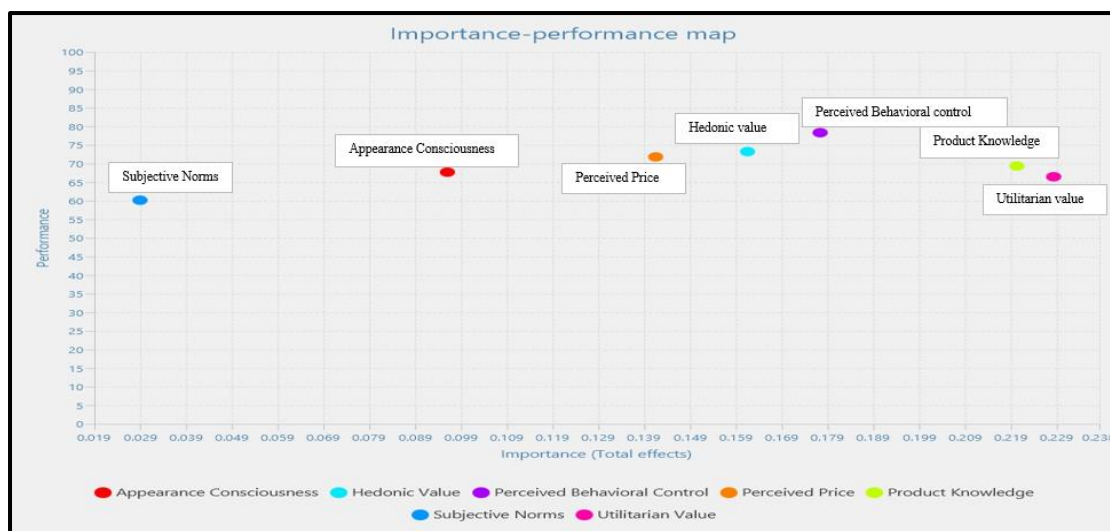
Figure No. 5. 23: Importance Analysis for Factors Influencing Attitude

iii) Importance Performance Map Analysis for Factors Influencing Attitude Towards Cosmetic Product

Table No. 5. 37: Importance-Performance Map Analysis matrix for Factors Influencing Attitude Towards Cosmetic Product

Construct	Performance	Importance
Appearance Consciousness	67.704	0.096
Hedonic Value	73.237	0.162
Perceived Behavioural Control	78.317	0.178
Perceived Price	71.803	0.142
Product Knowledge	69.348	0.221
Subjective Norms	60.162	0.029
Utilitarian Value	66.469	0.229

Source: Author's Compilation



Source: Primary Data

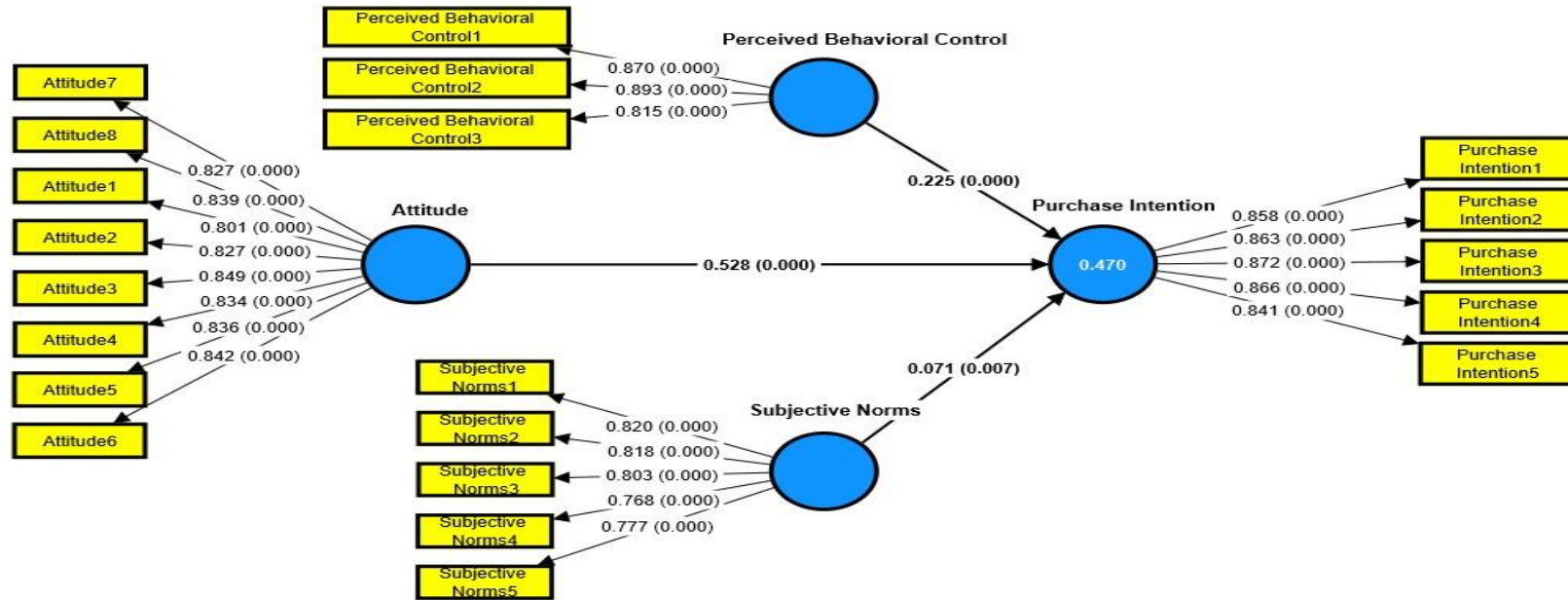
Figure No. 5. 24: Importance Performance Analysis for Factors Influencing Attitude Towards Cosmetic Product

The researcher evaluated attitudes towards cosmetic products using Importance-Performance Map Analysis (IPMA). This analysis contrasts the importance and performance of various factors influencing attitudes. The goal is to prioritise factors with high importance but lower performance to improve attitudes. According to Table No. 5.37 and Figure No. 5.24, Utilitarian Value is the most significant factor influencing consumer attitudes towards cosmetic products. Increasing the performance of Utilitarian Value by one-point leads to a corresponding increase in attitude performance by 0.229, all else being equal. Product Knowledge follows with an importance score of 0.221. On the other hand, Subjective Norms are the least influential factor, with an importance score of 0.029. The findings suggest that to improve consumer attitudes towards cosmetic products, focus should be placed on enhancing Utilitarian Value and Product Knowledge, while Subjective Norms have minimal impact.

5.8.4 Structural Equation Model for the Theory of Planned Behaviour

5.8.4.1 Structural Equation Model assessment for the Theory of Planned Behaviour

In this research, the Theory of Planned Behaviour (TPB) was tested to understand its influence on the Purchase Intention towards cosmetic products. The findings in Table No 5.38 and Figure No. 5.25 below show that attitude ($\beta = 0.528$, $t = 20.046$, $p < 0.00$, CI [0.474, 0.579]), Perceived Behavioural Control (PBC) ($\beta = 0.225$, $t = 7.879$, $p < 0.00$, CI [0.170, 0.281]), and Subjective Norms (SN) ($\beta = 0.071$, $t = 2.692$, $p < 0.01$, CI [0.021, 0.125]) all have a significant positive impact on purchase intention towards cosmetic products. Attitude is identified as the most significant factor influencing intention, followed by Perceived Behavioural Control. Subjective Norms, while still significant, are the least influential of the three factors. Collectively, these three factors explain 47% of the variance in the dependent construct, indicating a substantial degree of influence on purchase intention.



Source: Primary Data

Figure No. 5. 25: Structural Equation Model for the Theory of Planned Behaviour

Table No. 5. 38: Structural Equation Model for the Theory of Planned Behaviour

Path	β	SD	T value	P values	Confidence Interval		Remark
					2.50%	97.50%	
Atti -> PI	0.528	0.026	20.046	0.000	0.474	0.579	Accepted
PBC -> PI	0.225	0.029	7.879	0.000	0.170	0.281	Accepted
SN -> PI	0.071	0.026	2.692	0.010	0.021	0.125	Accepted

Source: Author's Compilation

5.8.4.2 The coefficient of determination (R^2) for the Theory of Planned Behaviour

Table No 5.39 shows the R-square coefficient of determination, which is 0.47, indicating that approximately 47% of the variability in consumers' purchase intention for cosmetics can be explained by the independent variables: attitude, perceived behavioural control, and subjective norms. The substantial impact of these factors on purchase intention is evident from the explained variance, demonstrating that attitudes, perceived behavioural control, and subjective norms play crucial roles in shaping consumers' intentions to purchase cosmetic products.

Table No. 5. 39: The coefficient of determination (R^2) for the Theory of Planned Behaviour

Endogenous construct	R-square	R-square adjusted
Purchase Intention	0.470	0.468

Source: Author's Compilation

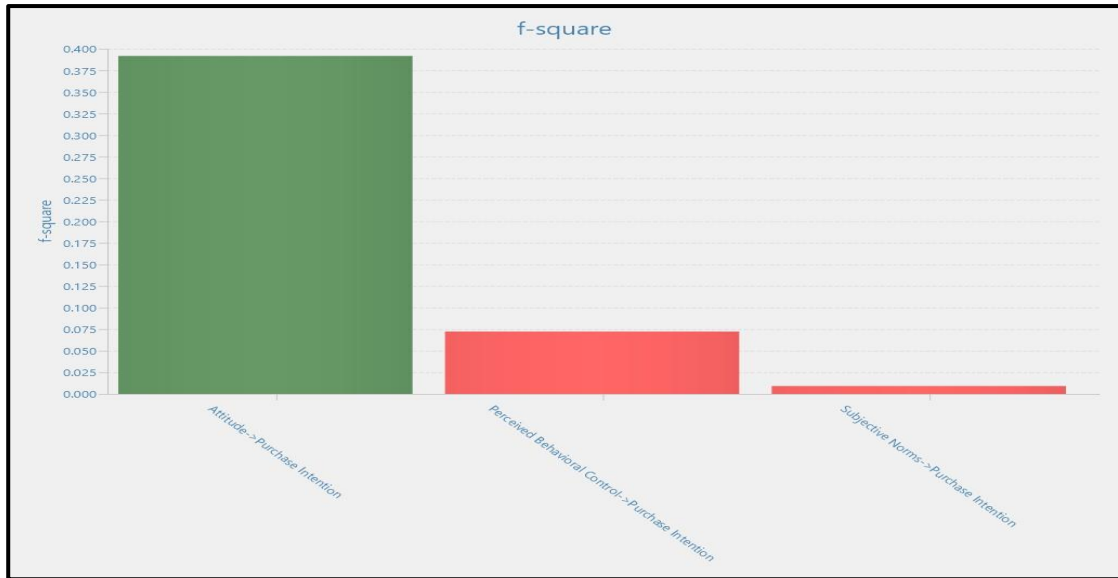
5.8.4.3 f-square for the Theory of Planned Behaviour Model

The results in Table No. 5.40 and Figure No. 5.26, summarise the path coefficients of the exogenous constructs, their effect sizes, and the interpretations for the Theory of Planned Behaviour model. The Table No. 5.37 reveals that attitude has a large effect size of 0.392, indicating its significant influence on purchase intention. Perceived Behavioural Control (PBC) has a small effect size of 0.072, suggesting a moderate impact on purchase intention. Subjective Norms (SN) have an effect size of 0.009, which is below the threshold value of 0.02, indicating no significant impact on purchase intention. Therefore, the results highlight that attitude is the major contributor to shaping the intention to purchase cosmetic products.

Table No. 5. 40: The effect size (f^2) for the Theory of Planned Behaviour.

Exogeneous construct	Effect size	Interpretation
Attitude	0.392	Large
Perceived Behavioural Control	0.072	Small
Subjective Norms	0.009	-

Source: Author's Compilation



Source: Primary Data

Figure No. 5. 26: The effect size (f^2) of the Theory of Planned Behaviour model.

5.8.4.4 Predictive Relevance (Q^2_{predict}) for the Theory of Planned Behaviour

The model's predictive importance was assessed using PLS predict. The results demonstrated in Table No. 5.41, show that the LM prediction summary for the Theory of Planned Behaviour model indicates that the exogenous constructs, namely attitude, perceived behavioural control, and subjective norms, have a significant predictive relationship with the endogenous construct, purchase intention. This is supported by the Q^2_{predict} value of 0.464. The results confirm the practical usefulness of the model and highlight the strength of the Theory of Planned Behaviour in explaining and predicting the relevance of purchasing intentions.

Table No. 5. 41: Predictive Relevance (Q^2_{predict}) of the Theory of Planned Behaviour

Endogenous Construct	Q^2_{predict}
Purchase Intention	0.464

Source: Author's Compilation

5.8.4.5 Importance-Performance Map Analysis (IPMA) for the Theory of Planned Behaviour

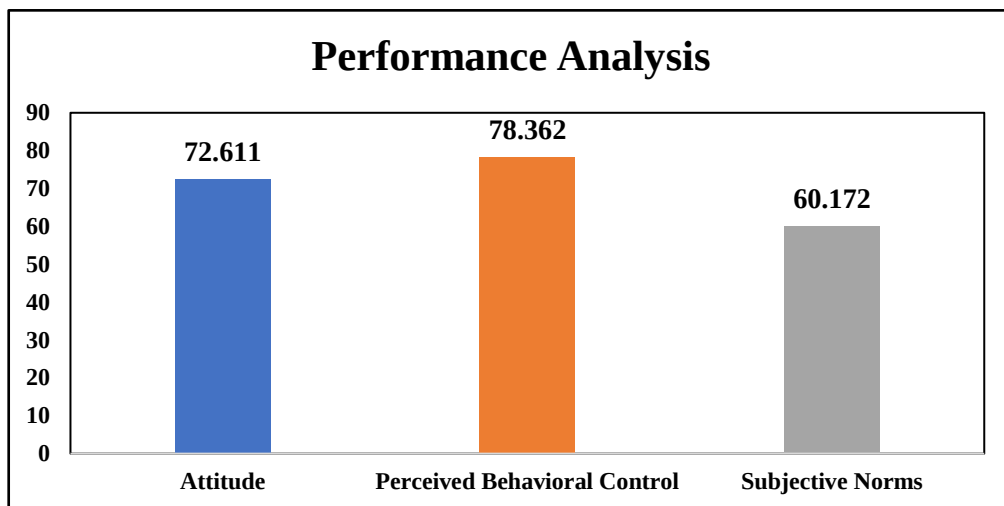
iv) Performance Analysis for the Theory of Planned Behaviour

The results of the Performance Analysis in Table No. 5.42 and Figure No. 5.27, highlight that Perceived Behavioural Control (PBC) exhibits the highest score of 78.362. This suggests that PBC is a significant determinant that consumers consider when making purchasing decisions for cosmetic items. On the other hand, Subjective Norms (SN) received the lowest score of 60.172, indicating they are considered less relevant. This implies that while social norms have a role, they are not as crucial as personal views and individual attitudes in the cosmetics purchasing process. This finding underscores the importance of targeting individual attitudes and perceived behavioural control in marketing strategies for cosmetic products.

Table No. 5. 42: Performance Analysis for the Theory of Planned Behaviour

Construct	Performance
Attitude	72.611
Perceived Behavioural Control	78.362
Subjective Norms	60.172

Source: Author's Compilation



Source: Primary Data

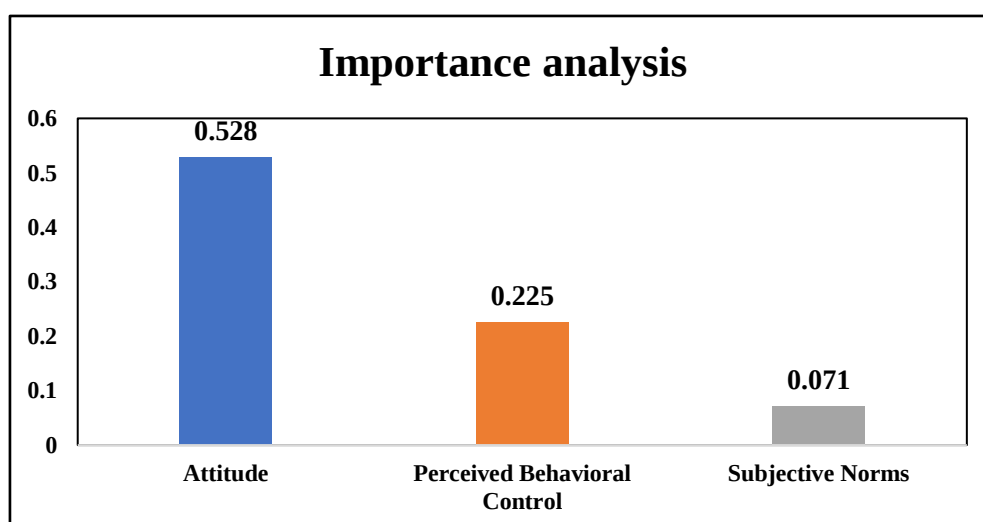
Figure No. 5. 27: Performance Analysis for the Theory of Planned Behaviour

v) Importance Analysis for the Theory of Planned Behaviour

Table No. 5. 43: Importance Analysis for the Theory of Planned Behaviour

Construct	Purchase Intention
Attitude	0.528
Perceived Behavioural Control	0.225
Subjective Norms	0.071

Source: Author's Compilation



Source: Primary Data

Figure No. 5. 28: Importance Analysis for the Theory of Planned Behaviour

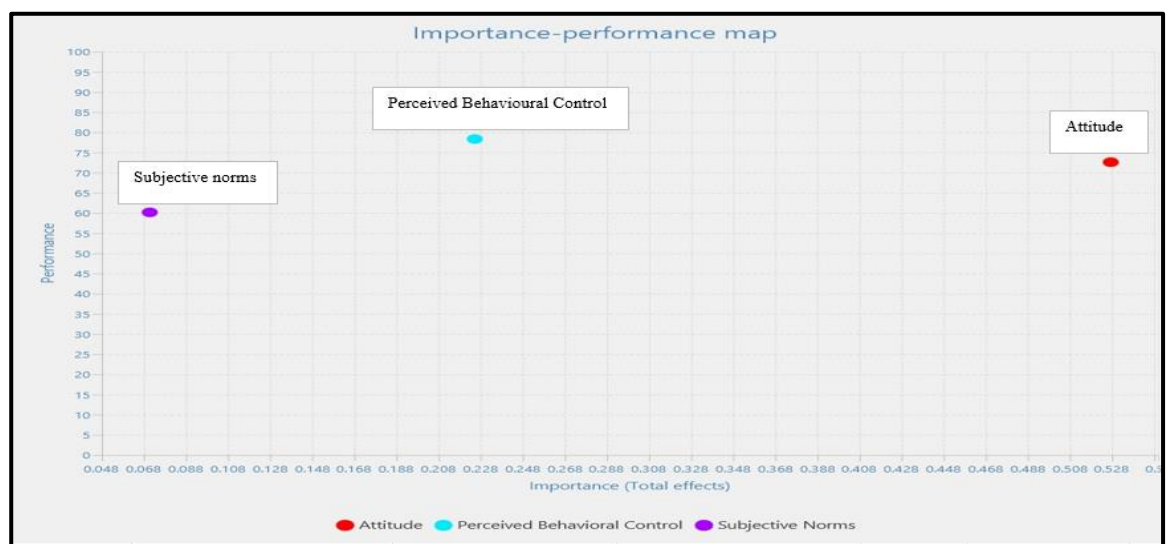
The Importance Analysis results in Table No. 5.43, and Figure No. 5.28 highlight that attitude is the most significant factor impacting purchase intention towards cosmetic products, with a score of 0.528. Perceived Behavioural Control follows with a score of 0.225, indicating a moderate influence. Subjective Norms have the least impact on purchase intention, with a score of 0.071. These scores suggest that consumers' attitudes toward cosmetics play the most crucial role in their purchasing decisions, while subjective norms exert the least influence. This insight emphasises the need for marketing strategies to focus more on shaping positive attitudes and enhancing perceived control to drive purchase intentions in the cosmetics market.

vi) Importance Performance Map Analysis for the Theory of Planned Behaviour

Table No. 5. 44: Importance-Performance Map Analysis for the Theory of Planned Behaviour

Construct	Performance	Effect Score
Attitude	72.611	0.528
Perceived Behavioural Control	78.362	0.225
Subjective Norms	60.172	0.071

Source: Author's Compilation



Source: Primary Data

Figure No. 5. 29: Importance Performance Map Analysis for the Theory of Planned Behaviour

According to the findings shown in Table No. 5.44 and Figure No. 5.29, attitude is identified as the most critical determinant of consumer intention for cosmetic products. A one-point rise in attitude performance results in a 0.528 increase in intention to purchase, assuming all other factors remain constant. Perceived Behavioural Control exhibits a comparatively higher level of performance 78.362, though with a lower level of relevance compared to attitude 72.611. In contrast, Subjective Norms possess limited significance 0.071 owing to their diminished importance and performance. This analysis underscores the paramount importance of attitude in shaping consumer purchase intentions, highlighting the need for strategies that enhance positive attitudes towards cosmetic products.

5.8.5 The Mediating Analysis

This section investigates the mediating role of attitude in the relationship between the independent constructs (Perceived Behavioural Control, Subjective Norms, Appearance Consciousness, Utilitarian Value, Hedonic Value, Perceived Price, and Product Knowledge) and the dependent construct (Purchase Intention towards cosmetic products).

According to J. F. Hair et al. (2014), a mediating construct is a variable that explains part or all of the relationship between a predictor and an outcome. This study follows the three-stage process recommended by Baron and Kenny (1986):

- 1) *Direct Relationship without Mediator*: Examine the direct relationship between the independent variables and dependent variable (Purchase Intention) without considering the mediator (Attitude).

- 2) *Direct Relationship with Mediator*: Analyse the direct association between the independent variables and dependent variable (Purchase Intention) while including the mediator (Attitude).
- 3) *Indirect Impact through Mediator*: Assess the indirect impact of the independent variables on purchase intention by incorporating the mediator (Attitude).

The mediating impact is considered substantial when the following criteria are met:

- There exists a significant relationship between the independent and dependent constructs.
- The relationship between an independent variable and the mediator is statistically significant.
- A significant relationship exists between the mediator and the dependent construct.

By adhering to these stages, the study aims to provide a comprehensive understanding of how attitude mediates the relationship between personal and product factors with purchase intention towards cosmetic products. The analysis was conducted using the Bootstrapping method on 10,000 subsamples.

5.8.5.1 The Direct Effect of Factors on Purchase Intention Towards Cosmetic Products Without Including the Mediator

In the first step, as per the Table No. 5.45 the direct effects of personal and product factors on the purchase intention of cosmetic products were examined without considering the attitude towards cosmetic products. The findings indicate that all variables, except for one, subjective norms, have a statistically significant positive relationship with purchase intention. Specifically, Perceived Behavioural Control ($\beta = 0.156$, $t = 5.525$, $p < 0.00$, CI [0.101, 0.211]), Appearance Consciousness ($\beta = 0.126$, t

= 4.704, $p < 0.00$, CI [0.074, 0.178]), Utilitarian Value ($\beta = 0.279$, $t = 9.170$, $p < 0.00$, CI [0.219, 0.337]), Hedonic Value ($\beta = 0.154$, $t = 5.536$, $p < 0.00$, CI [0.099, 0.207]), Perceived Price ($\beta = 0.116$, $t = 3.843$, $p < 0.00$, CI [0.057, 0.177]), and Product Knowledge ($\beta = 0.208$, $t = 6.644$, $p < 0.00$, CI [0.145, 0.268]) were all significantly related to Purchase Intention. However, Subjective Norms did not show a significant relationship ($\beta = 0.047$, $t = 1.707$, $p = 0.09$, CI [-0.005, 0.102]). Thus, the study concludes that factors such as perceived behavioural control, appearance consciousness, utilitarian value, hedonic value, perceived price, and product knowledge significantly influence the intention to purchase cosmetic products. At the same time, subjective norms do not have a significant direct impact.

Table No. 5. 45: The direct effect without including the mediating variable

Path	β	SD	t-value	p-value	Confidence Interval		Remark
					2.50%	97.50%	
PBC -> PI	0.156	0.028	5.525	0.000	0.101	0.211	Significant
SN -> PI	0.047	0.027	1.707	0.090	-0.005	0.102	Not Significant
AC -> PI	0.126	0.027	4.704	0.000	0.074	0.178	Significant
UV -> PI	0.279	0.030	9.170	0.000	0.219	0.337	Significant
HV -> PI	0.154	0.028	5.536	0.000	0.099	0.207	Significant
PP -> PI	0.116	0.030	3.843	0.000	0.057	0.177	Significant
PK -> PI	0.208	0.031	6.644	0.000	0.145	0.268	Significant

Source: Author's Compilation

5.8.5.2 The Direct Effect of Factors on Purchase Intention Towards Cosmetic Products with Including the Mediator

In this second step as per Table No. 5.46, the direct effect of independent factors on purchase intention is examined with the inclusion of the mediation of attitude. The results as depicted in Table No. 5.43, show that Perceived Behavioural Control (PBC) ($\beta = 0.102$, $t = 3.621$, $p < 0.00$, CI [0.047, 0.157]), Appearance Consciousness (AC) ($\beta = 0.097$, $t = 3.620$, $p < 0.00$, CI [0.046, 0.150]), Utilitarian Value (UV) ($\beta = 0.210$, $t = 6.919$,

$p < 0.00$, CI [0.150, 0.269]), Hedonic Value (HV) ($\beta = 0.105$, $t = 3.619$, $p < 0.00$, 95% CI [0.048, 0.161]), Perceived Price (PP) ($\beta = 0.073$, $t = 2.881$, $p < 0.00$, CI [0.024, 0.123]), and Product Knowledge (PK) ($\beta = 0.141$, $t = 4.346$, $p < 0.00$, CI [0.076, 0.204]) all have a significant effect on Purchase Intention through attitude. This confirms that these factors directly influence the intention to purchase cosmetic products when the mediator, attitude, is included in the model.

Table No. 5. 46: Direct effect of factors on purchase intention through attitude.

Path	β	SD	t-value	p-value	Confidence Interval		Remark
					2.50%	97.50%	
PBC -> PI	0.102	0.028	3.621	0.000	0.047	0.157	Significant
AC -> PI	0.097	0.027	3.620	0.000	0.046	0.150	Significant
UV -> PI	0.210	0.030	6.919	0.000	0.150	0.269	Significant
HV -> PI	0.105	0.029	3.619	0.000	0.048	0.161	Significant
PP -> PI	0.073	0.025	2.881	0.000	0.024	0.123	Significant
PK -> PI	0.141	0.032	4.346	0.000	0.076	0.204	Significant

Source: Author's Compilation

5.8.5.3 The Indirect Effect of Factors on Purchase Intention Towards Cosmetic Products Through Attitude

In the last step, the indirect effect of personal and product factors towards cosmetic products with purchase intention through the mediating effect of attitude was examined. As shown in Table No. 5.47, attitude significantly mediates the relationship between the independent factors Perceived Behavioural Control ($\beta = 0.053$, $t = 4.374$, $p < 0.00$, CI [0.031, 0.079]), Appearance Consciousness ($\beta = 0.029$, $t = 3.390$, $p < 0.00$, CI [0.013, 0.047]), Utilitarian Value ($\beta = 0.068$, $t = 5.464$, $p < 0.00$, CI [0.044, 0.094]), Hedonic Value ($\beta = 0.049$, $t = 4.488$, $p < 0.00$, 95% CI [0.029, 0.072]), Perceived Price ($\beta = 0.043$, $t = 3.400$, $p < 0.00$, CI [0.021, 0.070]), and Product Knowledge ($\beta = 0.067$, $t = 5.581$, $p < 0.00$, CI [0.044, 0.091]) and the dependent variable purchase intention towards cosmetic products. Hence, H6c, H9c, H10c, H11c, H12c, and H13c are

accepted. On the contrary, it is observed that Subjective Norms ($\beta = 0.009$, $t = 1.022$, $p = 0.307$, 95% CI [-0.007, 0.026]) do not have a significant effect on purchase intention through attitude; therefore, H8c is rejected.

Table No. 5. 47: Indirect Effect of Factors on purchase intention of cosmetic products through Attitude.

Hypo	Path	β	SD	t-value	p-value	Confidence Interval		Remark
						2.50%	97.50%	
H6c	PBC -> Atti -> PI	0.053	0.012	4.374	0.000	0.031	0.079	Accepted
H8c	SN -> Atti -> PI	0.009	0.009	1.022	0.307	-0.007	0.026	Rejected
H9c	AC -> Atti -> PI	0.029	0.009	3.390	0.001	0.013	0.047	Accepted
H10c	UV -> Atti -> PI	0.068	0.013	5.464	0.000	0.044	0.094	Accepted
H11c	HV -> Atti -> PI	0.049	0.011	4.488	0.000	0.029	0.072	Accepted
H12c	PP -> Atti -> PI	0.043	0.013	3.400	0.001	0.021	0.070	Accepted
H13c	PK -> Atti -> PI	0.067	0.012	5.581	0.000	0.044	0.091	Accepted

Source: Author's Compilation

5.8.5.4 Type of the mediation effect

As a rule of thumb, partial mediation occurs when the direct relationship between an independent variable and a dependent variable is statistically significant, while the indirect relationship mediated by a mediator is also significant. Full mediation is when the direct relationship between independent and dependent variables is not statistically significant, but the indirect relationship through the mediator is statistically significant. The absence of mediation is observed when both the direct and indirect relationships are statistically insignificant.

Based on the results shown in Table No. 5.48, both the total effect without a mediator and the indirect effect with a mediator were identified. The analysis concluded that perceived behavioural control, appearance consciousness, utilitarian value, hedonic value, perceived price, and product knowledge significantly affect purchase intention. The mediation analysis showed that these relationships have a partial mediation effect, indicating that attitude partially mediates the effect of these factors on purchase intention. However, subjective norms were found to have no mediation effect on

purchase intention, as both the direct and indirect effects were not statistically significant.

Table No. 5. 48: Type of Mediation

Hypo	Path	Total Effect	Indirect Effect	Direct Effect	Type of Mediation
		Y -> X	Y -> M -> X	Y -> M -> X	
H6c	PBC -> PI	0.156**	0.053**	0.102**	Partial Mediation
H8c	SN -> PI	0.047	0.009	0.038	No Mediation
H9c	AC -> PI	0.126**	0.029**	0.097**	Partial Mediation
H10c	UV -> PI	0.279**	0.068**	0.21**	Partial Mediation
H11c	HV -> PI	0.154**	0.049**	0.105**	Partial Mediation
H12c	PP -> PI	0.116**	0.043**	0.073**	Partial Mediation
H13c	PK -> PI	0.208**	0.067**	0.141**	Partial Mediation

Source: Author's Compilation

5.8.6 Moderation Analysis

This study employs the moderation analysis as described by J. F. Hair et al. (2016). The aim was to examine the moderating influence of Personality, conceptualised as a higher-order reflective-formative construct, on the relationship between the dimensions of the Theory of Planned Behaviour (TPB) attitude, perceived behavioural control, and subjective norms and purchase intention towards cosmetic products. The operationalisation of the Big Five Personality Traits involved using first-order reflective constructs, while a second-order formative construct modelled the overall Personality. Interaction terms were introduced to evaluate the moderating effects. The findings indicate that the influence of the TPB dimensions on purchase intention is significantly moderated by Personality. This suggests that the effect of specific TPB dimensions on purchase intention is contingent upon an individual's personality profile.

The results presented in Table No. 5.49 and Figure No 5.30, show that Attitude ($\beta = 0.386$, $t = 12.422$, $p < 0.000$, CI [0.322, 0.445]), Perceived Behavioural Control ($\beta = 0.123$, $t = 4.416$, $p < 0.000$, CI [0.068, 0.178]), Subjective Norms ($\beta = 0.051$, $t = 2.172$, $p < 0.00$, CI [0.007, 0.099]), and Personality ($\beta = 0.3670$, $t = 12.066$, $p < 0.000$, CI [0.310, 0.429]) have a significant relationship with Purchase intention.

However, when examining the interaction effects, the moderating role of Personality on the relationships between subjective norms and purchase intention, and between attitude and purchase intention, did not yield statistically significant results. Specifically, the interaction effect between Personality and perceived behavioural control on Purchase Intention ($\beta = -0.058$, $t = 2.193$, $p = 0.028$, CI [-0.11, -0.006]) was significant and negative, suggesting that as personality traits become more pronounced, the influence of perceived behavioural control on purchase intention diminishes. Therefore, H14 was accepted.

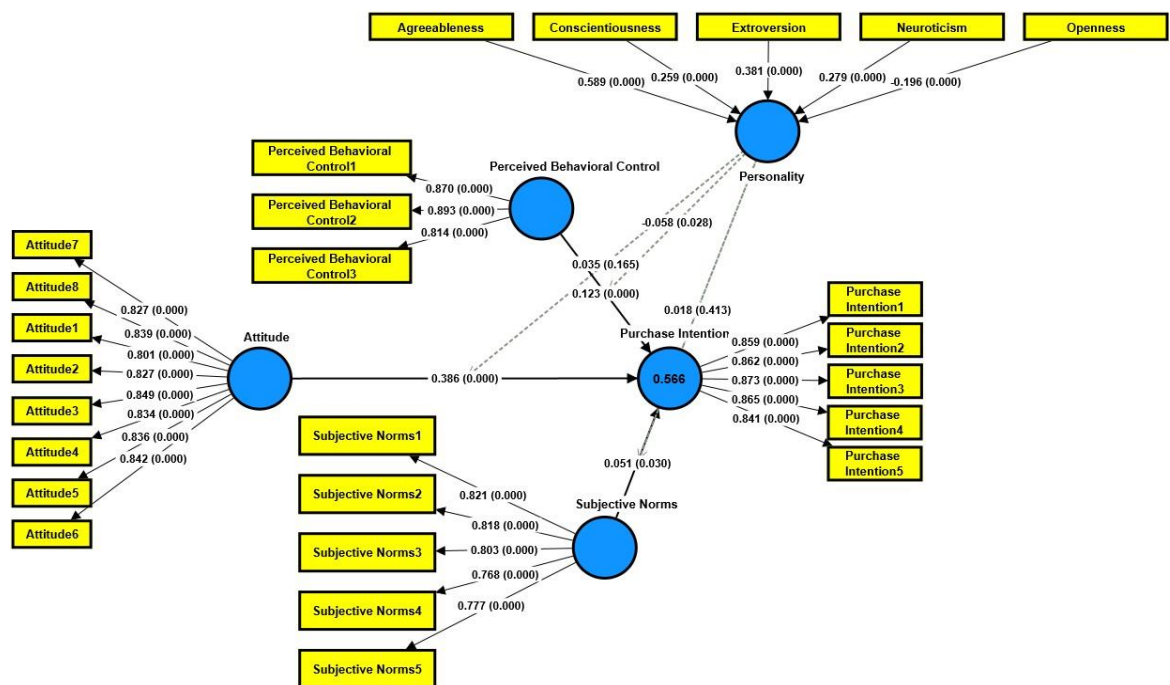
In contrast, the interaction effects between Personality and Attitude on PI ($\beta = 0.035$, $t = 1.388$, $p = 0.165$, CI [-0.017, 0.084]) and between Personality and SN on PI ($\beta = 0.018$, $t = 0.818$, $p = 0.413$, CI [-0.025, 0.061]) were not statistically significant, leading to the rejection of hypotheses H15 and H16. This indicates that personality traits do not significantly moderate these relationships.

In summary, the moderation analysis reveals that personality traits significantly moderate the relationship between Perceived Behavioural Control and Purchase Intention, with a negative effect. However, personality does not significantly moderate the relationships between attitude and purchase intention and also between subjective norms and purchase intention. These findings suggest that while Personality traits have some influence, they do not broadly impact all components of the Theory of Planned Behaviour in the context of cosmetic purchase intentions.

Table No. 5. 49: The Moderation Analysis

Hypo	Path	β	SD	t-value	p-value	Control Interval		Remark
						2.50%	97.50%	
	Attitude -> PI	0.386	0.031	12.422	0.00	0.322	0.445	-
	PBC -> PI	0.123	0.028	4.416	0.00	0.068	0.178	-
	Personality -> PI	0.367	0.03	12.066	0.00	0.31	0.429	-
	SN-> PI	0.051	0.023	2.172	0.03	0.007	0.099	-
H14	Personality x PBC -> PI	-0.058	0.026	2.193	0.028	-0.11	-0.006	Accepted
H15	Personality x Atti -> PI	0.035	0.026	1.388	0.165	-0.017	0.084	Rejected
H16	Personality x SN -> PI	0.018	0.022	0.818	0.413	-0.025	0.061	Rejected

Source: Author's Compilation



Source: Primary Data

Figure No. 5. 30: Moderation Analysis

5.8.7 Multigroup Analysis (MGA) MICOM

The moderation effect of Gender, Marital status, and Place of residence on the determinants of the Theory of Planned Behaviour model and purchase intention in this

research study was analysed using Multi-Group Analysis (MGA) as outlined by (Henseler et al., 2015). The implementation of PLS–MGA requires successful completion of invariance testing, as described by (Hair et al., 2016) and (Hair et al., 2012). To achieve this, we conducted measurement invariance testing for composites (MICOM) following the standards outlined by (Henseler et al., 2015). The MICOM process involves three sequential steps:

- *Configural Invariance*: This was established by ensuring that the same algorithm was used for both groups, maintaining consistency in data treatment procedures (such as handling missing values and data scaling), and using identical scales for assessing both groups.
- *Compositional Invariance*: This was confirmed by ensuring the proximity of permutation correlations to the original correlations of the constructs, and verifying that these correlations fell within the acceptance region of confidence intervals at a 5% level.
- *Mean and Variance Invariance*: This step involved evaluating the extent to which the mean values and variances of composite scores are identical across different groups.

Before conducting MGA, we assessed whether any notable differences between groups emerged in either the measurement or structural models. In this study, we examined three key factors to investigate the Model's invariance across several groups: Gender, Marital status, and Place of residence.

Regarding the master data for classifying variables, we considered two classes for “Gender,” two classes for "marital status," and two classes for "place of residence". Our analysis was limited to two specific marital classes, as including the nine respondents from the widow class would not facilitate a comprehensive comparison

between the groups. While the classification derived from the marital status variable is adequately balanced, with 492 respondents married and 346 respondents unmarried, the place of residence also generated balanced classes: 469 respondents from urban areas and 377 from rural areas.

This structured approach ensures robust and reliable multi-group analysis, allowing for meaningful insights into how demographic factors influence the determinants of purchase intention in the context of the Theory of Planned Behavior.

The following Table No. 5.53, Table No. 5.57, and Table No. 5.61, report the main results of the MICOM analysis for the Gender, Marital status, and Place of residence grouping.

5.8.7.1 Multigroup Analysis of Gender

Table No. 5.50, presents the MICOM analysis for gender, examining configural invariance and compositional invariance. Configural invariance was established as the same algorithms were applied consistently across both male and female groups, ensuring that the treatment of data and scales used were identical. The compositional invariance was confirmed as the original correlations for constructs such as Attitude (Atti), Perceived Behavioral Control (PBC), Purchase Intention (PI), and Subjective Norms (SN) were close to 1, with permutation p-values well above the 0.05 threshold, indicating no significant differences.

The equal mean assessment, however, revealed significant differences across gender groups. For constructs such as Atti, PBC, PI, and SN, the original differences were outside the confidence intervals, and permutation p-values were less than 0.05, indicating that the means were not equal across genders. Despite this, the equal variance

assessment showed partial measurement invariance for all constructs except PI, with permutation p-values indicating that most variances were similar across groups.

In hypothesis testing, Atti $\rightarrow$ PI ($\beta = 0.466$ for males, $\beta = 0.564$ for females), PBC $\rightarrow$ PI ($\beta = 0.296$ for males, $\beta = 0.177$ for females), and SN $\rightarrow$ PI ($\beta = 0.055$ for males, $\beta = 0.082$ for females) were examined. While Atti and PBC showed significant relationships for both genders, SN was not significant for males, indicating a non-invariant relationship.

In summary, Table No. 5.53, demonstrates that while attitudes and perceived behavioural control significantly influence purchase intention across genders, subjective norms exhibit variability. This implies that personal views and individual attitudes are more crucial in the cosmetics purchasing process than social norms, highlighting the need for gender-targeted marketing strategies.

Table No. 5. 50: MICOM analysis Configural invariance and Composition invariance Step 1 and Step 2 for Gender

Construct	Configural invariance (Same algorithms for both groups)	(Compositional invariance) Original correlation	Correlation permutation mean	5.00%	Permutation p-value	Partial measurement invariance established
Atti	Yes	1	1	1	0.895	Yes
PBC	Yes	1	0.999	0.998	0.401	Yes
PI	Yes	1	1	1	0.155	Yes
SN	Yes	0.996	0.995	0.986	0.579	Yes

Source: Author's Compilation

Table No. 5. 51: Equal mean assessment for Gender

Equal mean assessment					
Construct	Original difference	Permutation mean difference	CI 5%	Permutation p-value	Equal
Atti	0.254	0	[-0.117, 0.115]	0.000	No
PBC	0.211	0.001	[-0.117, 0.117]	0.002	No

PI	0.291	0.001	[-0.116, 0.116]	0.000	No
SN	0.133	0.001	[-0.115, 0.114]	0.028	No

Table No. 5. 52: Equal variance assessment for Gender

Equal variance assessment						
	Original difference	Permutation mean difference	5.00%	Permutation p-value	Equal	Measurement invariance established
Atti	0.034	-0.003	[-0.157, 0.15]	0.344	Yes	Partial
PBC	-0.013	-0.002	[-0.158, 0.155]	0.451	Yes	Partial
PI	0.159	-0.003	[-0.155, 0.145]	0.037	No	Partial
SN	-0.01	-0.002	[-0.159, 0.145]	0.467	Yes	Partial

Source: Author's Compilation

Table No. 5. 53: Result of Multigroup analysis for Gender

Hypo	Relationship	Original (Mal)	p-value (Male)	Original (Female)	p-value (Female)	Invariant	Remark
H01a	Atti -> PI	0.466	0.00	0.564	0.00	Yes	Accepted
H01b	PBC -> PI	0.296	0.00	0.177	0.00	Yes	Accepted
H01c	SN -> PI	0.055	0.17	0.082	0.01	No	Rejected

Source: Author's Compilation

5.8.7.2 Multigroup Analysis of Marital Status

Table No. 5.54, presents the MICOM analysis for marital status, examining configural invariance and compositional invariance in steps 1 and 2. Configural invariance was established as the same algorithms were consistently applied across both married and unmarried groups, ensuring that data treatment procedures and scales used were identical. The compositional invariance was confirmed as the original correlations for constructs such as Attitude (Atti), Perceived Behavioral Control (PBC), Purchase Intention (PI), and Subjective Norms (SN) were close to 1, with permutation p-values well above the 0.05 threshold, indicating no significant differences.

The equal mean assessment, however, revealed significant differences across marital status groups. For constructs such as Atti, PBC, and PI, the original differences were outside the confidence intervals, and permutation p-values were less than 0.05, indicating that the means were not equal across married and unmarried groups. SN showed no significant difference in means. Despite this, the equal variance assessment showed partial measurement invariance for all constructs, with most variances being similar across groups, except for PI, which did not meet the criteria for equal variance.

In hypothesis testing, the paths Atti → PI ($\beta = 0.556$ for married, $\beta = 0.476$ for unmarried), PBC → PI ($\beta = 0.231$ for married, $\beta = 0.211$ for unmarried), and SN → PI ($\beta = 0.073$ for married, $\beta = 0.07$ for unmarried) were examined. While Atti and PBC showed significant relationships for both marital status groups, SN was not significant for unmarried individuals, indicating a non-invariant relationship.

In summary, Table No. 5.57, demonstrates that while attitudes and perceived behavioural control significantly influence purchase intention across marital status groups, subjective norms exhibit variability. This implies that personal views and individual attitudes are more crucial in the cosmetics purchasing process than social norms, especially for unmarried individuals, highlighting the need for marital status-targeted marketing strategies.

Table No. 5. 54: MICOM analysis Configural invariance and Composition invariance Step 1 and Step 2 for Marital status.

Construct	Configural invariance (Same algorithms for both groups)	(Composition al invariance) Original correlation	Correlation permutation mean	5.00%	Permutation p-value	Partial measurement invariance established
Atti	Yes	1	1	1	0.563	Yes
PBC	Yes	0.998	0.999	0.998	0.058	Yes
PI	Yes	1	1	1	0.921	Yes
SN	Yes	0.998	0.994	0.986	0.871	Yes

Source: Author's Compilation

Table No. 5. 55: Equal mean assessment for Marital status

Equal mean assessment					
Construct	Original difference	Permutation mean difference	CI 5%	Permutation p-value	Equal
Atti	-0.152	0	[-0.116, 0.116]	0.015	No
PBC	-0.171	0	[-0.116, 0.115]	0.008	No
PI	-0.166	0	[-0.115, 0.115]	0.008	No
SN	-0.037	0	[-0.115, 0.115]	0.297	Yes

Source: Author's Compilation

Table No. 5. 56: Equal variance assessment for Marital status

Equal variance assessment						
	Original difference	Permutation mean difference	5.00%	Permutation p-value	Equal	Measurement invariance established
Atti	0.106	0.003	[-0.152, 0.155]	0.131	Yes	Partial
PBC	0.11	0.002	[-0.157, 0.163]	0.132	Yes	Partial
PI	0.324	0.002	[-0.149, 0.158]	0	No	Partial
SN	-0.147	0.003	[-0.151, 0.157]	0.053	Yes	Partial

Source: Author's Compilation

Table No. 5. 57: Results of Multigroup analysis for Marital status

Hypo	Relationship	Original (Marrie)	p-value (Married)	Original (Unmarried)	p-value (Unmarried)	Invariant	Remark
H02a	Atti -> PI	0.556	0	0.476	0	Yes	Accepted
H02b	PBC -> PI	0.231	0	0.211	0	Yes	Accepted
H02c	SN -> PI	0.073	0.034	0.07	0.09	No	Rejected

Source: Author's Compilation

Table No. 5.58, presents the MICOM analysis for place of residence, assessing configural invariance and compositional invariance in steps 1 and 2. Configural invariance was established, confirming that the same algorithms were applied consistently across both urban and rural groups, maintaining identical data treatment procedures and measurement scales. Compositional invariance was confirmed as the original correlations for constructs such as Attitude (Atti), Perceived behavioural

Control (PBC), Purchase Intention (PI), and Subjective Norms (SN) were close to 1, with permutation p-values above 0.05, indicating no significant differences.

The equal mean assessment revealed significant differences between urban and rural groups for constructs such as Atti, PBC, and PI, as the original differences were outside the confidence intervals and permutation p-values were less than 0.05. SN showed no significant difference in means. Despite these mean differences, the equal variance assessment showed partial measurement invariance for all constructs, with variances being similar across groups, except for Atti, which did not meet the criteria for equal variance.

In hypothesis testing, the paths Atti $\rightarrow$ PI ($\beta = 0.476$ for rural, $\beta = 0.559$ for urban), PBC $\rightarrow$ PI ($\beta = 0.184$ for rural, $\beta = 0.261$ for urban), and SN $\rightarrow$ PI ($\beta = 0.096$ for rural, $\beta = 0.057$ for urban) were examined. While Atti and PBC showed significant relationships for both urban and rural groups, SN was not significant for urban individuals, indicating a non-invariant relationship.

In summary, Table No. 5.61, demonstrates that attitudes and perceived behavioural control significantly influence purchase intention across different places of residence, while subjective norms exhibit variability. This implies that personal views and individual attitudes are more crucial in the cosmetics purchasing process than social norms, especially for urban individuals, highlighting the need for place-of-residence-targeted marketing strategies.

Table No. 5. 58: MICOM analysis Configural invariance and Composition invariance Step 1 and Step 2 for place of residence.

Construct	Configural invariance (Same algorithms for both groups)	(Compositional invariance) Original correlation	Correlation permutation mean	5.00 %	Permutation p-value	Partial measurement invariance established
Atti	Yes	1	1	1	0.129	Yes
PBC	Yes	0.999	0.999	0.998	0.127	Yes
PI	Yes	1	1	1	0.114	Yes
SN	Yes	0.989	0.995	0.987	0.086	Yes

Source: Author's Compilation

Table No. 5. 59: Equal mean assessment for Place of residence

Equal mean assessment					
Construct	Original difference	Permutation mean difference	CI 5%	Permutation p-value	Equal
Atti	-0.147	0	[-0.113, 0.114]	0.015	No
PBC	-0.068	0	[-0.114, 0.114]	0.008	No
PI	-0.061	-0.001	[-0.114, 0.114]	0.008	No
SN	-0.054	0	[-0.113, 0.111]	0.297	Yes

Source: Author's Compilation

Table No. 5. 60: Equal variance assessment for Place of residence

Equal variance assessment						
	Original difference	Permutation mean difference	5.00%	Permutation p-value	Equal	Measurement invariance established
Atti	0.256	0.001	[-0.15, 0.152]	0.003	No	Partial
PBC	-0.024	0	[-0.153, 0.154]	0.402	Yes	Partial
PI	0.148	0.002	[-0.146, 0.154]	0.057	Yes	Partial
SN	0.029	0.001	[-0.151, 0.151]	0.38	Yes	Partial

Source: Author's Compilation

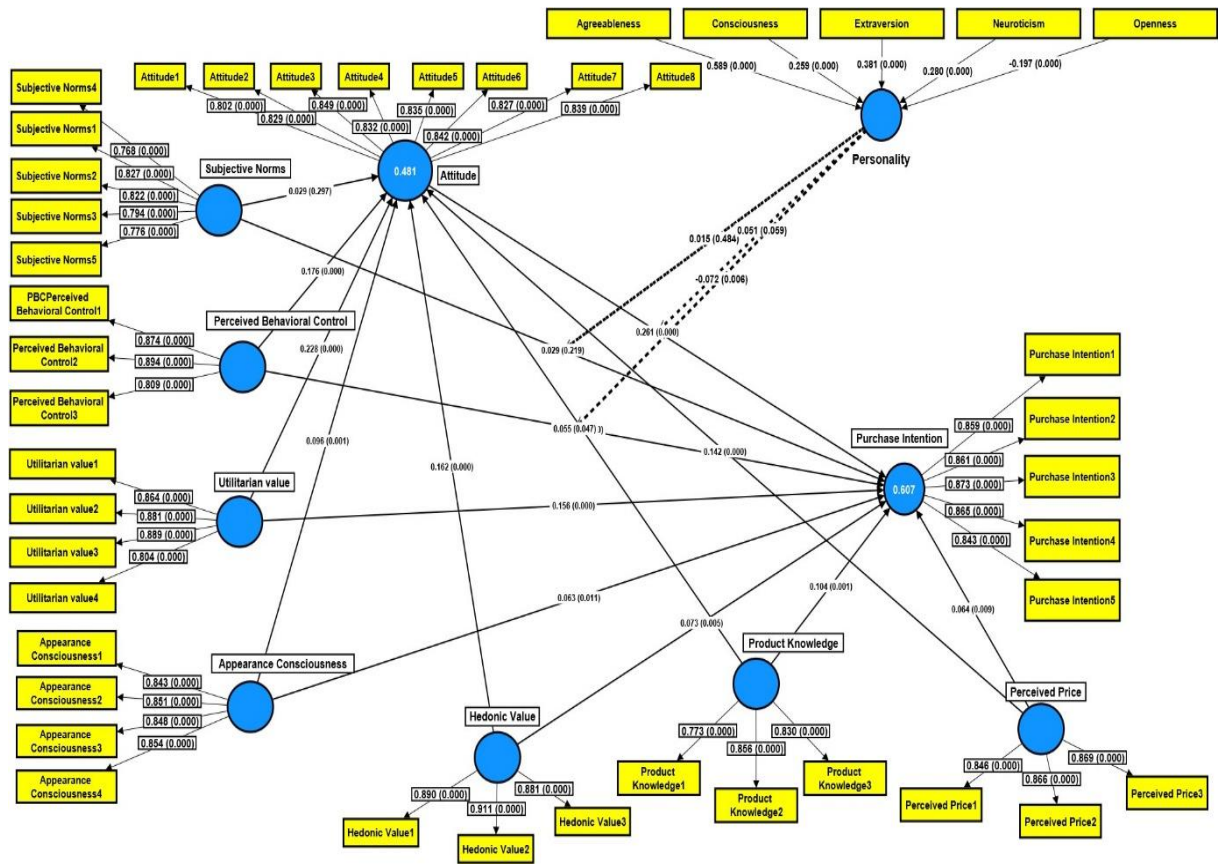
Table No. 5. 61: Results of Multigroup analysis for Place of residence

Hypo	Relationship	Original (Rural)	p-value (Rural)	Original (Urban)	p-value (Urban)	Invarian t	Remark
H03a	Atti -> PI	0.476	0	0.559	0	Yes	Accepted
H03b	PBC -> PI	0.184	0	0.261	0	Yes	Accepted
H03c	SN -> PI	0.096	0.024	0.057	0.086	No	Rejected

Source: Author's Compilation

5.9 Structural Equation Model for the Attitude-Intention towards cosmetic products

5.9.1 Testing the Attitude-Intention Relationship and Hypothesis



Source: Primary Data

Figure No. 5. 31: Attitude-Intention Model

Table No. 5. 62: Testing the Structural Relationships and Hypotheses of Attitude-Intention Model

Hypo	Path	β	SD	T value	P values	Confidence Interval		Remark
H1	Open -> PI	-0.113	0.038	2.965	0.003	-0.176	-0.016	Accepted
H2	Cons ->PI	0.165	0.03	5.584	0.000	0.106	0.222	Accepted
H3	Ext -> PI	0.243	0.032	7.587	0.000	0.18	0.306	Accepted
H4	Agree -> PI	0.373	0.028	13.244	0.000	0.315	0.425	Accepted
H5	Neur -> PI	0.176	0.03	5.778	0.000	0.113	0.233	Accepted
H6a	PBC -> PI	0.055	0.028	1.982	0.047	0	0.109	Accepted
H6b	PBC -> Atti	0.176	0.031	5.664	0.000	0.115	0.236	Accepted
H6c	PBC -> Atti -> PI	0.053	0.012	4.374	0.000	0.031	0.079	Accepted
H7	Atti -> PI	0.258	0.042	6.278	0.000	0.176	0.338	Accepted
H8a	SN -> PI	0.03	0.024	1.229	0.219	-0.016	0.077	Rejected
H8b	SN -> Atti	0.03	0.028	1.042	0.297	-0.024	0.084	Rejected
H8c	SN -> Atti -> PI	0.009	0.009	1.022	0.307	-0.007	0.026	Rejected
H9a	AC -> PI	0.064	0.025	2.538	0.011	0.015	0.112	Accepted
H9b	AC -> Atti	0.097	0.028	3.458	0.001	0.043	0.152	Accepted
H9c	AC -> Atti -> PI	0.029	0.009	3.39	0.001	0.013	0.047	Accepted

H10a	UV -> PI	0.156	0.029	5.34	0.000	0.099	0.213	Accepted
H10b	UV -> Atti	0.228	0.031	7.282	0.000	0.167	0.289	Accepted
H10c	UV -> Atti -> PI	0.068	0.013	5.464	0.000	0.044	0.094	Accepted
H11a	HV -> PI	0.074	0.026	2.789	0.005	0.022	0.125	Accepted
H11b	HV -> Atti	0.162	0.03	5.309	0.000	0.102	0.222	Accepted
H11c	HV -> Atti -> PI	0.049	0.011	4.488	0.000	0.029	0.072	Accepted
H12a	PP -> PI	0.063	0.024	2.615	0.009	0.016	0.111	Accepted
H12b	PP -> Atti	0.141	0.031	4.566	0.000	0.081	0.203	Accepted
H12c	PP -> Atti -> PI	0.043	0.013	3.4	0.001	0.021	0.07	Accepted
H13a	PK -> PI	0.104	0.031	3.38	0.001	0.043	0.164	Accepted
H13b	PK -> Atti	0.222	0.03	7.283	0.000	0.161	0.28	Accepted
H13c	PK -> Atti -> PI	0.067	0.012	5.581	0.000	0.044	0.091	Accepted
H14	Pers x PBC -> PI	-0.058	0.026	2.193	0.028	-0.11	-0.006	Accepted
H15	Pers x Atti -> PI	0.035	0.026	1.388	0.165	-0.017	0.084	Rejected
H16	Pers x SN -> PI	0.018	0.022	0.818	0.413	-0.025	0.061	Rejected

Source: Author's Compilation

The structural relationships and hypotheses of the Attitude-Intention Model, as presented in Table No. 5.62 and Figure No. 5.31, were tested to assess the influence of the Big Five Personality Traits, Personal and Product factors on Purchase Intention (PI) and Attitude towards cosmetic products. The Big Five Personality Traits, including Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism, were analysed first separately to derived scores for second order formative construct and test the influence of the Big Five Personality Traits on Purchase Intention. The results indicated that Openness negatively influenced PI, leading to the acceptance of H1. Meanwhile, Conscientiousness, Extraversion, Agreeableness, and Neuroticism positively influenced Purchase Intention, confirming the acceptance of H2, H3, H4, and H5.

The analysis showed that Subjective Norms (SN) had no direct impact on Purchase Intention (H8a) nor an indirect effect through Attitude (H8b, H8c), leading to the rejection of these hypotheses and indicating minimal social influence on purchase intentions in this context.

The analysis of Personal and Product factors showed that Perceived Behavioral Control (PBC) influenced both Purchase Intention and Attitude, with Attitude mediating the relationship between PBC and PI, supporting H6a, H6b, and H6c. Additionally, factors such as Appearance Consciousness (AC), Utilitarian Value (UV), Hedonic Value (HV), Perceived Price (PP), and Product Knowledge (PK) were found to significantly influence both Attitude and PI, with Attitude serving as a mediator, and impacting purchase intention leading to the acceptance of hypotheses H7, H9a, H9b, H9c, H10a, H10b, H10c, H11a, H11b, H11c, H12a, H12b, H12c, H13a, H13b, and H13c.

In the moderation analysis, Personality significantly moderated the relationship between PBC and PI, resulting in the acceptance of H14. However, Personality did not significantly moderate the relationships between Attitude and PI (H15) and also Subjective Norms (SN) with PI (H16), leading to the rejection of H15 and H16 hypotheses. Overall, the results emphasize the complex interplay between personality traits, personal and product factors, and their impact on consumer behavior in the context of cosmetic purchases.

5.9.2 The Assessment of the explanatory power for Attitude-Intention model

In this section, the explanatory power of the research model used in this study is presented, focusing on three key metrics: the coefficient of determination (R^2), the f squared coefficient (f^2), and predictive relevance (Q^2_{predict}). Explanatory power, also known as "in-sample predictive power," refers to how well the independent variables explain the variance observed in the dependent variable (Rigdon, 2012).

After using the PLS-SEM method, we evaluated the coefficient of determination (R^2), which is a statistical measure that explains how much of the variation in the

dependent variable is accounted for by the independent variables (Shmueli et al., 2016). According to Henseler et al. (2015), R^2 values can be categorised as follows: 0.75 indicates strong explanatory power, 0.50 indicates moderate explanatory power, and 0.25 indicates weak explanatory power.

The f-squared (f^2) metric assesses the impact of a specific independent variable on the dependent variable by comparing R^2 values when the independent variable is included and excluded from the model. This helps to understand the importance of each independent variable. Cohen (1998) categorises f^2 values as: 0.02 (small effect), 0.15 (medium effect), and 0.35 (large effect).

Predictive relevance (Q^2_{predict}) measures the model's ability to predict new observations. It is calculated using a blindfolding procedure in PLS-SEM, indicating how well the model can predict data points not used in its estimation. A Q^2_{predict} value greater than zero suggests that the model has predictive relevance (Ghazali et al., 2017; J. F. Hair et al., 2016).

By examining these three metrics R^2 , f^2 , and Q^2_{predict} —we can understand how well our research model explains and predicts the data. High R^2 values indicate strong explanatory power, significant f^2 values highlight the importance of individual predictors, and positive Q^2_{predict} values show good predictive capability.

Table No. 5. 63: Results of R^2 for Attitude-Intention Model

Endogenous latent variable	R-square	R-square adjusted	Interpretation
Attitude towards intention to purchase	0.481	0.476	Moderate
Purchase Intention	0.607	0.602	Moderate

Source: Author's Compilation

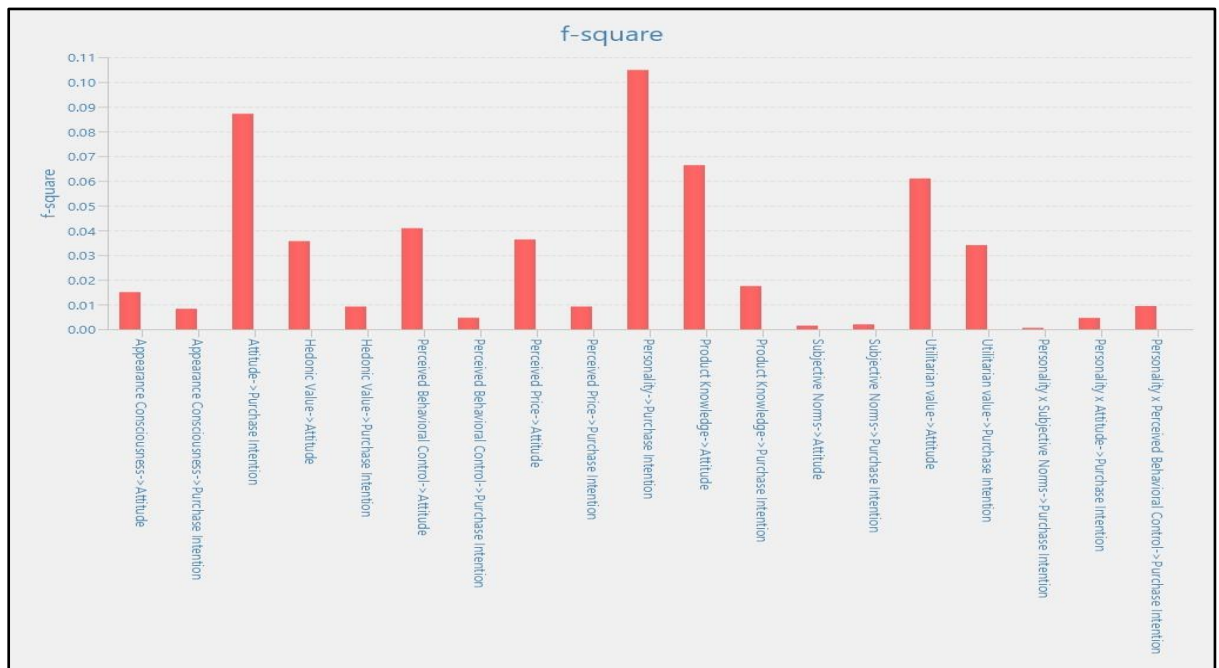
Table No. 5.63 presents the results of the R^2 values for Attitude and Purchase Intention. The R^2 value for Attitude is 0.481, and the adjusted R^2 is 0.476, indicating that the independent variables explain approximately 48.1% of the variance in Attitude, suggesting a moderate level of explanatory power. Additionally, the R^2 value for Purchase Intention is 0.607, with an adjusted R^2 of 0.602. This means that the independent variables account for 60.7% of the variance in Purchase Intention, which also reflects a moderate level of explanatory power. These findings indicate that the independent constructs in the model explain a substantial portion of the variance in the dependent constructs, highlighting the model's moderate predictive capability.

f-square of the Attitude-Intention Model

As depicted in Table No. 5.64 and Figure No. 5.32, the f-square values, their paths, and corresponding interpretations are presented. It can be observed that seven relationships demonstrated substantive small effect sizes: Attitude $\rightarrow$ Purchase Intention (0.087), Hedonic Value $\rightarrow$ Attitude (0.036), Perceived Behavioural Control $\rightarrow$ Attitude (0.041), Perceived Price $\rightarrow$ Attitude (0.066), Utilitarian Value $\rightarrow$ Attitude (0.061), and Utilitarian Value $\rightarrow$ Purchase Intention (0.034). The other relationships that are Perceived Behavioural Control $\rightarrow$ Purchase Intention, Perceived Price $\rightarrow$ Purchase Intention, Product Knowledge $\rightarrow$ Purchase Intention, Subjective Norms $\rightarrow$ Attitude, and Subjective Norms $\rightarrow$ Purchase Intention do not have significant effect sizes as their values are below the 0.02 threshold.

Path-wise f-square values indicate that while some constructs have a meaningful impact on their dependent variables, others do not. For instance, Attitude has a small but notable effect on Purchase Intention, as do Hedonic Value, Perceived Behavioural Control, Perceived Price, and Utilitarian Value on Attitude. However, paths such as

Appearance Consciousness -> Attitude, Appearance Consciousness -> Purchase Intention, and others exhibit negligible effects.



Source: Primary Data

Figure No. 5. 32: f-square of the independent variable of Attitude-Intention model

Table No. 5. 64: f-square of the independent variables of Attitude-Intention Model

Path	f-square	Interpretation
Appearance Consciousness -> Attitude	0.015	-
Appearance Consciousness -> Purchase Intention	0.008	-
Attitude -> Purchase Intention	0.087	Small
Hedonic Value -> Attitude	0.036	Small
Hedonic Value -> Purchase Intention	0.009	-
Perceived Behavioural Control -> Attitude	0.041	Small
Perceived Behavioural Control -> Purchase Intention	0.005	-
Perceived Price -> Attitude	0.036	Small
Perceived Price -> Purchase Intention	0.009	-
Product Knowledge -> Attitude	0.066	Small
Product Knowledge -> Purchase Intention	0.017	-
Subjective Norms -> Attitude	0.001	-
Subjective Norms -> Purchase Intention	0.002	-

Utilitarian value -> Attitude	0.061	Small
Utilitarian value -> Purchase Intention	0.034	Small

Source: Author's Compilation

5.9.3 Predictive Relevance Q^2 predictive for Attitude Intention model

In addition to evaluating the R^2 value as a measure of predictive accuracy, it is essential to assess Stone-Geisser's Q^2 predictive relevance (Q^2_{predict}) value through the Blindfolding procedure. This metric involves systematically omitting individual data points and estimating the model parameters subsequently. For a model to demonstrate predictive capability, Q^2_{predict} should exhibit a positive value. This positive value suggests that the model's prediction error for the Partial Least Squares (PLS) path is lower than the prediction error observed in naive benchmarks (Shmueli et al., 2016). A positive Q^2_{predict} value thus indicates that the model has strong predictive relevance, affirming its efficacy in forecasting outcomes based on the given constructs.

Table No. 5. 65: Stone-Geisser's Q^2 predictive relevance for Attitude-Intention model (Q^2_{predict})

Constructs	Q^2_{predict}
Attitude	0.468
Purchase Intention	0.556

Source: Author's Compilation

Table No. 5.65 illustrates that the Q^2_{predict} values for the endogenous constructs, Attitude and Purchase Intention, are greater than zero. This indicates that the research model possesses good predictive relevance. Specifically, the Q^2_{predict} value for Attitude is 0.468, and for Purchase Intention, it is 0.556. These values support the model's predictive relevance for both Attitude and Purchase Intention.

Assessment of the predictive power for the Attitude-Intention Model:

The PLS-Predict algorithm is used to assess a model's out-of-sample predictive power and in-sample explanatory power. This assessment helps determine the extent of prediction error in the study's model. The PLS-Predict method is a cross-validation technique employed to evaluate the predictive accuracy of the key-dependent construct, specifically in out-of-sample predictions (Shmueli et al., 2016). This method involves estimating a model using a training sample and then evaluating its predictive performance on data distinct from the holdout sample.

To facilitate this assessment, researchers must first determine whether the prediction error distribution is symmetric or non-symmetric. If the distribution of prediction errors is symmetric, the root mean square error (RMSE) should be compared with the naive linear regression model (LM) benchmark. If the prediction error distribution is non-symmetric, the mean absolute error (MAE) should be compared with the naive LM benchmark. This comparison generates four possible outcomes:

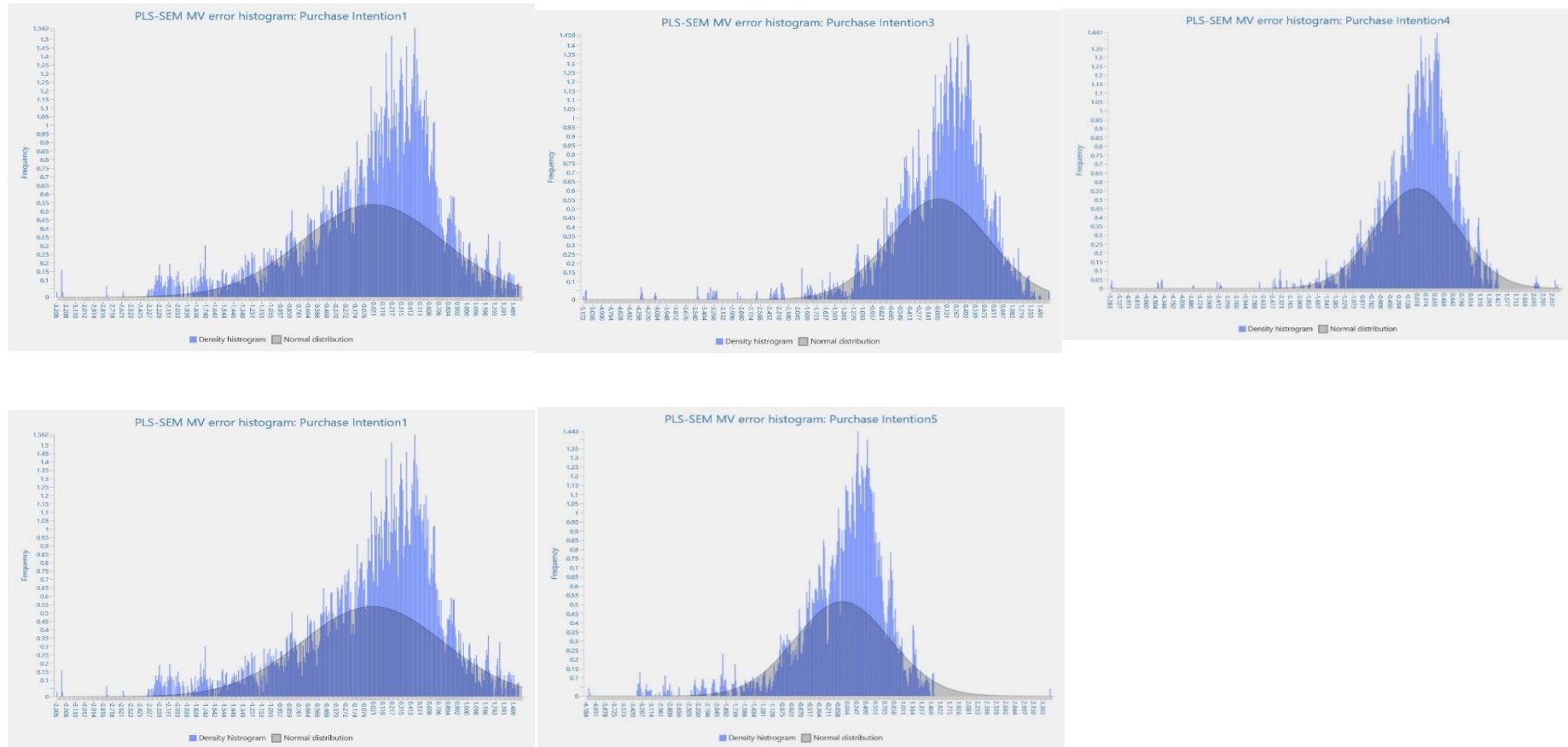
- The model lacks predictive power if the PLS-SEM error is higher than the LM error for all indicators.
- The model has low predictive power if the PLS-SEM error is greater than the LM error for a minority of the indicators.
- The model has moderate predictive power if the PLS-SEM error is less than the LM error for a majority of the indicators.
- The model has high predictive power if the PLS-SEM error is less than the LM error for all indicators (Shmueli et al., 2016).

In this study, the PLS-Predict approach with $k=10$ folds and ten repetitions was used to assess the model's predictive capability, as recommended by (Shmueli et al.,

2016). Initially, the model's prediction error distribution was examined. The charts presented in Figure No. 5.33 depict the distribution of prediction errors for the dependent constructs. The symmetrical distribution of prediction errors suggests that the root mean square error statistic (RMSE) should be employed with the linear regression model (LM) benchmark to assess the model's predictive capability.

This evaluation provides a robust understanding of the model's predictive performance, allowing researchers to make informed decisions about its applicability and reliability in predicting key outcomes. The methodology ensures that the model's predictions are not only accurate within the sample but also reliable when applied to new data, which is critical for practical applications and further research.

Table No. 5.66 and Figure No. 5.33 shows the predictive power of the study's model for the construct of purchase intention, which comprises five indicators. The investigation employed Partial Least Squares Structural Equation Modelling (PLS-SEM) to assess this construct. The results reveal that the PLS-SEM model demonstrates lower root mean square errors (RMSE) than the linear model (LM) for all the indicators of purchase intention. Specifically, the RMSE values for the PLS-SEM model (PI1: 0.743, PI2: 0.725, PI3: 0.721, PI4: 0.711, PI5: 0.775) are consistently lower than the corresponding LM-RMSE values (PI1: 0.749, PI2: 0.738, PI3: 0.736, PI4: 0.720, PI5: 0.778). This suggests that the predictive capability of the model employed in this investigation is robust, indicating high predictive power.



Source: Primary Data

Figure No. 5. 33 : Symmetrical distribution of prediction errors for dependent constructs of Attitude-Intention Model

Table No. 5. 66: The predictive power for dependent variable of Attitude-Intention Model

Construct	Indicator	Q ² predict	PLS-SEM	LM	PLS-LM
			RMSE	RMSE	RMSE
Purchase Intention	PI1	0.412	0.743	0.749	-0.006
	PI2	0.396	0.725	0.738	-0.013
	PI3	0.432	0.721	0.736	-0.015
	PI4	0.411	0.711	0.720	-0.009
	PI5	0.406	0.775	0.778	-0.003

Source: Author's Compilation

5.9.4 Importance-Performance Map Analysis (IPMA) for Attitude-Intention model

The Importance-Performance Map Analysis (IPMA) is a valuable enhancement of Partial Least Squares Structural Equation Modelling (PLS-SEM). It offers insights into the relative importance and performance of latent variables and their indicators within a model. Researchers can use IPMA to identify specific areas where improvements can have the most significant impact on the desired outcomes, facilitating better decision-making and resource allocation. The IPMA assesses each construct's importance by evaluating its overall effect on a specific target construct, while performance is determined by calculating the average values of the indicators associated with the construct. This analysis is particularly useful in practical contexts as it helps understand the factors that significantly influence important outcomes, which is crucial for strategic planning and effective interventions. This analysis proves to be highly valuable in practical contexts, as it aids in comprehending the factors that influence a significant outcome, which is essential for effective strategic planning and intervention.

Performance Analysis for Attitude- Intention model

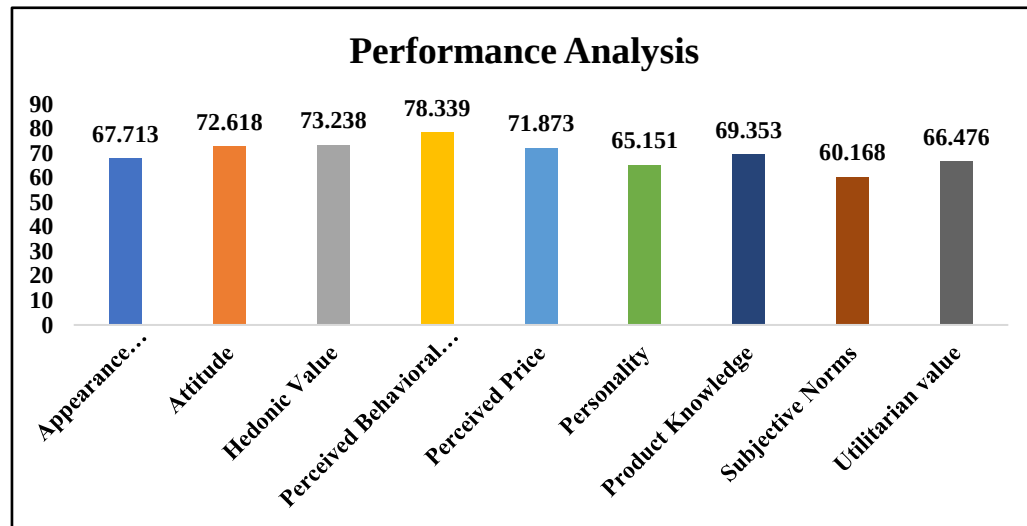
The findings of the performance analysis in Table No. 5.67 and Figure No. 5.34 highlight the significant influence of Perceived Behavioural Control on a person's intention to purchase cosmetics. The highest performance score indicates that individuals' Perceived Behavioural Control is crucial in shaping their purchase intentions. Hedonic Value, which holds the second position, suggests that the sensory satisfaction derived from cosmetics plays a crucial role in motivating consumers. The third factor, Attitude, indicates that favorable personal evaluations regarding cosmetics significantly impact individuals' intentions to make a purchase. Perceived Price, ranked fourth, underscores the significance of cost as a pivotal factor in making a purchase decision. Product Knowledge, in the fifth position, highlights the importance of consumer awareness in decision-making. Appearance Consciousness and Utilitarian Value, ranked sixth and seventh respectively, relate to individuals' concerns with self-image and practical benefits. Notably, the impact of Personality, while important to consumer behavior, is positioned eighth, indicating that individual characteristics may have a less immediate effect on predicting purchase intentions. Finally, Subjective Norms are ranked ninth, suggesting that societal pressures and norms have the least influence on customers' intentions regarding cosmetic purchases in the sample being studied.

Table No. 5. 67: Performance Analysis for Attitude- Intention model

Construct	Performance
Appearance Consciousness	67.713
Attitude	72.618
Hedonic Value	73.238
Perceived Behavioural Control	78.339
Perceived Price	71.873

Personality	65.151
Product Knowledge	69.353
Subjective Norms	60.168
Utilitarian value	66.476

Source: Author's Compilation



Source: Primary Data

Figure No. 5. 34: Performance Analysis

Importance Analysis for Attitude- Intention model

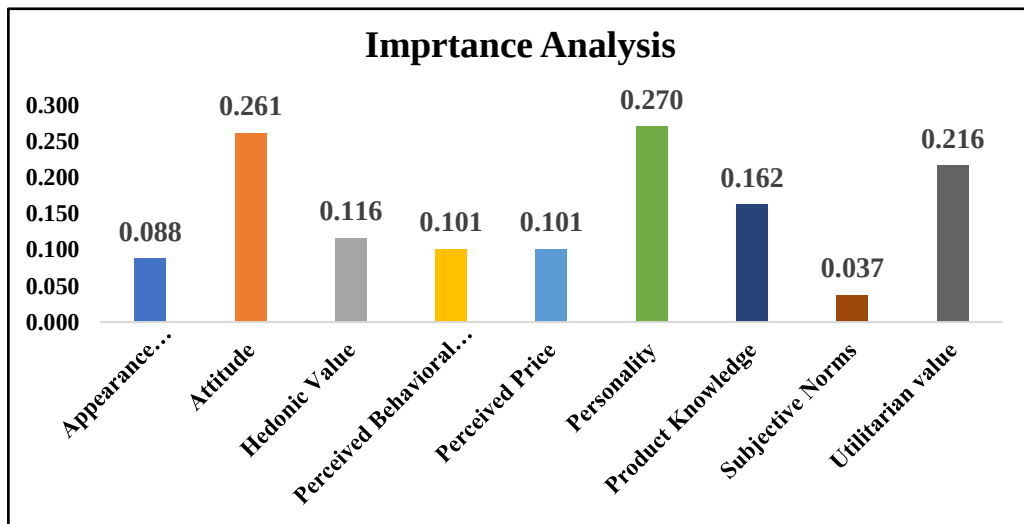
Table No. 5.68 and Figure No. 5.35 highlight the effect scores derived from the model, providing valuable insights into understanding customer behaviour within the cosmetics sector. The construct of Personality demonstrates the greatest influence, with the highest effect score of 0.270. This suggests that individual personality traits significantly impact the formation of purchase intentions. Attitude follows closely with an effect score of 0.261, indicating that personal assessments and feelings regarding cosmetics play a crucial role in determining consumer behavior. Utilitarian Value is also a significant determinant, with a score of 0.216, highlighting the importance of practical advantages associated with cosmetics.

Product Knowledge and Hedonic Value have effect scores of 0.162 and 0.116, respectively, suggesting that both knowledgeable decisions and the pleasure obtained from products significantly influence purchasing decisions. Constructs such as Appearance Consciousness (0.088), Perceived Behavioural Control (0.101), and Perceived Price (0.101), while meaningful, have a moderate impact. The analysis reveals that Subjective Norms have the least influence on cosmetic purchases, with the lowest effect score of 0.037, indicating that societal pressures are not as persuasive in this context. This analysis of effect sizes emphasises the intricate interaction of individual, practical, and societal factors in purchasing cosmetics.

Table No. 5. 68: The Importance Analysis for Attitude-Intention model

Construct	Effect Score
Appearance Consciousness	0.088
Attitude	0.261
Hedonic Value	0.116
Perceived Behavioural Control	0.101
Perceived Price	0.101
Personality	0.270
Product Knowledge	0.162
Subjective Norms	0.037
Utilitarian value	0.216

Source: Author's Compilation



Source: Primary Data

Figure No. 5. 35: The Importance Analysis for Attitude- Intention model

Importance Performance Map Analysis (IPMA) for Attitude-Intention Model

According to the IPMA analysis in Table No. 5.69, and Figure No. 5.36, Personality has the most significant impact size of 0.270, despite having a moderate performance score of 65.151. This indicates that Personality is the most influential individual trait affecting purchase intention towards cosmetic products. Attitude, with an effect size of 0.261 and a strong performance score of 72.618, also plays a significant role in consumers' purchase decisions, highlighting the importance of favourable evaluations. Utilitarian Value holds notable significance, as evidenced by its impact size of 0.216, underscoring the practical advantages that influence customer behaviour.

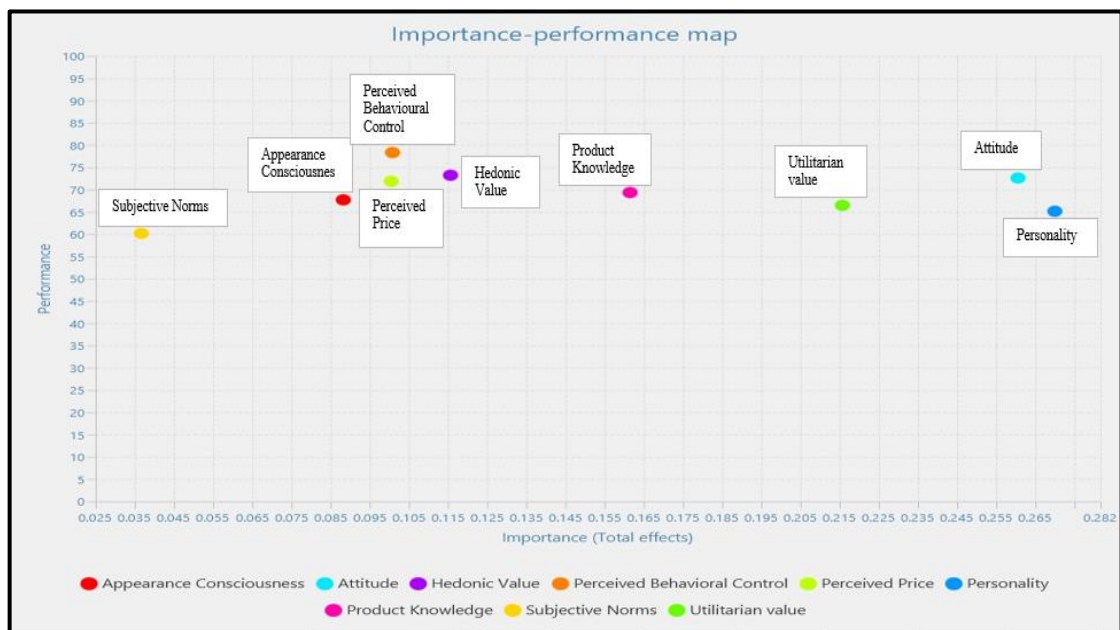
Product Knowledge and Hedonic Value have effect sizes of 0.162 and 0.116, respectively, indicating that both product information and pleasure obtained from items influence purchasing decisions, albeit to a lesser degree. Conversely, Subjective Norms, with the smallest effect size of 0.037, indicate that social pressures have a negligible impact on consumers' propensity to purchase cosmetics. This analysis presents a clear ranking of factors that impact purchase intention in the cosmetic sector, emphasising

the importance of individual personality traits, practical benefits, and personal evaluations over social influences.

Table No. 5. 69: The Importance-Performance Map Analysis (IPMA) for Attitude-Intention model

Construct	Performance	Effect size
Appearance Consciousness	67.713	0.088
Attitude	72.618	0.261
Hedonic Value	73.238	0.116
Perceived Behavioural Control	78.339	0.101
Perceived Price	71.873	0.101
Personality	65.151	0.270
Product Knowledge	69.353	0.162
Subjective Norms	60.168	0.037
Utilitarian value	66.476	0.216

Source: Author's Compilation



Source: Primary Data

Figure No. 5. 36: The Importance-Performance Map Analysis (IPMA) for Attitude- Intention model

5.9.5 Necessary Condition Analysis for Attitude-Intention model

Necessary Condition Analysis (NCA) is a distinctive data analysis method used to determine the "necessary-but-not-sufficient-condition" effects between independent and dependent variables (Dul, 2016; Dul et al., 2020). This approach helps researchers identify the statistical significance of necessary conditions for an outcome, ensuring that the observed effect size is not due to chance.

According to Dul (2016), NCA involves creating a scatter plot to depict the X-Y relationship. The absence of data points in the scatterplot's upper left corner indicates a "necessary but not sufficient condition." To separate this corner from the rest of the plot, two ceiling lines are used: "Ceiling Envelopment – Free Disposal Hull" (CE-FDH) and "Ceiling Regression – Free Disposal Hull" (CR-FDH). CE-FDH is suitable for discrete (categorical) data, while CR-FDH is used for continuous data (Vis & Dul, 2018). These ceiling lines ensure that most observations fall on or below them, with CE-FDH achieving 100% accuracy and CR-FDH typically over 95% accuracy (Dul, 2016).

The region above the ceiling line is known as the ceiling zone, which indicates the effect size (d) of the "necessary but not sufficient condition." The effect size (d) is calculated as the ratio of the ceiling zone (C) to the total space containing observations, called the Scope (S), expressed as ($d=C/S$). Dul (2016) proposed four cut-off ranges for the effect size: $0 < d < 0.1$ (small), $0.1 < d < 0.3$ (medium), $0.3 < d < 0.5$ (large), and $d > 0.5$ (very large). The approximate permutation test is used to compute p-values, which helps assess the statistical significance of the observed effect sizes (Dul et al., 2020).

Conducted Necessary Condition Analysis (NCA) following the methodology described by (Richter et al., 2020). The analysis aimed to evaluate the extent of

necessity associated with various predictors of purchase intention towards cosmetic products. Initially, we established the research objective and assessed the sufficiency of the data regarding its distribution, measurement level, presence of outliers, and sample size. We then employed PLS-SEM to validate the measurement and structural models. After extracting latent variable scores, we conducted NCA using SmartPLS version 4 software.

The NCA results included parameters related to the ceiling lines (CE-FDH and CR-FDH) Table No. 5.70 and the bottleneck Table No. 5.71. The scatter plots Figure No. 5.37 showed an empty upper left corner, suggesting a "necessary but not sufficient condition." The CE-FDH line was used for interpretation, suitable for discrete data graded on a seven-point Likert scale.

Table No. 5.70 presents the NCA parameters, including effect size, type of effect size, significance value, accuracy, and conditional inefficiency. The effect size (d) was calculated as the ratio of the ceiling zone (C) to the total space containing observations ($d = C/S$), ranging from 0.011 to 0.205. Constructs like Appearance Consciousness, Perceived Price, and Subjective Norms had small effect sizes, while Attitude, Hedonic Value, PBC, Personality, Product Knowledge, and Utilitarian Value had medium effect sizes.

Conditional inefficiency for Appearance Consciousness was 74.92, indicating that an appearance consciousness level above 25.08% is necessary to achieve the highest level of purchase intention. Similar interpretations apply to other constructs, such as Attitude (48.85%), Hedonic Value (63.69%), and so on.

The bottleneck Table No. 5.71 helps determine the necessary conditions for achieving specific levels of purchase intention. For instance, to attain an 80% purchase

intention level, conditions like Appearance Consciousness (1.18%), Attitude (19.27%), Hedonic Value (2.60%), PBC (7.57%), and others must be present. The ranking shows that Attitude is the most important variable, followed by Utilitarian Value, Personality, PBC, Product Knowledge, Hedonic Value, Appearance Consciousness, and Perceived Price.

Table No. 5. 70: NCA Effect size and Accuracy

Construct	Effect size (d)	Type of Effect Size	Permutation p value	Accuracy	Condition inefficiency	Outcome inefficiency
Appearance Consciousness	0.051	Small	0.003	99.645	74.92	59.55
Attitude	0.205	Medium	0.000	98.818	51.15	16.21
Hedonic Value	0.185	Medium	0.002	98.227	36.31	41.76
PBC	0.110	Medium	0.000	99.409	53.98	52.15
Perceived Price	0.011	Small	0.110	99.882	91.13	75.00
Personality	0.168	Medium	0.000	99.645	55.91	23.85
Product Knowledge	0.105	Medium	0.000	99.527	61.74	44.97
Subjective Norms	0.019	Small	0.188	99.409	85.94	72.52
Utilitarian value	0.150	Medium	0.000	99.054	51.36	38.47

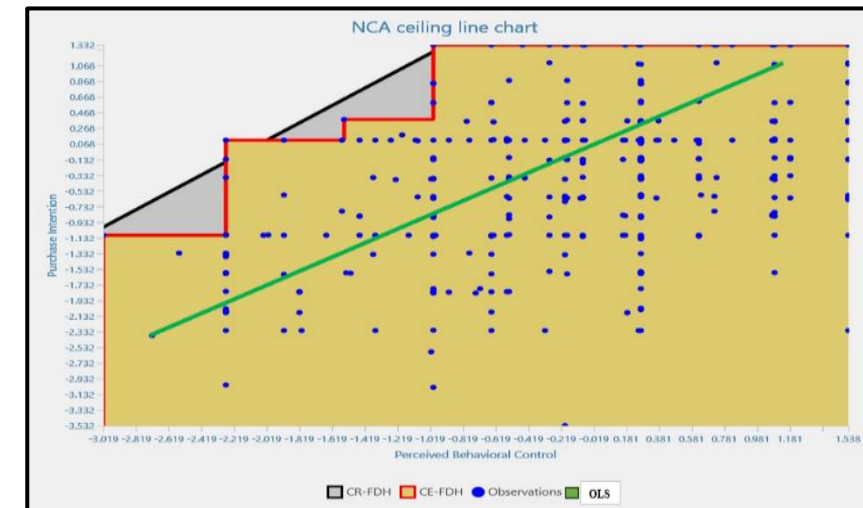
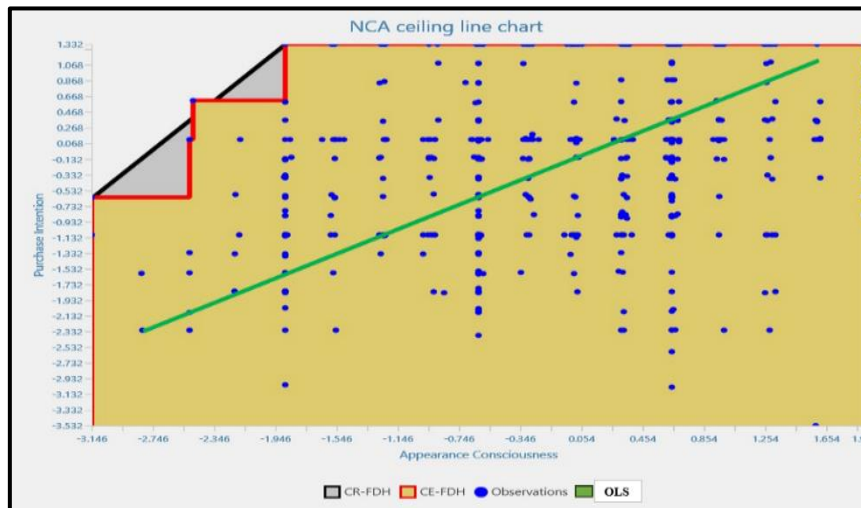
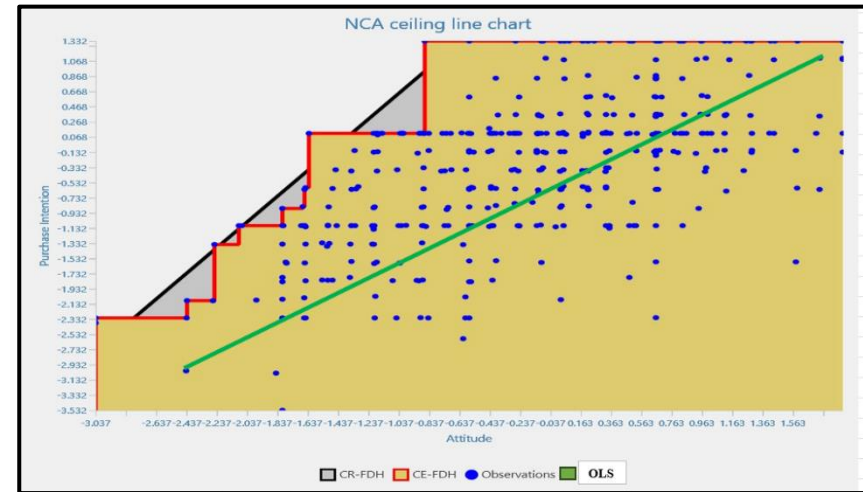
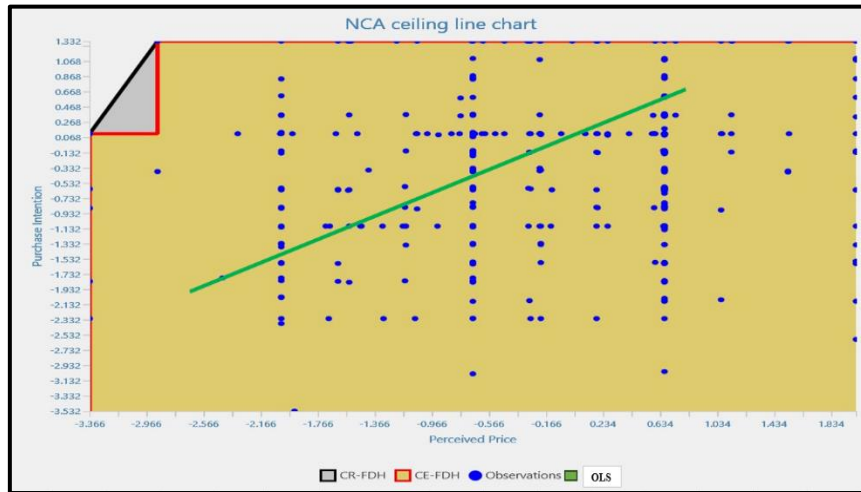
Source: Author's Compilation

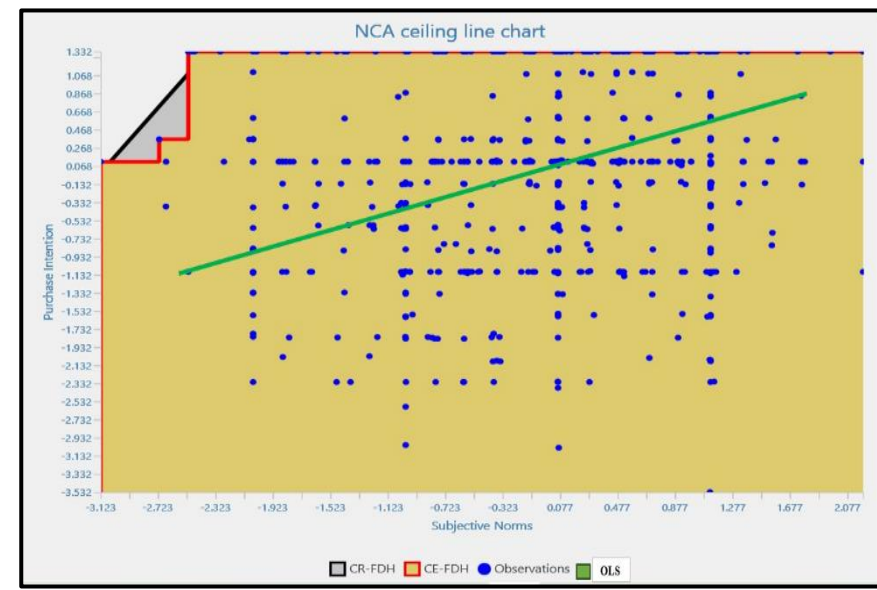
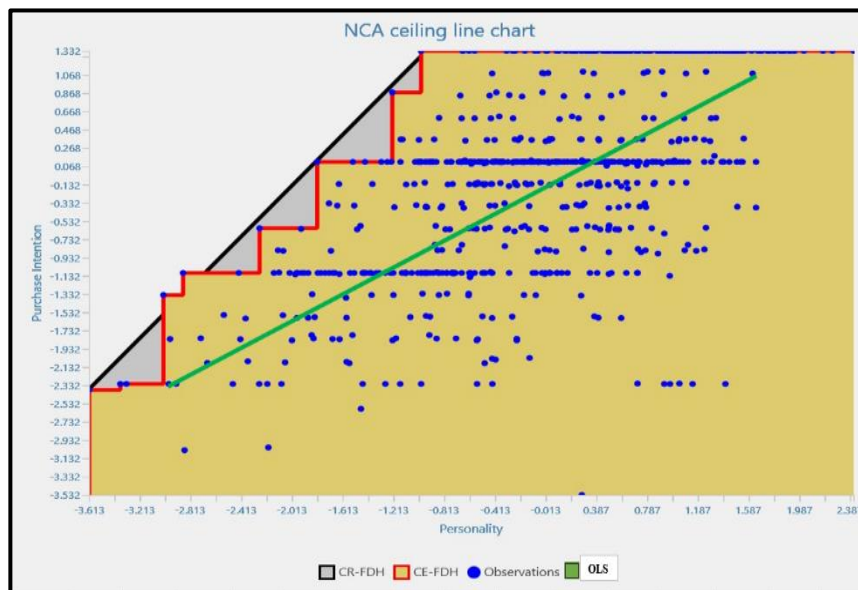
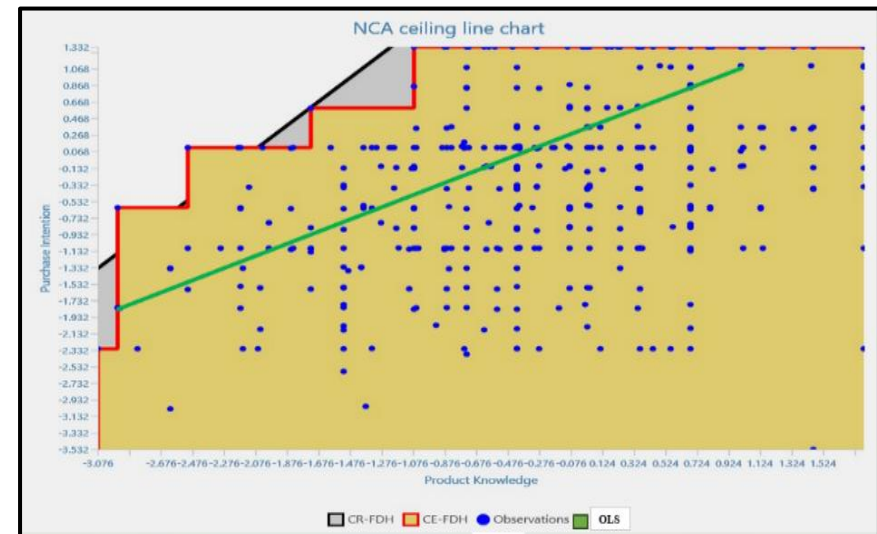
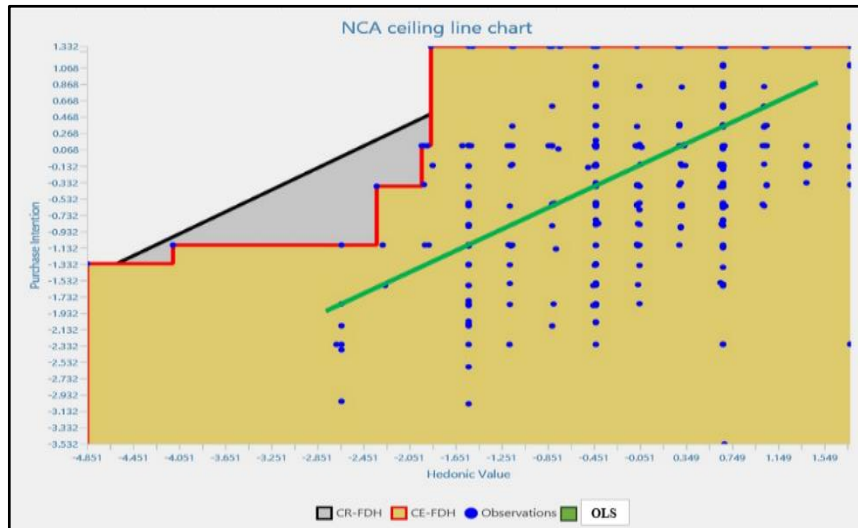
Table No. 5. 71: Bottleneck Table for Purchase Intention (in percentage).

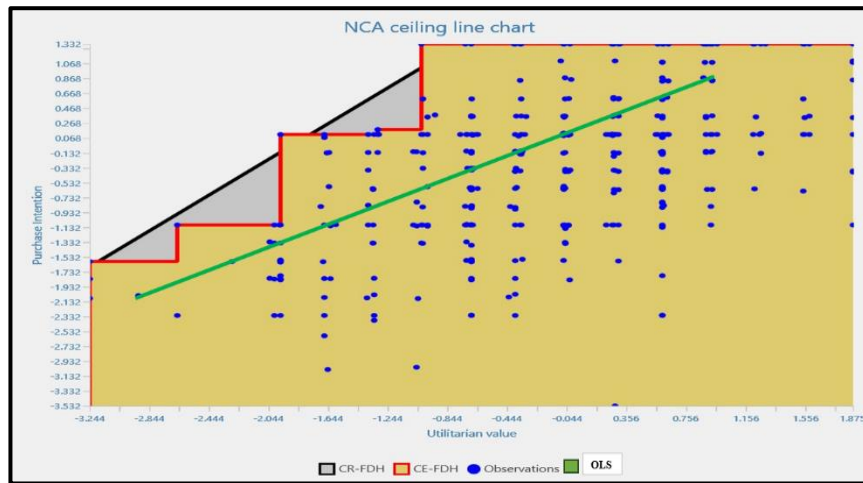
PI	AC	Atti	HV	PBC	PP	Pers	PK	SN	UV
0.00%	NN	NN	NN	NN	NN	NN	NN	NN	NN
10.00%	NN	NN	NN	NN	NN	NN	NN	NN	NN
20.00%	NN	NN	NN	NN	NN	NN	NN	NN	NN
30.00%	NN	1.18	NN	NN	NN	0.36	0.12	NN	NN
40.00%	NN	1.18	NN	NN	NN	0.36	0.12	NN	0.59
50.00%	NN	1.30	0.12	NN	NN	0.83	0.12	NN	0.59
60.00%	0.47	7.21	1.42	0.36	NN	2.13	0.12	NN	1.77
70.00%	0.47	7.92	1.89	0.36	NN	5.08	1.06	NN	1.77

80.00%	1.18	19.27	2.60	7.57	0.83	10.40	4.73	0.24	12.41
90.00%	2.01	19.27	2.60	10.99	0.83	10.40	13.36	0.71	12.41
100.00%	2.01	19.27	2.60	10.99	0.83	13.95	13.36	0.71	12.41

Source: Author's Compilation







Source: Primary Data

Figure No. 5. 37: Necessary Condition Analysis scatterplots for Attitude-Intention model.

Table No. 5.70 and Table No. 5.71 present the results of the Necessity Condition Analysis (NCA), which highlights the critical factors required to achieve varying levels of purchase intention towards cosmetic products. These findings provide valuable insight into the specific contributions of each factor as the level of purchase intention increases.

At the 60% level of purchase intention, Attitude is the most critical factor, requiring 7.21%, followed by Personality at 2.13%, and Utilitarian Value at 1.77%. Other factors like Hedonic Value (1.42%), Appearance Consciousness (0.47%), and PBC (0.36%) play a smaller yet notable role. Product Knowledge contributes minimally at this level, with only 0.12% required.

As the purchase intention increases to 80%, the requirement for Attitude rises significantly to 19.27%, underscoring its importance. Personality also becomes more critical, demanding 10.40%, while Utilitarian Value and PBC require 12.41% and 7.57%, respectively. Product Knowledge grows in significance at 4.73%, while Hedonic Value needs 2.60%. Appearance Consciousness and Subjective Norms are less critical at this stage, requiring 1.18% and 0.24%, respectively.

At the 100% level of purchase intention, the importance of Attitude remains at 19.27%, reaffirming its dominant role throughout all levels. Personality demands 13.95%, Product Knowledge 13.36%, and Utilitarian Value 12.41%, indicating that these factors are increasingly vital as purchase intention reaches its peak. PBC requires 10.99%, while Hedonic Value remains at 2.60%. Appearance Consciousness and Subjective Norms require 2.01% and 0.71%, respectively.

In summary, Attitude consistently emerges as the most significant factor across all levels of purchase intention. Personality and Product Knowledge also become

increasingly critical as the purchase intention intensifies. Utilitarian Value and PBC contribute significantly, especially at higher levels. Appearance Consciousness, Hedonic Value, and Subjective Norms have a lower but still important influence, depending on the target level of purchase intention. This analysis provides a comprehensive understanding of the factors that drive purchase intentions within the cosmetic industry.



Discussion and Conclusion

This study developed a comprehensive model integrating the Big Five Personality Traits and the Theory of Planned Behavior (TPB) to explore attitudes and intentions toward cosmetic use. The primary objective was to understand consumers' attitudes and intentions regarding cosmetic products better. Additionally, the research examined the mediating role of Attitude between personal and product factors with purchase intentions for cosmetic products. Furthermore, the study investigated the moderating role of Personality, which is treated as a second-order formative construct within the TPB framework. It also compared the moderating effects of gender, marital status, and place of residence on the determinants of the TPB and purchase intentions for cosmetic products. Necessary Condition Analysis (NCA) was conducted to identify essential conditions for customers' purchase intentions. The results from the models, including mediation, moderation, Multi-Group Analysis (MGA) using measurement invariance of composite models (MICOM), and NCA, are analyzed in Chapter 5. This

chapter discusses the findings of the Knowledge, Attitudes, and Practices (KAP) survey and the quantitative study, elucidates the theoretical contributions and management implications, addresses the study's limitations, provides suggestions for future research, and concludes the study.

6.1 Findings and Discussion of the Knowledge, Attitude and Practice (KAP) Survey

The Knowledge Attitude Practice survey evaluates how much people in the community know about various topics. A KAP survey specifically examines the Knowledge, Attitudes, and Practices of a particular population. In this study, the survey aimed to understand the target population's knowledge, attitudes, practical use of cosmetic products, and the key determinants influencing their purchase intentions. Below are the findings from the KAP survey conducted on 128 respondents.

The demographic profile of respondents shows a notable female representation (65%), with most individuals aged 20-35 years (70%). Most participants are married (55%) and live in urban areas (59%). Regarding education, over 49% hold a postgraduate degree, with the majority (66%) working in the service industry.

Survey results indicate a high level of knowledge about cosmetic products among respondents, with 72% reporting a solid understanding of the cosmetics they purchase and an equal proportion familiar with green cosmetics. However, 68% know the concept of green cosmetics, and 81% know the distinction between chemical and green cosmetics. Notably, 86% understand the hazards of using chemical cosmetics.

Regarding attitudes towards cosmetic products, a significant majority (90%) believe that using cosmetics based on necessity contributes to developing a favorable attitude towards purchase intentions. Additionally, 86% agree that product knowledge

positively influences their Attitude. In comparison, 83% believe advertising effectively fosters a positive attitude towards purchasing cosmetics.

Regarding the actual use of cosmetic products, a significant proportion (65%) use a combination of chemical and green cosmetics. A considerable number of participants (34%) use cosmetics daily, and 78.10% spend less than 1000 monthly on cosmetics. The primary advantage of using cosmetics mentioned is the enhancement of physical appearance (41.40%), followed by boosting confidence (26.60%) and enhancing Personality (23.40%).

The research findings indicate that most respondents (60.20%) use fragrance preparations, followed by personal cleaning (50.00%) and skin care preparations (46.90%). The respondents identified behavioral control (68.80%), appearance consciousness (68.00%), and product price (66.40%) as factors influencing purchase intention. Social norms (63.30%) and utilitarian value (60.20%) also significantly impact purchase intentions.

In conclusion, the KAP survey analysis reveals that participants have substantial knowledge about cosmetic items, maintain positive attitudes towards their use, and demonstrate specific behaviors in their application. Various factors, including behavioral control, appearance consciousness, and product price, significantly influence their purchase intention, playing a crucial role in the decision-making process regarding cosmetic products.

6.2 Quantitative Research

The quantitative data were collected through a survey, with questionnaires distributed in person to participants at their workplaces and residences. Distinct samples were utilized: one was used for the pilot study to refine the questionnaire, and the final

version of the questionnaire was used to test the proposed hypotheses using structural equation modelling.

6.2.1 Pilot Study and Exploratory Factor Analysis

The pilot study aimed to ensure all factors loaded appropriately on their respective constructs. Exploratory Factor Analysis (EFA) was conducted to identify the dimensions of each construct and avoid future issues related to cross-loading and variance inflation factor (VIF). Items with loadings below 0.05 and those with cross-loading issues were deleted. Cronbach's alpha tests were performed to check the scale reliability, with all constructs exceeding the cut-off Value of 0.60, indicating good scale reliability. EFA and reliability tests were performed using IBM SPSS Statistics Version 27 software.

6.2.2 Confirmatory Factor Analysis (CFA)

CFA was conducted with a separate sample of 846 respondents to confirm construct validity further. The PLS-SEM algorithm was used to verify the measurement model using SmartPLS version 4 software. The primary objective of CFA was to assess the constructs' convergent and discriminant validity. Convergent validity was evaluated through outer loadings, cronbach's alpha, composite reliability, and average variance extracted (AVE). Discriminant validity was evaluated using the Fornell and Larcker criterion, Cross-loading, and the Heterotrait-Monotrait ratio (HTMT).

6.2.3 Reliability of Second-order Model: Reflective-Formative Model

To evaluate the reliability and validity of second-order reflective-formative constructs, three methods were used: redundancy analysis, collinearity assessment of indicators/sub-constructs (first-order constructs), and evaluation of the significance of outer weight and outer loading of each indicator/sub-construct using t-values, p-values,

and significance levels. This method tests the convergent and discriminant validity of the formative personality construct. Redundancy analysis measured convergent validity, while inner VIF and outer weights suggested discriminant validity for the formative constructs.

6.2.4 Analysis of data

Structural Equation Modelling (SEM) was used to analyze the data. The analysis was performed using SmartPLS version 4 software. Results from PLS output were used to test the hypotheses based on standardized regression weights (β), confidence intervals (CI), and probability values (p). Path analysis was employed to test the relationships between constructs in the models. Multi-group analysis using the measurement invariance of composite models (MICOM) procedure tested moderation across multiple relationships in the Theory of Planned Behavior research model. Necessary Condition Analysis (NCA) was used to identify the factors required to reach a specific percentage of purchase intention towards cosmetic products.

These comprehensive methods ensured a robust data evaluation, providing valuable insights into the factors influencing purchase intentions towards cosmetic products. The detailed analysis and rigorous testing of the constructs contributed to the study's reliability and validity, offering a strong foundation for the research findings.

6.3 Findings and Discussion

The primary objective of this study was to examine the influence of the Big Five Personality Traits, as well as personal and product determinants, on the Intention to purchase cosmetic products. This relationship was studied by integrating two theories and various other factors. One is the Theory of Planned Behavior (TPB), and the other is the Big Five Personality Trait theory. The results obtained from the analysis of

various objectives are explained in Chapter V, and a summary of these findings is presented as follows:

1. **Influence of the Big Five Personality Traits on Purchase Intention towards**

Cosmetic Products: The study found that all personality traits significantly impact consumers' purchase intention toward cosmetic products. The researcher analyzed traits like Openness, conscientiousness, extraversion, agreeableness, and neuroticism to understand their influence and impact on buying behavior.

2. **Determinants shaping the consumer attitude towards cosmetic products:**

The study revealed that utilitarian value and product knowledge were the most significant factors influencing attitudes, followed by perceived behavioral control and hedonic value. Perceived price and appearance consciousness also had a notable impact. Social norms were found to have an insignificant effect and were therefore not accepted. These findings emphasize the importance of practical benefits, knowledge, and perceived control in shaping consumer attitudes toward cosmetic products.

3. **Examine the factors influencing the Intention of consumers to purchase**

cosmetic products: The study identified several key factors influencing consumers' intentions to purchase cosmetic products. Attitude toward the product emerged as the most significant predictor, followed by utilitarian value and product knowledge. Hedonic value, perceived behavioral control, and accessibility also significantly influenced purchase intentions. Social norms, however, were found to have an insignificant impact and were subsequently rejected as a predictor. These findings highlight the predominance of personal attitudes and product utility in shaping purchase intentions.

4. **Examining the TPB in the cosmetic context:** The study tested the Theory of Planned Behavior (TPB) to identify the key factors influencing consumers' purchase intentions toward cosmetic products. Attitude toward the product emerged as the most significant determinant, strongly shaping purchase intentions, which aligns with the TPB framework. Perceived behavioral control also played a substantial role, indicating that consumers' confidence in their ability to purchase cosmetics significantly impacts their intentions. Subjective norms, while less influential than attitude and perceived control, were still found to positively impact purchase intentions, underscoring the role of societal expectations in consumer decision-making. These findings confirm the relevance of the TPB in understanding consumer behavior in the cosmetic industry.
5. **Evaluate the mediating role of attitude in the relationship between personal and product factors and purchase Intention towards cosmetic products:** The study evaluated the mediating role of attitude in the relationship between personal and product factors with purchase intentions for cosmetic products. It was found that attitude partially mediated the effects of utilitarian value, product knowledge, hedonic value, perceived behavioral control, perceived price, and appearance consciousness on purchase intentions, indicating that these factors, directly and indirectly, influence purchase intentions through consumer attitudes. However, social norms did not demonstrate a significant mediating effect, suggesting that attitude does not mediate the relationship between social norms and purchase intentions. The findings underscore the central role of attitude in shaping purchase intentions, particularly in relation to product-related factors.

6. **Examining the moderating effect of Personality on the relationship between TPB dimensions and purchase intention:** The study examined the moderating effect of personality on the relationship between the Theory of Planned Behavior (TPB) dimensions and purchase intention. It was found that personality significantly moderated the relationship between perceived behavioral control and purchase intention, indicating that personality traits influence how consumers' perceived control impacts their purchase decisions. However, personality did not significantly moderate the relationships between attitude and purchase intention or between social norms and purchase intention. These findings highlight that while personality plays a role in some aspects of consumer behavior, its influence may be limited to specific TPB dimensions.
7. **Multigroup Analysis to discover significant differences between Gender, Marital status, and Residence in the structural equation model:** The Multigroup Analysis revealed significant differences in the structural equation model across gender, marital status, and place of residence. Attitude consistently emerged as the most influential factor in shaping purchase intentions across all groups, followed by perceived behavioral control. Social norms had a variable influence depending on the group, with some groups showing a significant impact while others did not. Gender, marital status, and place of residence all moderated the relationships between the Theory of Planned Behavior dimensions and purchase intentions, highlighting the importance of considering demographic factors in understanding consumer behavior toward cosmetic products.
8. **Sufficient factors required to achieve the necessary level of purchase intention:** The analysis revealed that specific improvements in key factors are

necessary to achieve higher levels of purchase intention for cosmetic products. Attitude requires the most significant enhancement, needing a 19.27% increase to reach both 80% and 100% purchase intention. Hedonic value and perceived behavioral control also play crucial roles, requiring improvements of 2.60% and 7.57% respectively for 80% purchase intention, with further increases needed for 100%. Personality and product knowledge similarly demand substantial attention, with required improvements of 10.40% and 4.73% at 80% intention, escalating for higher purchase goals. These findings emphasize the critical areas to target for effective consumer engagement.

These comprehensive analyses provide valuable insights into the factors influencing consumer behaviour in the cosmetic industry, highlighting the importance of personality traits, attitudes, and other determinants in shaping purchase intention towards cosmetic products.

6.3.1 Influence of the Big Five Personality Traits on Purchase Intention towards cosmetic products.

The literature review identified that the Big Five personality traits or higher-order personality theory has not been extensively explored in the cosmetic domain. During this review on purchase behavior within the cosmetic context, no studies were found that utilized the Big Five Personality Trait theory specifically. The researcher drew upon cross-disciplinary literature to understand purchase behavior, referencing works by (J. U. Islam et al., 2017; Piroth et al., 2020; Ullah & İrfanoğlu, 2021). This study aims to identify the impact of the Big Five personality traits extraversion, agreeableness, Openness, conscientiousness, and neuroticism on cosmetic purchase intention.

The results revealed that all the Big Five Personality Traits significantly impact purchase intention towards cosmetic products. Among these traits, agreeableness had the strongest impact on the purchase intention towards cosmetic products, followed by extraversion, neuroticism, and conscientiousness. Openness was negatively related to purchase intention.

Individuals with agreeableness traits, characterized by cooperativeness, may perceive cosmetics as tools for enhancing social interactions. Those with extraversion traits who seek social engagement might use cosmetics for self-expression. Neurotic individuals, prone to anxiety, might use cosmetics to boost self-confidence. Conscientious people who pay attention to detail may see cosmetics as vital for self-presentation. Conversely, individuals who are open and value diverse experiences may prioritize non-material experiences over cosmetics.

The R-squared value obtained for purchase intention was 0.407, suggesting that the Big Five Personality Traits account for 40.7% of the variability in purchase intention. The f-squared values indicated that agreeableness has a moderate effect size. In contrast, other traits had smaller effect sizes, showing agreeableness' more substantial influence on purchase intention. The Q-squared value of 0.399 supports the model's predictive validity.

The Importance-Performance Map Analysis (IPMA) showed agreeableness with the highest performance score of 70.802 and the highest importance score of 0.373, highlighting its substantial influence on purchase intention. Conscientiousness, Extraversion, Neuroticism, and Openness show lower performance scores of 66.201, 70.669, 69.751, and 73.831, respectively. Their corresponding importance scores are 0.165, 0.243, 0.176, and -0.113. This analysis underscores the significant influence of Agreeableness on purchase intention. At the same time, the other traits also contribute

meaningfully, though to a lesser extent. Notably, Openness has a negative importance score, suggesting a lesser or potentially inverse relationship with purchase intention in the context of cosmetic products.

Extraversion significantly impacts purchase intention across various categories, supporting studies that show extraversion's positive influence on social commerce and green product purchases (Ofori, Philomina & asante, 2022)(Sun et al., 2018) (Ofori et al., 2022; Sun et al., 2018;(Lissitsa & Kol, 2021). Agreeableness positively impacts the intention to purchase cosmetics, aligning with research on anthropomorphized brands and personal care products among Gen Z consumers (Faheema et al., 2022; Fazli-Salehi et al., 2022). Neuroticism and conscientiousness also positively affect purchase intention, as seen in studies on organic food purchase intentions (Chaturvedi et al., 2020). However, openness negatively influences purchase intention towards cosmetic products, suggesting that individuals with openness might prioritize non-materialistic values or alternative product categories over cosmetics.

These findings highlight the complex relationship between personality traits and consumer behavior in the cosmetic domain, emphasizing the significant role of agreeableness and the varied influence of other traits.

6.3.2 Determinants shaping the Consumer Attitude Towards Cosmetic Products

This research examined the factors influencing individuals' attitudes toward cosmetic products. The findings suggest that perceived behavioural control, appearance consciousness, utilitarian value, hedonic value, perceived price, and product knowledge positively influence attitude. The study found no significant impact of subjective norms on attitude.

Utilitarian Value emerged as the most significant factor impacting attitude, followed by product knowledge, perceived behavioural control, hedonic value, perceived price, and appearance consciousness. The model's R^2 value is 48%, indicating that it accounts for 48.1% of the variability in individuals' attitudes towards cosmetic items. The f-square results reveal that hedonic value, perceived behavioural control, perceived price, product knowledge, and utilitarian value have a small effect on attitude. In contrast, appearance consciousness and subjective norms do not significantly impact attitude.

The Q^2 predict metric indicates a predictive relevance of 46.8%, suggesting a moderate ability to predict attitudes towards cosmetic items. The Importance-Performance Map Analysis (IPMA) provides additional insight into these factors' relative significance and effectiveness. Utilitarian value has the highest importance score of 0.229, while perceived behavioural control has the highest performance score of 78.317.

These findings offer valuable insights into the determinants influencing consumers' attitudes toward cosmetic products, highlighting the importance of utilitarian and product knowledge variables. The results align with the study by (Ghazali et al., 2017), demonstrating a positive relationship between perceived behavioral control and attitude toward cosmetic products. Similarly, evidence from this study supports a positive relationship between appearance consciousness and attitude towards cosmetic products, consistent with (H. Y. Kim & Chung, 2011). Our results show a significant positive impact of utilitarian value on attitude toward cosmetic products, corroborating findings from (Ho et al., 2020). The positive effect of hedonic value on attitude is also supported by (Ghazali et al., 2017). Additionally, the results align with the study by (Hussin et al., 2013), demonstrating a positive relationship

between perceived price and attitude towards cosmetic products. Finally, our findings indicate a significant positive impact of product knowledge on Attitude toward cosmetic products, supporting studies by (Ghazali et al., 2017).

In summary, the study highlights the importance of various factors in shaping consumer attitudes toward cosmetic products, emphasizing the critical role of utilitarian value, product knowledge, and perceived behavioural control.

6.3.3 Examine the factors influencing the Purchase Intention of consumers to purchase cosmetic products.

This research investigated the personal and product factors influencing individuals' intention to purchase cosmetic products. The findings from the 10000 subsamples with bootstrap analysis revealed that several factors, namely perceived behavioral control, attitude, appearance consciousness, utilitarian value, hedonic value, perceived price, and product knowledge, have a statistically significant impact on purchase intention. However, subjective norms did not influence purchase intention.

The analysis reveals that attitude is a predictor's highest significance level, followed by utilitarian value, product knowledge, perceived price, hedonic value, perceived behavioural control, and appearance consciousness. Conversely, subjective norms exhibit the lowest level of influence. The coefficient of determination (R-squared) of 55.9% suggests that the model accounts for 55% of the variability in purchase intention. The effect size (f-square) analysis indicates that attitude, product knowledge, and utilitarian value have a small effect on purchase intention. In contrast, appearance consciousness, hedonic value, perceived behavioral control, perceived price, and subjective norms do not exhibit a statistically significant influence. The model's predictive significance, as shown by a Q-squared score of 54.6%, signifies a high level of predictability.

The Importance-Performance Map Analysis (IPMA) provides more clarity on the relative significance and effectiveness of the variables. Attitude demonstrates the highest importance score of 0.303, while perceived behavioral control exhibits the best performance score of 78.36. This study significantly contributes to understanding customers' intentions to purchase cosmetic products, emphasizing the crucial influence of attitude, utilitarian value, and product knowledge on consumers' purchase intentions.

This comprehensive analysis highlights the significant predictors of purchase intention. It provides a deeper understanding of consumer behavior in the cosmetic domain. The findings emphasize the importance of attitude, utilitarian value, and product knowledge in shaping purchase intentions.

6.3.4 Examining the Theory of Planned Behaviour (TPB) in the Cosmetic Context

This study aimed to test the Theory of Planned Behaviour (TPB) within the context of the cosmetic industry. Using Smart PLS version 4 software, a bootstrapping technique was employed with 10,000 subsamples to evaluate the path coefficients. The findings suggest that attitudes, perceived behavioral control, and subjective norms significantly impact purchase intention. Among these variables, attitude exhibits the highest beta value of 0.528, followed by PBC at 0.225 and SN at 0.071. These beta values are all statistically significant at the 0.05 level. Based on the obtained R-squared value of 0.47, it can be concluded that the model accounts for approximately 47% of the variability seen in purchase intention.

The examination of effect size (f-square) indicates that attitude has the highest effect, perceived behavioural control has a small effect, and subjective norms do not significantly affect purchase intention. The model demonstrates a moderate level of predictive ability, as evidenced by its predictive relevance (Q^2) for purchase intention,

which is measured at 0.464. The Importance-Performance Map Analysis (IPMA) further clarifies the constructs' comparative significance and effectiveness. Attitude demonstrates a performance score of 72.611 and an importance score of 0.528, perceived behavioral control displays a performance score of 78.362 and an importance score of 0.225, and subjective norms exhibit a performance score of 60.172 and an importance score of 0.071.

The results emphasize the crucial influence of attitude and perceived behavioral control on customers' intentions to purchase cosmetic products, highlighting the relatively smaller effect of subjective norms. Our results show that all the Theory of Planned Behaviour determinants, perceived behavioral control, subjective norms, and attitude have a significant positive impact on the intention to purchase cosmetic products, substantiating findings from studies by (C. Hsu et al., 2017; Moharam, 2023; Ngo-Thi-Ngoc et al., 2024).

Overall, this study demonstrates that attitude is the most influential factor in determining purchase intention, followed by perceived behavioral control. The relatively minor impact of subjective norms suggests that social influences are less critical in the decision-making process for cosmetic products in this study. These insights can help marketers and businesses tailor their strategies to emphasize the importance of personal attitudes and perceived control over purchasing decisions, rather than focusing heavily on social pressures.

6.3.5 Evaluating the Mediating Role of Attitude in the Relationship Between Personal and Product Factors with the Purchase Intention of Cosmetic Products

This study aimed to investigate the mediating effect of attitude on the relationship between personal and product factors and purchase intention within

cosmetic products. The mediation effects were assessed using Smart PLS version 4 software through a bootstrapping method with 10,000 subsamples. The analysis adhered to a three-step methodology, encompassing the total, indirect, and direct effects assessment.

Firstly, the study revealed substantial relationships between perceived behavioral control, appearance consciousness, utilitarian value, hedonic value, perceived price, and product knowledge on purchase intention. However, subjective norms did not significantly impact purchase intention.

Secondly, the study investigated the indirect effects mediated by attitude. Statistically significant mediation effects were found in the relationships between perceived behavioral control, appearance consciousness, utilitarian value, hedonic value, perceived price, product knowledge, and purchase intention. Conversely, the mediation effect of attitude between subjective norms and purchase intention was statistically insignificant. This step confirmed that attitude mediates the relationship between perceived behavioral control, appearance consciousness, utilitarian value, hedonic value, perceived price, and product knowledge with purchase intention. Further, testing the direct effect was essential to determine whether the mediation was full or partial.

Lastly, the evaluation of direct effects indicated substantial direct impacts from perceived behavioral control, appearance consciousness, utilitarian value, hedonic value, perceived price, and product knowledge to purchase intention. These results suggest that attitude partially mediates these relationships. However, the direct impact of subjective norms on purchase intention was not statistically significant, indicating no mediation effect.

In summary, the study confirmed partial mediation of attitude in the relationships between perceived behavioural control, appearance consciousness, utilitarian value, hedonic value, perceived price, and product knowledge with purchase intention. However, subjective norms did not mediate the relationship with purchase intention.

6.3.6 Analyzing the Moderating Influence of Personality on the Relationship Between TPB Dimensions and Purchase Intention

This study aimed to explore the moderating effect of personality, conceptualized as a second-order formative construct, on the relationships between attitude, subjective norms, and perceived behavioral control with purchase intention within the context of cosmetic products. The Personality construct was operationalized using first-order reflective constructs: agreeableness, conscientiousness, extraversion, neuroticism, and openness. After establishing the reliability of the reflective-formative second-order construct, the moderation analysis was performed using Smart PLS version 4 software with a bootstrapping procedure of 10,000 subsamples.

The analysis showed that personality significantly but negatively affects the relationship between perceived behavioral control and purchase intention. This means that as personality traits become stronger, people may rely less on external factors like control or ability when deciding to purchase cosmetic products because their personality has a stronger influence on their decisions.

In contrast, the interaction between personality and attitude in influencing purchase intention was insignificant, indicating that personality traits do not substantially alter how attitude affects purchase intention towards cosmetic products. This implies that regardless of an individual's personality, their attitude consistently

predicts their purchase intention. Similarly, the interaction between personality and subjective norms on purchase intention also showed no significant effect, suggesting that personality does not moderate the influence of social norms or pressures on an individual's intention to purchase cosmetics. Thus, social influences on purchase decisions are relatively stable across different personality types.

Overall, the analysis underscores the complex role of personality traits in moderating the effects of critical factors on purchase intention. While personality traits significantly influence the relationship between perceived behavioral control and purchase intention, they do not notably alter the impact of attitude or social norms on purchase decisions in the cosmetic industry.

6.3.7 Multigroup Analysis is used to discover significant differences between gender, marital status, and residence in the structural equation model.

This study employed a pooled data technique for Structural Equation Modelling (SEM) analysis to thoroughly examine the outcomes' consistency across various demographic groups, specifically gender, marital status, and place of residence. To delve deeper into potential variations within these groups, a multigroup analysis was conducted. Prior research indicated heterogeneity in the SEM model across gender, marital status, and place of residence. A three-step Measurement Invariance of Composite Models (MICOM) technique was applied for each group to investigate this heterogeneity further. The MICOM methodology included tests for configural invariance, composite invariance, and the equality of composite mean values and variances. This thorough examination enabled a comprehensive understanding of the similarities and differences in the SEM model among the different demographic groups, providing valuable insights for targeted strategies and interventions.

6.3.7.1 Assess gender differences via Multi-group analysis using the MICOM procedure.

The present study employed multi-group analysis (MGA) to examine differences between genders, namely male and female, within the context of the Theory of Planned Behaviour (TPB). Before conducting the MGA, the study implemented a three-step approach to ensure configural invariance, compositional invariance, and equality of composite mean values and variances across gender groups.

The initial stage involved evaluating configural invariance to ascertain whether the male and female groups employed identical indicators and underwent comparable data processing procedures, including handling outliers, missing data, and coding errors. The results validated configural invariance, signifying that the model's structure remained stable across different gender groups.

The second stage entailed establishing compositional invariance by comparing the 5% percentile quantiles with the original correlations for all constructs and examining permutation values. The findings indicated that the permutation values were statistically significant and greater than 0.05, implying no disparities between males and females. This confirms compositional invariance.

The third phase encompassed two components: evaluating the equality of means (Step 3a) and the equality of variances (Step 3b) among gender groups. In Step 3a, it was determined that all the means for model constructs, such as Attitude, Perceived Behavioural Control, Purchase Intention, and Subjective Norms, were not equal. Step 3b involved the establishment of equality of variances. It was seen that Attitude, Perceived Behavioural Control, and Subjective Norms exhibited variance inequality.

Partial invariance was inferred because not all constructs satisfied equal means and variances criteria.

Finally, multi-group analysis was used to compare path coefficients between males and females. The results demonstrated no significant difference between genders in the impact of attitude on purchase intention and perceived behavioural control on purchase intention. However, a gender difference was found in the relationship between subjective norms and purchase intention towards cosmetic products.

This comprehensive approach allowed for a nuanced understanding of gender differences in the TPB model, highlighting areas where gender does and does not influence purchase intention in the cosmetic domain. This understanding can inform targeted strategies and interventions in marketing and consumer behavior studies.

6.3.7.2 Assess Marital Status differences via multi-group analysis using the MICOM procedure.

The study aimed to ascertain disparities in marital status (married and unmarried) within the Theory of Planned Behavior (TPB) model by implementing multigroup analysis (MGA). Before conducting the MGA, the study verified that the groups had configural invariance and compositional invariance, ensuring that the mean values and variances of the composites were the same across all groups. The results revealed that married and unmarried groups used the same indicators and carried out similar data processing procedures, establishing configural invariance. The findings from the compositional invariance test indicated that the permutation values were statistically significant, with p-values exceeding 0.05. These results suggest no significant differences between the married and unmarried groups.

In the next step, an evaluation was conducted to determine the equality of means (Step 3a) and variances (Step 3b). The analysis revealed no significant differences in

the means of attitude, perceived behavioural control, and purchase intention, with subjective norms showing equality of mean values. In relation to variances, it was observed that all constructs, except purchase intention, displayed equality of variance, leading to the conclusion that partial invariance was established.

Lastly, multi-group analysis was used to compare path coefficients between married and unmarried individuals. The results demonstrated no significant difference in the impact of marital status on the relationships between attitude and purchase intention and perceived behavioural control and purchase intention. However, a significant difference was found in the relationship between subjective norms and purchase intention towards cosmetic products, indicating that marital status influences how social norms affect purchasing decisions.

This comprehensive approach allowed for a nuanced understanding of marital status differences in the TPB model, highlighting areas where marital status does and does not influence purchase intention in the cosmetic domain. This understanding can inform targeted strategies and interventions in marketing and consumer behavior studies.

6.3.7.3 Assess Place of residence differences via multi-group analysis using the MICOM procedure.

A multigroup analysis (MGA) was performed in this study to ascertain disparities in the Theory of Planned Behavior (TPB) framework between individuals residing in urban and rural areas. Before conducting the MGA, the study verified that the two groups had configural invariance and compositional invariance, ensuring that the mean values and variances of the composites were the same. The results revealed that the urban and rural groups employed the same indicators and underwent comparable data processing procedures, demonstrating configural invariance. The

results of the compositional invariance test indicated no significant differences between the urban and rural groups, as evidenced by permutation values exceeding 0.05.

In the next step, an assessment was conducted to determine the equality of means (Step 3a) and variances (Step 3b). The research revealed that attitude, perceived behavioural control, and purchase intention did not have equal means, while only subjective norms demonstrated equality of mean values. In terms of variance, attitude did not exhibit equality of variance. In contrast, perceived behavioural control, purchase intention, and subjective norms did. Since Step 3a (equality of mean) and Step 3b (equality of variance) were not fully established, the results indicate that partial invariance is established.

Lastly, we used multigroup analysis to compare path coefficients between urban and rural residents. The results demonstrated no significant difference between place of residence impacting the relationships between attitude and purchase intention and perceived behavioural control and purchase intention. However, a significant difference was found in the relationship between subjective norms and purchase intention towards cosmetic products, indicating that place of residence influences how social norms affect purchasing decisions.

This comprehensive approach allowed for a nuanced understanding of place of residence differences in the TPB model, highlighting areas where urban and rural contexts influence purchase intention in the cosmetic domain. This understanding can inform targeted strategies and interventions in marketing and consumer behavior studies.

6.3.8 Necessary Condition Analysis used to identify the most significant factors needed to increase cosmetic product purchase intention level.

This research aimed to determine the specific levels of determinants needed to attain a specified output level through the application of Necessary Condition Analysis (NCA). In this context, various factors required to achieve specific purchase intentions in the cosmetic domain were examined. The methodology involved a threefold procedure for data analysis, encompassing the examination of effect size, accuracy, and the bottleneck table pertaining to Purchase Intention.

First, the effect size was determined using cut-off values ranging from 0 to 1. Specifically, a cut-off value of 0.1 was used for a small effect, 0.3 for a medium effect, and 0.5 for a large effect. The study found that appearance consciousness, perceived price, and subjective norms had small effects. In contrast, attitude, hedonic value, perceived behavioural control, personality, product knowledge, and utilitarian value showed moderate impacts.

Second, an evaluation was conducted to determine the precision of the "Ceiling Envelopment – Free Disposal Hull" (CE-FDH) and "Ceiling Regression – Free Disposal Hull" (CR-FDH) models. The CE-FDH is designed to achieve high precision, specifically 100%, while the CR-FDH generally attains an accuracy exceeding 95%. All constructs in this analysis met the accuracy criterion, with values ranging from 98.227% to 99.882%.

Lastly, an analysis was conducted on the bottleneck table for purchase intention, categorizing the data into ten distinct groups ranging from 0% to 100%. The table indicates a correlation between higher levels of purchase intention and specific levels of determinants. For instance, at the 80% level, the minimum values required are 1.18%

for Appearance Consciousness, 19.27% for Attitude, 2.60% for Hedonic Value, 7.57% for PBC, 0.83% for Perceived Price, 10.40% for Personality, 4.73% for Product Knowledge, 0.24% for Subjective Norms, and 12.41% for Utilitarian Value.

In summary, the NCA study provides significant insights into the essential factors required to achieve desired levels of purchase intention within the cosmetic industry. The results highlight the importance of attitude, personality, and utilitarian value as variables with medium effect sizes critical in influencing purchase intentions at higher levels. These findings enhance the understanding of key factors influencing consumer behavior in the cosmetic sector, guiding marketing strategies focusing on these crucial determinants.

6.4 Conclusion

This research used the attitude-intention framework and the Big Five personality theory to explore the factors influencing the intention to purchase cosmetic products. Through comprehensive data analysis and applying the Theory of Planned Behaviour (TPB), the study provided valuable insights into the intricate relationships between personality traits, attitudes, and other determinants of purchase intention.

Firstly, the study highlighted the significant role of the Big Five Personality Traits extraversion, agreeableness, openness, conscientiousness, and neuroticism, in shaping purchase intentions towards cosmetic products. The findings revealed that agreeableness strongly influenced purchase intention, followed by extraversion, neuroticism, and conscientiousness. Openness was found to impact purchase intention negatively, suggesting that individuals with a high degree of openness might prioritize diverse experiences over material acquisitions like cosmetics.

Secondly, the research demonstrated the importance of Personal and Product factors in shaping attitudes towards cosmetic products. Utilitarian value emerged as the

most significant determinant, followed by product knowledge, perceived behavioral control, hedonic value, and perceived price. appearance consciousness had the least impact, and subjective norms were statistically insignificant in influencing attitudes.

In terms of direct influence on purchase intention, the study found that attitude was the most influential factor, followed by utilitarian value, product knowledge, hedonic value, perceived behavioural control, and appearance consciousness. Subjective norms did not significantly influence purchase intention.

The mediation analysis revealed that attitude partially mediated the relationships between perceived behavioural control, appearance consciousness, utilitarian value, hedonic value, perceived price, and product knowledge with purchase intention. However, attitude did not mediate the relationship between subjective norms and purchase intention.

Furthermore, the moderation analysis indicated that personality negatively moderated the relationship between perceived behavioral control and purchase intention. In contrast, no moderation effects were observed for attitude and subjective norms.

The multi-group analysis identified significant differences in the influence of factors across gender, marital status, and place of residence. These differences highlight the need for tailored marketing strategies considering demographic variations in consumer behavior.

Lastly, the necessary condition analysis determined the specific levels of various factors required to achieve an eighty percent level of purchase intention. The study emphasized the critical importance of attitude, utilitarian Value, and personality as key determinants.

In summary, this research comprehensively explains the factors influencing consumers' intention to purchase cosmetic products. The findings underscore the significance of individual personality traits and product-related attributes in shaping consumer behavior. These insights can guide marketers in developing targeted strategies that address the specific needs and preferences of different consumer segments, thereby enhancing the effectiveness of marketing efforts in the cosmetic industry.

6.5 Theoretical Contribution

This research has made several significant theoretical contributions to the domain of consumer behavior and marketing, with a specific focus on the cosmetic sector. Firstly, by integrating the Theory of Planned Behaviour (TPB) with the Big Five personality traits theory, the study offers a comprehensive framework for understanding the elements influencing customers' purchase intention towards cosmetic products. This integration provides a more holistic viewpoint on the relationship between personality and behavioral intentions when making decisions.

Secondly, while uncovering the negative impact of openness, the study emphasizes the significant association between personality traits agreeableness, extraversion, neuroticism, conscientiousness, and purchase intention. This contribution enhances the existing body of literature by clarifying the particular personality traits that hold significance in purchasing cosmetic products.

Thirdly, the research identifies utilitarian value as the primary determinant influencing customers' attitudes towards cosmetic products, followed by product knowledge, perceived behavioral control, hedonic value, and perceived price. This ranking offers valuable insights into the characteristics marketers should prioritize to effectively shape customer attitudes positively.

Fourthly, the study provides evidence that attitude partly mediates the associations between various factors such as perceived behavioral control, appearance consciousness, utilitarian value, and the intention to make a purchase. This highlights the significance of attitude as a mediating factor in the purchasing decision process.

Fifthly, the findings indicate that personality moderates the relationship between perceived behavioral control and purchase intention, with a negative effect. This underscores the role of specific personality traits in regulating the impact of perceived control on purchase intention.

The multi-group study reveals variations in effect sizes across different demographic groups, including gender, marital status, and place of residence. This contributes to understanding how demographic variables can influence the associations within the structural equation modeling framework in the context of cosmetic purchases.

The study confirms that attitude is a strong predictor of purchase intention, which is consistent with the findings from (Bhutto et al., 2022; Ghazali et al., 2017; Nguyen et al., 2019). This study hypothesized that perceived behavioural control has a significant direct effect on purchase intention. The results align with previous findings by (C. Hsu et al., 2017) and (Premi et al., 2019). Appearance consciousness significantly impacts purchase intention, the findings are aligning with the work of (H. Y. Kim & Chung, 2011). Enhanced utilitarian value significantly increases consumers' purchase intentions, as demonstrated by (Ho et al., 2020; Vergura et al., 2020). Hedonic value positively impacts purchase intention, aligning with findings from (Ho et al., 2020; Vergura et al., 2020). The positive impact of perceived price on purchase intentions is consistent with findings by (Hussin et al., 2013). The positive correlation

between product knowledge and purchase intentions is consistent with the findings of (Abd Rahman et al., 2015).

Lastly, the application of Necessary Condition Analysis (NCA) in this study makes a significant theoretical contribution by identifying the minimum threshold levels of various factors required to achieve specific degrees of purchase intention. By establishing these baseline requirements, the study enhances our understanding of the critical factors influencing consumer behavior in the cosmetics industry. This contribution is precious for advancing the theoretical framework surrounding consumer purchase intentions, as it highlights the non-negotiable elements that must be met to drive consumer decisions effectively. These insights provide a more precise roadmap for future research and offer a robust foundation for developing targeted marketing strategies to optimize consumer engagement and purchasing outcomes in the cosmetics sector.

Overall, the study enhances the theoretical understanding of the complex interactions between personality traits, attitudes, and other factors that impact consumer behavior within the cosmetic domain.

6.6 Managerial Implication

This study offers numerous practical implications for marketers and professionals in the cosmetic domain to motivate consumers to purchase cosmetic products. The results indicate that agreeableness, extraversion, neuroticism, and conscientiousness positively impact purchase intention toward cosmetic products among the Big Five Personality Traits. Marketers should tailor their advertising and promotional strategies to appeal to consumers exhibiting these traits. For instance, promotional campaigns that emphasize social interaction and community can attract extroverted individuals. At the same time, advertisements highlighting reliability and

quality can target consumers with conscientious traits. Marketers can effectively target specific customer groups by segmenting their customer base according to these personality traits.

The study highlights the significant impact of utilitarian value on attitude, underscoring the need for practical benefits that address consumers' real-world issues. Marketers should prioritize communicating the tangible benefits and effectiveness of their products. Emphasizing attributes such as durability, skin health benefits, or cost-efficiency can enhance consumers' attitudes toward the practical value of cosmetic products.

Product knowledge also plays a crucial role in influencing purchase intention. Marketers should provide comprehensive information about product ingredients, usage instructions, and benefits. This approach can enhance consumers' understanding of the product, positively impacting their attitude and purchase intention. Effective methods to boost product knowledge include educational content, guides, and instructive packaging.

Hedonic Value significantly impacts the intention to purchase cosmetic products. To cater to consumers' hedonic motives, cosmetic brands should highlight the sensory and emotional experiences associated with their products. This can include emphasizing luxurious packaging, appealing fragrances, and overall visual attractiveness.

Perceived price influences both attitude and purchase intention. To address the needs of price-sensitive consumers, marketers should align their pricing strategies with consumers' perceptions of value. Implementing promotions, discounts, or loyalty

programs can effectively address price-related concerns and improve the perceived value of a product or service.

The study also shows that attitude partially mediates the relationship between personal and product factors with purchase intention. Marketers should foster favorable attitudes toward their products through effective communication, positive brand experiences, and customer testimonials.

The multi-group analysis reveals group disparities, indicating that marketers should segment their target audience and tailor their strategies based on gender, marital status, and place of residence. For instance, marketing strategies targeting urban consumers may emphasize convenience and modernity. In contrast, those targeting rural consumers may focus on natural ingredients and traditional values.

The Necessary Condition Analysis (NCA) results provide insights into the minimum levels of various factors required to achieve a specific level of purchase intention. Marketers should ensure that their products and campaigns meet these conditions to stimulate purchase intentions effectively.

By integrating these insights into their marketing strategies, cosmetic brands can better understand consumer behavior, enabling more precise targeting, increased customer satisfaction, and higher sales.

6.7 Limitation of the Study

While this study offers valuable insights into the factors influencing purchase intentions for cosmetic products, several limitations must be acknowledged to provide a balanced understanding and guide future research.

Firstly, although the study integrates the Theory of Planned Behaviour (TPB) and the Big Five personality traits, additional pertinent elements that were not

considered may exist, such as emotional intelligence, brand loyalty, cultural influences, etc. Future research should incorporate these elements to provide a more comprehensive understanding of consumer behavior in the cosmetic industry.

Secondly, this study investigates the moderating influence of personality and the mediating influence of attitude. However, other potential moderators or mediators that were not examined in this study could also affect the relationship between the determinants and purchase intention. Future studies could explore different variables, such as consumer trust, brand loyalty, or social influence, to understand better how these factors impact purchase intention.

Thirdly, the study's cross-sectional design captures a snapshot of participants' attitudes and intentions at a single point in time, limiting the ability to infer causality. Longitudinal studies are needed to observe changes over time and establish causal relationships between variables.

Lastly, the study's focus on all types of cosmetic products, such as chemical, green, vegan, natural, and halal cosmetics, might limit its applicability to specific product categories. Future research could expand the scope to include specific cosmetic products and other consumer goods to provide broader insights.

6.8 Directions for future research

The research primarily examined the overall purchase intention of cosmetics products. Subsequent investigations could explore specific product categories, such as organic, luxury, or skincare products, to comprehend the complexity of customer preferences in the cosmetic sector.

The study's models could be evaluated by incorporating other moderation and mediating factors.

The model's ability to explain variance for some constructs could be enhanced by considering additional factors.

Furthermore, future studies could try to conduct longitudinal studies to consider fluctuations in consumers' Intention to purchase cosmetic products over an extended period.



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APPENDIX A

KAP Survey Questionnaire for Cosmetics Products

SECTION A

Demographic Profile of the Customer

1. Name (Optional): _____
2. Gender: (please select [✓] accordingly)
 - a) Male
 - b) Female
 - c) Transgender
3. Age: (please select [✓] accordingly)
 - a) 20-35
 - b) 36-45
 - c) 46-55
 - d) 56 and above
4. Marital Status: (please select [✓] accordingly)
 - a) Married
 - b) Unmarried
 - c) Separated
5. Place of Residence: (please select [✓] accordingly)
 - a) Urban
 - b) Rural
6. Education Status: (please select [✓] accordingly)
 - a) SSC & Below
 - b) HSC
 - c) Graduation
 - d) Post-Graduation
 - e) Other

7. Employment Status: (please select [✓] accordingly)

- a) Service
- b) Business
- c) Homemaker
- d) Student
- e) Other

SECTION B

Knowledge, Attitude, and Practice (KAP) Questions

Practice

1. Do you use cosmetics? (please select [✓] accordingly)

- a) Yes
- b) No

2. Do you use? (please select [✓] accordingly)

- a) Chemical cosmetics
- b) Green cosmetics
- c) Both

3. Which categories of cosmetics products do you use? (Multiple selections)

- a) **Eye Makeup Preparations** (Eyebrow Pencil, Eyeliner, Eye Shadow, Eye Lotion, Eye Makeup Remover, Other Eye Makeup Preparation)
- b) **Fragrance Preparations** (Cologne and Toilet Waters, Perfumes, Powders (dusting and talcum, excluding aftershave talc), Sachets, Other Fragrance Preparations)
- c) **Hair Preparations (non-coloring)** (Hair Spray, Hair Straighteners, Permanent Waves, Rinses (non-coloring), Shampoos (non-coloring), Tonics, Dressings, and Wave Sets, Other Hair Preparations)
- d) **Hair Coloring Preparations** (Hair Dyes and Colors, Hair Tints, Hair Rinses (coloring), Hair Shampoos (coloring), Hair Color Sprays (aerosol), Hair Lighteners with Color, Hair Bleaches, Other Hair Coloring Preparations)

- e) **Makeup Preparations (not eye)** (Blushers (all types), Face Powders, Foundations, Leg and Body Paints, Lipstick, Makeup Bases, Rouges, Makeup Fixatives, Other Makeup Preparations)
- f) **Manicuring Preparations** (Basecoats and Undercoats, Cuticle Softeners, Nail Creams and Lotions, Nail Extenders, Nail Polish and Enamel, Nail Polish and Enamel Removers, Other Manicuring Preparations)
- g) **Oral Hygiene Products** (Dentifrices (aerosol, liquid, pastes, and powders), Mouthwashes and Breath Fresheners (liquids and sprays), Other Oral Hygiene Products)
- h) **Personal Cleanliness** (Bath Soaps and Detergents, Deodorants (underarm), Douches, Feminine Deodorants, Other Personal Cleanliness Products)
- i) **Shaving Preparations** (Aftershave Lotion, Beard Softeners, Men's Talcum, Preshave Lotions (all types), Shaving Cream (aerosol, brushless, and lather), Shaving Soap (cakes, sticks, etc.), Other Shaving Preparations)
- j) **Skin Care Preparations** (Creams, Lotions, Powders, and Sprays) (Cleansing (cold creams, cleansing lotions, liquids, and pads), Depilatories, Face and Neck (excluding shaving preparations), Body and Hand (excluding shaving preparations), Foot Powders and Sprays, Moisturizing, Night, Paste Masks, Skin Fresheners, Other Skin Care Preparations)
- k) **Suntan Preparations** (Suntan Gels, Creams, and Liquids), Indoor Tanning Preparations, Other Suntan Preparations)

4. How often do you use cosmetics? (please select [✓] accordingly)

- a) Every day
- b) A few times a week
- c) Approximately once a week
- d) Less than once a week
- e) On special occasions
- f) Any other please specify: _____

5. Monthly spending on cosmetics (please select [✓] accordingly)
- a) Less than 1000
 - b) 1001 to 5000
 - c) 5001 to 10000
 - d) 10001 and more
 - e) Any other please specify: _____
6. What are the benefits of using cosmetics? (Select multiple options)
- a) It helps in solving underlying problems related to skin, body, etc.
 - b) It improves my appearance
 - c) It helps in building confidence
 - d) It improves my personality
 - e) Any other please specify: _____
7. What are the factors that influence cosmetics purchase intentions? (Select multiple options)
- a) Product knowledge
 - b) Hedonic Value (Societal status)
 - c) Utilitarian Value (Need satisfaction)
 - d) Appearance Consciousness
 - e) Health Consciousness
 - f) Advertisement
 - g) Social Norm (Family member, Friends, Colleague)
 - h) Behavioral control (Availability of products, Money)
 - i) Price of the product
 - j) Quality of the product
 - k) Any other please specify: _____

Attitude

1. Does product knowledge help create a positive attitude toward a cosmetic purchase intention?
- a) Yes
 - b) No

2. Does one's social status influence a positive attitude toward a cosmetic purchase intention?
 - a) Yes
 - b) No
3. Is the usage of need-based cosmetics helpful in creating a positive attitude towards the intentions to purchase cosmetics?
 - a) Yes
 - b) No
4. Is there a relationship between appearance consciousness and a positive attitude regarding cosmetic purchase intention?
 - a) Yes
 - b) No
5. Does having health consciousness contribute to forming a favorable attitude toward the intention to purchase cosmetics?
 - a) Yes
 - b) No
6. Is advertising effective in promoting a positive attitude about cosmetic purchase intentions?
 - a) Yes
 - b) No
7. Does the influence of family, friends, and coworkers contribute to forming a favorable attitude about the intention to purchase cosmetics?
 - a) Yes
 - b) No
8. Does a product's pricing help create a positive attitude regarding cosmetic purchase intentions?
 - a) Yes
 - b) No
9. Is the quality of the cosmetics product important in developing a favorable attitude about a cosmetic purchase intention?
 - a) Yes
 - b) No

Knowledge

1. Do you have good knowledge about the cosmetics products you purchase?
 - a) Yes
 - b) No
2. Have you heard about green cosmetics?
 - a) Yes
 - b) No
3. Do you know what green cosmetics are?
 - a) Yes
 - b) No
4. Did you know that there is a difference between chemical and green cosmetics?
 - a) Yes
 - b) No
5. Are you aware of the risk of using chemical cosmetics?
 - a) Yes
 - b) No
6. Are you aware of the price difference between chemical and natural cosmetics?
 - a) Yes
 - b) No
7. Do you understand the benefits and drawbacks of using chemical and green cosmetics?
 - a) Yes
 - b) No
8. When you shop for cosmetics, do you have an idea of each product's benefits in terms of its function?
 - a) Yes
 - b) No

APPENDIX B

KAP survey Analysis

This study aims to determine cosmetic consumers' Knowledge, Attitude, and Practice (KAP).

The KAP survey determines how much people in the community know about different things. A KAP survey is a survey of a particular population to determine what individuals know, think, and do about a particular topic. In most KAP surveys, an interviewer uses a structured, standard questionnaire to get information from people over the phone, survey or personal interview. There are many studies which uses KAP survey method. (Mohammadzadeh et al., 2017) used the mix marketing theory to examine consumers' knowledge, Attitude, and practice (KAP) regarding cosmetic products and identify important marketing success aspects in Iran's market. The findings revealed that proper raising consumer knowledge and boosting their Attitude are also essential marketing strategies for increasing their desirability. Finally, point-of-purchase marketing through pharmacists has a significant impact on cosmetics marketing.

DEMOGRAPHIC PROFILE OF THE RESPONDENTS

Variables		Frequency	Percentage
Gender	Male	45	35%
	Female	83	65%
	Total	128	100%
Age	20–35-Year-old	89	70%
	36–45-Year-old	24	19%
	Year Old	8	6%
	56-Above	7	5%
	Total	128	100%
Marital Status	Married	71	55%
	Unmarried	57	45%
	Total	128	100%
Place of Residence	Rural	52	41%

	Urban	76	59%
	Total	128	100%
Education Status	SSC & below	2	1.56%
	HSSC	12	9.37%
	Graduation	43	33.60%
	Post-Graduation	63	49.22%
	Other	8	6.25%
	Total	128	100.00%
Employment Status	Service	85	66%
	Business	6	5%
	Homemaker	8	6%
	Other	29	23%
	Total	128	100%

KNOWLEDGE							
Sr.No	Statements	Frequency			Percentage		
		Yes	No	Total	Yes	No	Total
1	Do you have good knowledge about the cosmetics products you purchase?	92	36	128	72%	28%	100%
2	Have you heard about green cosmetics?	93	35	128	72%	28%	100%
3	Do you know what is green cosmetics?	87	41	128	68%	32%	100%
4	Did you know that there is a difference between chemical and green cosmetics?	104	24	128	81%	19%	100%
5	Are you aware of the risk of using chemical cosmetics?	110	18	128	86%	14%	100%
6	Are you aware of the price difference between chemical and natural cosmetics?	82	46	128	64%	36%	100%
7	Do you understand the benefits and drawbacks of using chemical and green cosmetics?	95	33	128	74%	26%	100%
8	When you shop for cosmetics, do you have an idea of each product's benefits in terms of its function?	81	47	128	63%	37%	100%

ATTITUDE							
Sr.No	Statements	Frequency			Percentage		
		Yes	No	Total	Yes	No	Total
1	Does product knowledge help create a positive attitude toward a cosmetic purchase intention?	126	2	128	98%	2%	100%
2	Does one's social status influence a positive attitude toward a cosmetic purchase intention?	91	37	128	71%	29%	100%
3	Is the usage of a need base cosmetics help create a positive attitude toward the intentions to purchase a cosmetic?	115	13	128	90%	10%	100%
4	Is there a relationship between appearance consciousness and a positive attitude regarding cosmetic purchase intention?	95	33	128	74%	26%	100%
5	Does having a health consciousness contribute to forming a favourable attitude toward the intention to purchase cosmetics?	104	24	128	81%	19%	100%
6	Is advertising effective in promoting a positive attitude about cosmetic purchase intentions?	106	22	128	83%	17%	100%

PRACTICE			
		Frequency	Percentage
1	Do you use cosmetics?		
	Yes	128	85%
	No	23	15%
	Total	151	100%
2	What kind of cosmetics do you use?		
	Chemical cosmetics	28	22%
	Green cosmetics	16	12%
	Both	84	66%
	Total	128	100%
3	How often do you use cosmetics?		
	Every day	45	35%
	A few times a week	31	24%
	Approximately once a week	8	6%
	Less than once a week	5	4%
	On special occasions	38	30%
	Whenever needed	1	1%
	Total	128	100%

4	What are the benefits of using cosmetics?		
	It helps in solving underlying problems related to skin, body etc	10	8%
	It improves my Appearance	53	41%
	It helps in building confidence	53	41%
	It improves my personality	11	9%
	It improves my Appearance	1	1%
	Total	128	100%
5	Monthly spending on cosmetics		
	Less than 1000	100	78%
	1001 to 5000	23	18%
	5001 to 10000	1	1%
	10001 and more	2	2%
	Any other please specify _____	2	2%
	Total	128	100%
5	What are the factors that influence cosmetics purchase intentions?		NA
	Product knowledge,	74	
	Hedonic Value (Societal status),	13	
	Utilitarian Value (Need satisfaction),	37	
	Appearance Consciousness,	47	
	Health Consciousness,	57	
	Advertisement,	30	
	Social Norm (Family members, Friends, Colleagues),	29	
	Behavioural control (Availability of products, Money,	20	
	Price of the product,	51	
	Quality of the product	84	
6	Which categories of cosmetics products do you use?		NA
	Eye Makeup Preparations	51	
	Fragrance Preparations	76	
	Hair Colouring Preparations	54	
	Hair Preparations (non-coloring)	24	
	Makeup Preparations (not eye)	49	
	Manicuring Preparations	33	
	Oral Hygiene Products	45	
	Personal Cleanliness	64	
	Shaving Preparations	39	
	Skin Care Preparations	60	
	Suntan Preparations	33	

APPENDIX C

Letter to the Expert for Content Validity

Dear Expert,

Kindly refer to the description of the scale items and give your score/rating based on the details given below and the meaning of the dimensions given in **Annexure 1**. Kindly refer to the instructions given.

Thanking You for your Cooperation,

(Kavir Kashinath Shirodkar)

Initial item generation:

In order to generate the initial pool of scale items, methods like a review of Literature, in-depth interviews using structured questionnaires, and KAP surveys were used. Items from previous studies were modified to adapt to cosmetic consumer behaviour, and a qualitative study was carried out to generate a pool of items for scale development. The details of the items constructed and to be validated as follows.

- a) Product Knowledge-- 8 items**
- b) Hedonic Value. -- 7 items**
- c) Utilitarian Value -- 5 items**
- d) Appearance Consciousness-- 7 items**
- e) Perceived price -- 7 items**
- f) Intention to purchase cosmetics products—08 items**
- g) Subjective Norm -- 11 items**
- h) Attitude -- 9 items**
- i) Perceived Behavioural Control -- 7 items**

Rating Guidelines:

The rater is required to review the statements (test items) based on Relevance, Clarity and the simplicity of the content in each of the dimensions. In the rating sheet, the rater is required to indicate the following for all the scale dimensions.

1. Relevance:

Indicate on a scale of 1-4 whether the specified item is relevant as a measure for which it is intended. The ratings are given as follows:

1- Not relevant, 2- Item needs some revision, 3- Relevant but needs minor revision, 4- Very Relevant

2. Clarity:

Indicate on a scale of 1-4 whether the specified item has clarity in understanding. The ratings are given as follows:

1- Not clear, 2- Item needs some revision, 3- Clear but needs minor revision, 4- Very clear.

3. Simplicity:

Indicate on a scale of 1-4 whether the specified item is simple to understand. The ratings are given as follows:

1- Not simple, 2- Item needs some revision, 3- Simple but needs minor revision, 4- Very simple.

The Scale has been designed to be completed by the Cosmetics customers using cosmetics products

Annexure 1

- A. Product Knowledge:** Product knowledge refers to consumers' understanding of cosmetics products, consequences, benefits, ingredients, product knowledge, types of cosmetics available, and satisfaction levels towards cosmetics products. Consumer attitude and behaviour can be influenced by product knowledge. Product knowledge helps distinguish one cosmetics product or service from another according to the products' benefits, quality, price, and functionality.
- B. Hedonic Value:** Hedonic consumption refers to the multisensory, magical, and emotive aspects of the product utilization experience. In other words, hedonic products provide experienced consumption, satisfaction, and pleasure to the cosmetics consumer rather than objective-based consumption. Customers buy cosmetics products to maintain or demonstrate their status.
- C. Utilitarian Value:** A utilitarian value is concerned with practical and logical evaluations. It is more intellectually motivating and goal-oriented than other perspectives. In the context of cosmetic brands, it refers to the brand's capacity to deliver on its promises in terms of physical beauty and health (e.g., reducing wrinkles, reducing aging, whitening, reducing dandruff, and moisturizing skin). The main motive for buying cosmetics is problem-solving.
- D. Appearance consciousness:** When it comes to appearance, it refers to how people perceive themselves, including their self-image and sense of self-consciousness, whereas involvement refers to a consumer's understanding or acknowledgment of a particular cosmetic product that enhances the appearance. Consumers purchase cosmetics products to enhance their personality, which gives them more confidence, a positive attitude, and a sense of acceptance.
- E. Perceived price:** Customers' willingness to pay a specific price for a product or service is determined by their opinion of the product. Perceived pricing is not based on the product's cost but on the Value the customer believes he or she is receiving from using the product or service. For some customers, the price of the cosmetic

product is a significant factor in deciding whether to purchase or not a particular cosmetic product.

Theory of planned behaviour: The TPB is a popular theory that explains and reveals the motivating impacts on individual action. It was developed from the Theory of Reasoned Action (TRA). It is commonly used to predict a person's behavioural intentions and actual behaviour. TPB extends TRA by adding in PBC, an individual's attitude toward completing a specific activity and subjective social norms for that behaviour. TPB has been frequently used in the field of consumer behaviour research. In this research, the Theory of planned behaviour is used to predict purchase intention behaviour in the area of cosmetic products.

- a) Intension
- b) Attitude
- c) Subjective norm
- d) Perceived Behavioural control

F. Intention

In the Theory of Planned Behavior (TPB), intention refers to a person's readiness to perform a particular behavior. It is an indication of how hard people are willing to try and how much effort they plan to exert in order to perform the behavior. Intention is the most significant predictor of actual behavior, influenced by attitudes, subjective norms, and perceived behavioral control. In this research, intention specifically pertains to consumers' willingness to purchase cosmetic products, reflecting their plans and motivation to engage in this purchasing behavior.

G. Attitude

Attitude in the context of TPB is an individual's positive or negative evaluation of performing a particular behavior. It is formed based on beliefs about the consequences of the behavior and the value placed on these outcomes. A favorable attitude towards purchasing cosmetic products means the individual believes that

buying these products will result in desirable outcomes. This research examines how various factors shape consumer attitudes towards cosmetic products and how these attitudes, in turn, influence their purchase intentions.

H. Subjective Norm

Subjective norm refers to the perceived social pressure to perform or not perform a specific behavior. It is influenced by the opinions of significant others, such as family, friends, and peers, and the individual's motivation to comply with these opinions. In this study, subjective norms relate to the social influences that affect consumers' intentions to buy cosmetic products. Understanding these social pressures helps in identifying how external expectations and societal norms shape purchasing decisions in the cosmetic market.

I. Perceived Behavioral Control

Perceived Behavioral Control (PBC) reflects an individual's perception of the ease or difficulty of performing a particular behavior. It is determined by the availability of resources, opportunities, and the presence of obstacles. PBC influences both the intention to perform the behavior and the behavior itself. In this research, PBC examines consumers' perceived control over purchasing cosmetic products, considering factors such as accessibility, financial capability, and product knowledge, and how these perceptions affect their buying intentions.

A. Kindly rate the following statements/ items for the construct "**Product Knowledge**" with a score of 1- 4 for Relevance, Clarity, and Simplicity based on the following: Score and its description:

Relevant (Rel): 1- not relevant, 2- item needs some revision, 3- relevant but needs minor revision, 4-very relevant.

Clarity (Cla): 1- not clear, 2- item needs some revision, 3- clear but needs minor revision, 4- very clear.

Simplicity (Sim): 1- not simple, 2- item needs some revision, 3- simple but needs minor revision, 4- very simple.

Product Knowledge

Sr. No.	STATEMENT	Rel 1-4	Cla 1-4	Sim 1-4	Remarks
1	I have a lot of information about cosmetic products.				
2	I have sufficient knowledge about ingredients used in cosmetic products.				
3	I am familiar with cosmetic products.				
4	I understand the features of cosmetic products.				
5	I understand the benefits of cosmetic products.				
6	I have better knowledge of cosmetic products compared to my friends and relatives				
7	I have enough knowledge to differentiate between chemical cosmetic products, and green cosmetic products				
8	Cosmetic products knowledge helps me to make a better buying decision				

B. Kindly rate the following statements/ items for the construct "**Hedonic Value.**" with a score of 1- 4 for Relevance, Clarity, and Simplicity based on the following: Score and its description:

Relevant (Rel): 1- not relevant, 2- item needs some revision, 3- relevant but needs minor revision, 4-very relevant.

Clarity (Cla): 1- not clear, 2- item needs some revision, 3- clear but needs minor revision, 4- very clear.

Simplicity (Sim): 1- not simple, 2- item needs some revision, 3- simple but needs minor revision, 4- very simple.

Hedonic Value:

Sr. No.	STATEMENT	Rel 1-4	Cla 1-4	Sim 1-4	Remark
1	Using cosmetic products would give me pleasure				
2	Using cosmetic products is enjoyable				
3	I feel good when I use cosmetic products.				
4	Benefits of cosmetic products makes me want to use them.				
5	The use of the cosmetic products is visually appealing.				
6	Using cosmetic products makes me feel better about myself.				
7	Cosmetic products consumption enhances the quality of my life.				

C. Kindly rate the following statements/ items for the construct "**Utilitarian Value**.

“With a score of 1- 4 for Relevance, Clarity, and Simplicity based on the following: Score and its description:

Relevant (Rel): 1- not relevant, 2- item needs some revision, 3- relevant but needs minor revision, 4-very relevant.

Clarity (Cla): 1- not clear, 2- item needs some revision, 3- clear but needs minor revision, 4- very clear.

Simplicity (Sim): 1- not simple, 2- item needs some revision, 3- simple but needs minor revision, 4- very simple.

Utilitarian Value

Sr. No.	STATEMENT	Rel 1-4	Cla 1-4	Sim 1-4	Remark
1	Cosmetic products which I use have good functionality				
2	Using cosmetic products helps me in solving beauty-related problems.				
3	Cosmetic products satisfy my beauty-related needs well				
4	Using cosmetic products gives me confidence				
5	Cosmetic products help me to enhance my personality				

D. Kindly rate the following statements/ items for the construct " **Appearance consciousness.**" with a score of 1- 4 for Relevance, Clarity, and Simplicity based on the following: Score and its description:

Relevant (Rel): 1- not relevant, 2- item needs some revision, 3- relevant but needs minor revision, 4-very relevant.

Clarity (Cla): 1- not clear, 2- item needs some revision, 3- clear but needs minor revision, 4- very clear.

Simplicity (Sim): 1- not simple, 2- item needs some revision, 3- simple but needs minor revision, 4- very simple.

Appearance consciousness

Sr. No.	STATEMENT	Rel 1-4	Cla 1-4	Sim 1-4	Remark
1	The way I look is extremely important to me.				
2	I would feel embarrassed if I did not look my best when I am around people.				
3	Using cosmetic products to look good is worth the efforts				
4	It is important that I always look good				
5	I should do whatever I can to always look my best.				
6	I feel I look good when I use cosmetic products.				
7	When I use cosmetic products, it makes a good impression on others' visual senses.				

E. Kindly rate the following statements/ items for the construct "**Perceived Price.**" with a score of 1- 4 for Relevance, Clarity, and Simplicity based on the following: Score and its description:

Relevant (Rel): 1- not relevant, 2- item needs some revision, 3- relevant but needs minor revision, 4-very relevant.

Clarity (Cla): 1- not clear, 2- item needs some revision, 3- clear but needs minor revision, 4- very clear.

Simplicity (Sim): 1- not simple, 2- item needs some revision, 3- simple but needs minor revision, 4- very simple.

Perceived Price:

Sr. No.	STATEMENT	Rel 1-4	Cla 1-4	Sim 1-4	Remark
1	I believe that the cosmetic products I use are reasonably priced				
2	I think that the cosmetic products I use offer value for money				
3	I believe that the cosmetic products I am using are good products for the price				
4	I think that the cosmetic products I use are affordable to buy				
5	Discount on cosmetic products makes them economical to buy				
6	I am ready to spend on cosmetic products regularly				
7	I check the reasonability of the price before buying any cosmetic product				

F. Kindly rate the following statements/ items for the construct " **Intention to purchase cosmetics products.**" with a score of 1- 4 for Relevance, Clarity, and Simplicity based on the following: Score and its description:

Relevant (Rel): 1- not relevant, 2- item needs some revision, 3- relevant but needs minor revision, 4-very relevant.

Clarity (Cla): 1- not clear, 2- item needs some revision, 3- clear but needs minor revision, 4- very clear.

Simplicity (Sim): 1- not simple, 2- item needs some revision, 3- simple but needs minor revision, 4- very simple.

Intention to purchase cosmetics products:

Sr. No.	STATEMENT	Rel 1-4	Cla 1-4	Sim 1-4	Remark
1	I intend to continue buying cosmetic products in future				
2	I intend to buy cosmetic products because it adds to my beauty				
3	I intend to buy cosmetic products because it adds to my personality				
4	I intend to buy cosmetic products because it adds to my self-confidence				
5	I would like to recommend cosmetic products to other people.				
6	I will buy cosmetic products as soon as I run out of them.				
7	The probability that I would purchase cosmetic products is high.				
8	I have decided to purchase cosmetic products on a regular basis				

G. Kindly rate the following statements/ items for the construct " **Subjective Norms.**" with a score of 1- 4 for Relevance, Clarity, and Simplicity based on the following: Score and its description:

Relevant (Rel): 1- not relevant, 2- item needs some revision, 3- relevant but needs minor revision, 4-very relevant.

Clarity (Cla): 1- not clear, 2- item needs some revision, 3- clear but needs minor revision, 4- very clear.

Simplicity (Sim): 1- not simple, 2- item needs some revision, 3- simple but needs minor revision, 4- very simple.

Subjective Norms:

Sr. No.	STATEMENT	Rel 1-4	Cla 1-4	Sim 1-4	Remark
1	My family members believe that buying cosmetic products is a good idea for me.				
2	My friends think I should buy cosmetic products				
3	The majority of people who matter to me believe that I should buy cosmetic products				
4	People I listen to have the ability to convince me to purchase cosmetic products				
5	Buying cosmetic products would help me feel accepted.				
6	Social media can influence my decision to buy cosmetic products				
7	I learned about cosmetic products from my friends				
8	I learned about cosmetic products from my parents				
9	Buying cosmetic products would make a good impression on other people.				

10	Buying cosmetic products would give me social approval.				
11	cosmetics products would make people appreciate me more.				

H. Kindly rate the following statements/ items for the construct " **Attitude towards cosmetics.**" with a score of 1- 4 for Relevance, Clarity, and Simplicity based on the following: Score and its description:

Relevant (Rel): 1- not relevant, 2- item needs some revision, 3- relevant but needs minor revision, 4-very relevant.

Clarity (Cla): 1- not clear, 2- item needs some revision, 3- clear but needs minor revision, 4- very clear.

Simplicity (Sim): 1- not simple, 2- item needs some revision, 3- simple but needs minor revision, 4- very simple.

Attitude towards cosmetics:

Sr. No.	STATEMENT	Rel 1-4	Cla 1-4	Sim 1-4	Remark
1	I think using cosmetic products would be a good idea for me.				
2	I think using cosmetic products would be beneficial to me.				
3	I think using cosmetic products would be desirable to me.				
4	I think using cosmetic products would be a wise decision for me.				
5	I think using cosmetic products would be pleasant for me.				
6	I have a positive attitude towards cosmetic products				
7	I think using cosmetic products is valuable				
8	I think using cosmetic products is delightful				
9	I think buying cosmetic products is safe				

- I. Kindly rate the following statements/ items for the construct " **Perceived Behavioural Control**. “with a score of 1- 4 for Relevance, Clarity, and Simplicity based on the following: Score and its description:

Relevant (Rel): 1- not relevant, 2- item needs some revision, 3- relevant but needs minor revision, 4-very relevant.

Clarity (Cla): 1- not clear, 2- item needs some revision, 3- clear but needs minor revision, 4- very clear.

Simplicity (Sim): 1- not simple, 2- item needs some revision, 3- simple but needs minor revision, 4- very simple.

Perceived Behavioural Control:

Sr. No.	STATEMENT	Rel 1-4	Cla 1-4	Sim 1-4	Remark
1	It is entirely up to me whether or not I purchase cosmetic products.				
2	Nothing would prevent me from buying cosmetic products if they were available.				
3	I completely have control over the purchase of cosmetic products.				
4	I have the resources and ability to buy cosmetic products.				
5	I am confident that I can buy them if I want cosmetic products.				
6	I have time to search and buy cosmetic products				
7	I have the willingness to buy cosmetic products				

APPENDIX D

Result of Content Validity

The items with an acceptable Item Content Validity Index (ICVI) of 0.78 and above are included in the tables. This ensures that only those items meeting the necessary validity criteria are considered for further factor analysis.

Table 1: Content Validity Index (CVI) of scale - Product Knowledge

Sr. No	Item/Statement	I-CVI
1	I have a lot of information about cosmetic products.	1
2	I have sufficient knowledge about ingredients used in cosmetic products.	1
3	I am familiar with cosmetic products.	1
4	I understand the features of cosmetic products.	1
5	I understand the benefits of cosmetic products.	1
6	I have better knowledge of cosmetic products compared to my friends and relatives	1
7	I have enough knowledge to differentiate between chemical cosmetic products, and green cosmetic products	1
8	Cosmetic products knowledge helps me to make a better buying decision	1

Table 2: Content Validity Index (CVI) of scale - Hedonic Value

Sr. No	Item/Statement	I-CVI
1	Using cosmetic products would give me pleasure	1
2	Using cosmetic products is enjoyable	0.86
3	I feel good when I use cosmetic products.	1
4	Benefits of cosmetic products makes me want to use them.	1
5	The use of the cosmetic products is visually appealing.	0.86
6	Using cosmetic products makes me feel better about myself.	0.86
7	Cosmetic products consumption enhances the quality of my life.	1

Table 3: Content Validity Index (CVI) of scale – Utilitarian Value

Sr. No	Item/Statement	I-CVI
1	Cosmetic products which I use have good functionality	1
2	Using cosmetic products helps me in solving beauty-related problems.	1
3	Cosmetic products satisfy my beauty-related needs well	0.86
4	Using cosmetic products gives me confidence	1
5	Cosmetic products help me to enhance my personality	1

Table 4: Content Validity Index (CVI) of scale – Appearance consciousness

Sr. No	Item/Statement	I-CVI
1	The way I look is extremely important to me.	1
2	I would feel embarrassed if I did not look my best when I am around people.	1
3	Using cosmetic products to look good is worth the efforts	0.86
4	It is important that I always look good	0.86
5	I should do whatever I can to always look my best.	1
6	I feel I look good when I use cosmetic products.	1
7	When I use cosmetic products, it makes a good impression on others' visual senses.	0.86

Table 5: Content Validity Index (CVI) of scale – Perceived Price

Sr. No	Item/Statement	I-CVI
1	I believe that the cosmetic products I use are reasonably priced	1
2	I think that the cosmetic products I use offer value for money	1
3	I believe that the cosmetic products I am using are good products for the price	0.86
4	I think that the cosmetic products I use are affordable to buy	1
5	Discount on cosmetic products makes them economical to buy	0.86

6	I am ready to spend on cosmetic products regularly	0.86
7	I check the reasonability of the price before buying any cosmetic product	1

Table 6: Content Validity Index (CVI) of scale – Intension to purchase

Sr. No	Item/Statement	I-CVI
1	I intend to continue buying cosmetic products in future	1
2	I intend to buy cosmetic products because it adds to my beauty	1
3	I intend to buy cosmetic products because it adds to my personality	1
4	I intend to buy cosmetic products because it adds to my self-confidence	1
5	I would like to recommend cosmetic products to other people.	1
6	I will buy cosmetic products as soon as I run out of them.	1
7	The probability that I would purchase cosmetic products is high.	1
8	I have decided to purchase cosmetic products on a regular basis	1

Table 7: Content Validity Index (CVI) of scale – Subjective Norm

Sr. No	Item/Statement	I-CVI
1	My family members believe that buying cosmetic products is a good idea for me.	1
2	My friends think I should buy cosmetic products	1
3	The majority of people who matter to me believe that I should buy cosmetic products	0.86
4	People I listen to have the ability to convince me to purchase cosmetic products	1
5	Buying cosmetic products would help me feel accepted.	0.86
6	Social media can influence my decision to buy cosmetic products	1
7	I learned about cosmetic products from my friends	1
8	I learned about cosmetic products from my parents	1

9	Buying cosmetic products would make a good impression on other people.	0.86
10	Buying cosmetic products would give me social approval.	0.86
11	cosmetics products would make people appreciate me more.	1

Table 8: Content Validity Index (CVI) of scale – Attitude

Sr. No	Item/Statement	I-CVI
1	I think using cosmetic products would be a good idea for me.	0.86
2	I think using cosmetic products would be beneficial to me.	1
3	I think using cosmetic products would be desirable to me.	1
4	I think using cosmetic products would be a wise decision for me.	1
5	I think using cosmetic products would be pleasant for me.	1
6	I have a positive attitude towards cosmetic products	1
7	I think using cosmetic products is valuable	1
8	I think using cosmetic products is delightful	1
9	I think buying cosmetic products is safe	1

Table 9: Content Validity Index (CVI) of scale – Perceived Behavioural Control

Sr.No	Item/Statement	I-CVI
1	It is entirely up to me whether or not I purchase cosmetic products.	1
2	Nothing would prevent me from buying cosmetic products if they were available.	1
3	I completely have control over the purchase of cosmetic products.	1
4	I have the resources and ability to buy cosmetic products.	1
5	I am confident that I can buy them if I want cosmetic products.	1
6	I have time to search and buy cosmetic products	1
7	I have the willingness to buy cosmetic products	1

APPENDIX E

Questionnaire for Exploratory Factor Analysis on Cosmetic Purchase Intention

Dear Respondents,

This questionnaire elicits information on the Influence of personality traits and factors influencing attitudes towards cosmetic purchase intentions.

For this study, cosmetics products can be classified as including baby products, bath preparations, eye makeup preparations, fragrance preparations, hair preparations (non-coloring), hair coloring preparations, makeup preparations, manicuring preparations, oral hygiene products, personal cleanliness, shaving preparations, skin care preparations, and suntan preparations. All cosmetics items, including chemical, organic, and green cosmetics, will be studied for this study.

Kindly give your honest opinion on the statements provided. Please let your response be genuine and reflect your actual behavior. The information provided by you will be kept strictly confidential. The information will be used only for academic purposes.

Please tick (√) any one appropriate category for each statement.

Please answer all the statements.

Thanking you for your co-operation.

Kavir K Shirodkar

Section A: -Factors affecting attitude toward cosmetic purchase intension

1 = Strongly Disagree (SDA) 2 = Disagree (DA) 3 =Somewhat Disagree 4= Neutral 5 = Somewhat Agree 6 = Agree (A) 7 = Strongly Agree (SA)								
Sr.No	Opinion	Strongly Disagree	Disagree	Somewh at	Neutral	Somewh at Agree	Agree	Strongly Agree
1	I have very good information about cosmetic products.							
2	I have sufficient knowledge about ingredients used in cosmetic products.							
3	I am familiar with cosmetic products.							
4	I understand the features of cosmetic products.							
5	I understand the benefits of cosmetic products.							
6	I have better knowledge of cosmetic products compared to my friends and relatives							
7	I have enough knowledge to differentiate between chemical cosmetic products, and green cosmetic products							
8	Cosmetic products knowledge helps me to make a better buying decision towards cosmetic products							
9	Using cosmetic products would give me pleasure							
10	Using cosmetic products is enjoyable							
11	I feel good when I use cosmetic products.							

12	Benefits of cosmetic products makes me want to use them.							
13	The use of the cosmetic products is visually appealing.							
14	Using cosmetic products makes me feel better about myself.							
15	Cosmetic products consumption enhances the quality of my life.							
16	Cosmetic products which I use have good functionality							
17	Using cosmetic products helps me in solving beauty-related problems.							
18	Cosmetic products satisfy my beauty-related needs well							
19	Using cosmetic products gives me confidence							
20	Cosmetic products help me to enhance my personality							
21	The way I look is extremely important to me.							
22	I would feel embarrassed if I did not look my best when I am around people.							
23	Using cosmetic products to look good is worth the efforts							
24	It is important that I always look good							
25	I should do whatever I can to always look my best.							
27	I feel that using cosmetic products makes a good impression on others' visual senses.							
28	I feel cosmetic products are not harmful to my health							
29	I believe using cosmetic products will help me lead a healthier life.							
30	I feel ingredients used in cosmetic products are safe for my health							
31	I have enough information about the effect of cosmetic products on my health.							

32	I believe that using cosmetic products takes care of my health							
33	Cosmetic products are suitable for my health							
34	The cosmetic products I use are of good quality							
35	There is consistency in the quality of the cosmetic products that I use							
36	The effect of the cosmetic products that I use last for a long time							
37	I think cosmetic products are made from good quality raw materials							
38	The cosmetic products I use would perform consistently well							
39	The labels on cosmetic products give sufficient information about the ingredients used							
40	I believe that the cosmetic products I use are reasonably priced							
41	I think that the cosmetic products I use offer value for money							
42	I believe that the cosmetic products I am using are good products for the price							
43	I think that the cosmetic products I use are affordable to buy							
44	Discount on cosmetic products makes them economical to buy							
45	I am ready to spend on cosmetic products regularly							
46	I check the reasonability of the price before buying any cosmetic product							
47	I intend to continue buying cosmetic products in future							
48	I intend to buy cosmetic products because it adds to my beauty							
49	I intend to buy cosmetic products because it adds to my personality							
50	I intend to buy cosmetic products because it adds to my self-confidence							

51	I would like to recommend cosmetic products to other people.							
52	I always buy cosmetic products as soon as I run out of them.							
53	The probability that I would purchase cosmetic products is high.							
54	I have decided to purchase cosmetic products on a regular basis							
55	My family members believe that buying cosmetic products is a good idea for me.							
56	My friends think I should buy cosmetic products							
57	The majority of people who matter to me believe that I should buy cosmetic products							
58	People I listen to have the ability to convince me to purchase cosmetic products							
59	Buying cosmetic products would help me feel accepted.							
60	Social media can influence my decision to buy cosmetic products							
61	I learned about cosmetic products from my friends							
62	I learned about cosmetic products from my parents							
63	Buying cosmetic products would make a good impression on other people.							
64	Buying cosmetic products would give me social approval.							
65	cosmetics products would make people appreciate me more.							
66	I think using cosmetic products is a good idea for me.							
67	I think using cosmetic products is beneficial to me.							

68	I think using cosmetic products is desirable to me.							
69	I think using cosmetic products is a wise decision for me.							
70	I think using cosmetic products is pleasant for me.							
71	I have a positive attitude towards cosmetic products							
72	I think using cosmetic products is valuable							
73	I think using cosmetic products is delightful							
74	I think buying cosmetic products is safe							
75	It is entirely up to me whether or not I purchase cosmetic products.							
76	Nothing would prevent me from buying cosmetic products if they were available.							
77	I completely have control over the purchase of cosmetic products.							
78	I have the resources and ability to buy cosmetic products.							
79	I am confident I can buy cosmetic products if I want them.							
80	I have time to search and buy cosmetic products							
81	I have the willingness to buy cosmetic products							

Section B: - Personality Traits

1 = Strongly Disagree (SDA) 2 = Disagree (DA) 3 =Somewhat Disagree 4= Neutral 5 = Somewhat Agree 6 = Agree (A) 7 = Strongly Agree (SA)								
Sr.No	Opinion	Strongly Disagree	Disagree	Somewh at	Neutral	Somewh at Agree	Agree	Strongly Agree
1	I sympathize (understand) with others' feelings							
2	I am concerned about others							
3	I respect others							
4	I believe that others have good intentions							
5	I trust what people say							
6	I get stressed out easily							
7	I worry about things							
8	I fear for the worst							
9	I am filled with doubts about things							
10	I panic easily							
11	I talk a lot to different people at parties							
12	I feel comfortable around people							
13	I start conversations							
14	I make friends easily							

15	I don't mind being the center of attention							
16	I carry out my plans							
17	I pay attention to details							
18	I am always prepared							
19	I make plans and stick to them							
20	I am exacting (very careful) in my work							
21	I get excited by new ideas							
22	I enjoy thinking about things							
23	I enjoy hearing new ideas							
24	I enjoy looking for a deeper meaning in things							
25	I have a vivid imagination							

Section C: - Demographic Profile

1. **Name (Optional):** _____(Surname
First name Middle name)
2. **Gender: (please put tick mark (√) accordingly)**
 - a) Male ☐
 - b) Female ☐
 - c) Transgender ☐
3. **Age: (please put tick mark (√) accordingly)**
 - a) 20-30 ☐
 - b) 31-40 ☐
 - c) 41-50 ☐
 - d) 51 -60 ☐
 - e) 61 & Above ☐
4. **Marital Status: (Please put tick mark (√) accordingly)**
 - a) Married ☐
 - b) Unmarried ☐
 - c) Separated/Divorcee ☐
 - d) Widow ☐
5. **Place of Residence: (Please put tick mark (√) accordingly)**
 - a) Urban ☐
 - b) Rural ☐
6. **Educational Qualification: (Please put tick mark (√) accordingly)**
 - a) SSC & Below ☐
 - b) HSSC ☐
 - c) Graduation ☐
 - d) Post-Graduation ☐
 - e) Other if any_____ (Please mention)

7. Monthly Income: (Please put tick mark (✓) accordingly)

- a) Below 10,000 ☐
- b) 10,001-20,000 ☐
- c) 20,001-30,000 ☐
- d) 30,001-40,000 ☐
- e) 40,001-50,000 ☐
- f) 50,001 & Above ☐

8. What kind of cosmetics do you use? (Please put tick mark (✓) accordingly)

- a. Chemical cosmetics ☐
- b. Green cosmetics ☐
- c. Both ☐

9. How often do you use cosmetics? (Please put tick mark (✓) accordingly)

- a. Every day ☐
- b. A few times a week ☐
- c. Approximately once a week ☐
- d. Less than once a week ☐
- e. On special occasions ☐

10. How often do you buy cosmetics? (Please put tick mark (✓) accordingly)

- a) Monthly ☐
- b) Bi-monthly ☐
- c) When stock is over ☐
- d) On occasions ☐
- e) Any other please indicate _____

11. How much do you spend (monthly) on cosmetics? (Please put tick mark (✓) accordingly)

- a) Less than ₹2,000 ☐
- b) ₹2,001-4,000 ☐
- c) ₹4,001-6,000 ☐
- d) ₹6,001-8,000 ☐
- e) ₹8,001-10,000 ☐
- f) ₹10,001- and more ☐

APPENDIX F

Final Questionnaire for Conducting CFA and SEM on Cosmetic Purchase Intentions and Personality Traits

Dear Respondents,

This questionnaire is to elicit information on the Influence of personality traits and factors influencing attitudes towards cosmetic purchase intentions.

For this study, cosmetics products can be classified as including baby products, bath preparations, eye makeup preparations, fragrance preparations, hair preparations (non-colouring), hair colouring preparations, makeup preparations, manicuring preparations, oral hygiene products, personal cleanliness, shaving preparations, skin care preparations, and suntan preparations.

All cosmetics items, including chemical, organic, and green cosmetics, will be studied for this study.

Kindly give your honest opinion on the statements provided. Please let your response be genuine and reflect your actual behaviour. The information provided by you will be kept strictly confidential. The information will be used only for academic purposes.

Please tick (✓) any one appropriate category for each statement.

Please answer all the statements.

Thanking you for your co-operation.

Kavir K Shirodkar

Baby Products	Baby Shampoos, Lotions, Oils, Powders, and Creams, Other Baby Products
Bath Preparations	Bath Oils, Tablets, and Salts, Bubble Bath, Bath Capsules, Other Bath Preparations
Eye Makeup Preparations	Eyebrow Pencil, Eyeliner, Eye Shadow, Eye Lotion, Eye Makeup Remover, Mascara, Other Eye Makeup Preparations
Fragrance Preparations	Cologne and Toilet Waters, Perfumes, Powders (dusting and talcum, excluding aftershave talc), Sachets, Other Fragrance Preparations
Hair Preparations (non-coloring)	Hair, Hair Spray (aerosol fixatives), Hair Straighteners, Permanent Waves, Rinses (non-coloring), Shampoos (non-colouring), Tonics, Dressings, and Other Hair Grooming Aids, Wave Sets, Other Hair Preparations
Hair Coloring Preparations	Hair Dyes and Colors (all types requiring caution statements and patch tests), Hair Tints, Hair Rinses (coloring), Hair Shampoos (coloring), Hair Color Sprays (aerosol), Hair Lighteners with Color, Hair Bleaches, Other Hair Coloring Preparations
Makeup Preparations (not eye)	Blushers (all types), Face Powders, Foundations, Leg and Body Paints, Lipstick, Makeup Bases, Rouges, Makeup Fixatives, Other Makeup Preparations
Manicuring Preparations	Basecoats and Undercoats, Cuticle Softeners, Nail Creams and Lotions, Nail Extenders, Nail Polish and Enamel, Nail Polish and Enamel Removers, Other Manicuring Preparations
Oral Hygiene Products	Dentifrices (aerosol, liquid, pastes, and powders), Mouthwashes and Breath Fresheners (liquids and sprays), Other Oral Hygiene Products
Personal Cleanliness	Bath Soaps and Detergents, Deodorants (underarm), Douches, Feminine Deodorants, Other Personal Cleanliness Products
Shaving Preparations	Aftershave Lotion, Beard Softeners, Men's Talcum, Preshave Lotions (all types), Shaving Cream (aerosol, brushless, and lather), Shaving Soap (cakes, sticks, etc.), Other Shaving Preparations
Skin Care Preparations (Creams, Lotions, Powders, and Sprays)	Cleansing (cold creams, cleansing lotions, liquids, and pads), Depilatories, Face and Neck (excluding shaving preparations), Body and Hand (excluding shaving preparations), Foot Powders and Sprays, Moisturizing, Night, Paste Masks (mud packs), Skin Fresheners, Other Skin Care Preparations
Suntan Preparations	Suntan Gels, Creams, and Liquids, Indoor Tanning Preparations, Other Suntan Preparations

Section A: -Factors affecting attitude towards cosmetic purchase intension

1 = Strongly Disagree (SDA) 2 = Disagree (DA) 3 =Somewhat Disagree 4= Neutral 5 = Somewhat Agree 6 = Agree (A) 7 = Strongly Agree (SA)								
Sr. No	Opinion	Strongly Disagree	Disagree	Somewh at	Neutral	Somewh at Agree	Agree	Strongly Agree
1	I think using cosmetic products is a good idea for me							
2	I think using cosmetic products is pleasant for me							
3	I think using cosmetic products is beneficial to me							
4	I think using cosmetic products is a wise decision for me							
5	I think using cosmetic products is desirable to me.							
6	I have a positive attitude towards cosmetic products							
7	I think using cosmetic products is delightful							
8	I think using cosmetic products is valuable							
9	I would like to recommend cosmetic products to other people							
10	I intend to continue buying cosmetic products in future							
11	I intend to buy cosmetic products because it adds to my beauty							
12	I intend to buy cosmetic products because it adds to my personality							
13	I intend to buy cosmetic products because it adds to my self-confidence							

14	Buying cosmetic products would help me feel accepted.							
15	People I listen to have the ability to convince me to purchase cosmetic products							
16	Social media can influence my decision to buy cosmetic products							
17	My family members believe that buying cosmetic products is a good idea for me							
18	I learned about cosmetic products from my friends							
19	It is important that I always look good							
20	I should do whatever I can to always look my best.							
21	I would feel embarrassed if I did not look my best when I am around people							
22	Using cosmetic products to look good is worth the efforts							
23	Cosmetic products satisfy my beauty-related needs well							
24	Using cosmetic products gives me confidence							
25	Using cosmetic products helps me in solving beauty-related problems.							
26	Cosmetic products which I use have good functionality							
27	I think that the cosmetic products I use offer value for money							
28	I believe that the cosmetic products I use are reasonably priced							

29	I believe that the cosmetic products I am using are good products for the price							
30	I am confident I can buy cosmetic products if I want them							
31	I have the resources and ability to buy cosmetic products							
32	I completely have control over the purchase of cosmetic products							
33	I have better knowledge of cosmetic products compared to my friends and relatives							
34	I have enough knowledge to differentiate between chemical cosmetic products, and green cosmetic products							
35	I understand the features of cosmetic products							
36	I check the reasonability of the price before buying any cosmetic product							
37	I think that the cosmetic products I use are affordable to buy							
38	Discount on cosmetic products makes them economical to buy							
39	Using cosmetic products would give me pleasure							
40	Using cosmetic products is enjoyable							
41	I feel good when I use cosmetic products							

Section B: - Personality Traits

1 = Strongly Disagree (SDA) 2 = Disagree (DA) 3 =Somewhat Disagree 4= Neutral 5 = Somewhat Agree 6 = Agree (A) 7 = Strongly Agree (SA)								
Sr. No	Opinion	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	I worry about things							
2	I get stressed out easily							
3	I fear for the worst							
4	I panic easily							
5	I enjoy thinking about things							
6	I enjoy hearing new ideas							
7	I get excited by new ideas							
8	I enjoy looking for a deeper meaning in things							
9	I am concerned about others							

10	I sympathize (understand) with others' feelings							
11	I respect others							
12	I am always prepared							
13	I make plans and stick to them							
14	I pay attention to details							
15	I feel comfortable around people							
16	I talk a lot to different people at parties							
17	I start conversations							
18	Please assess to what extent you believe in personality of a individual							

Section C: - Demographic Profile

1. **Name (Optional):** _____(Surname
First name Middle name)
2. **Gender: (please put tick mark (✓) accordingly)**
 - d) Male ☐
 - e) Female ☐
 - f) Transgender ☐
3. **Age: (please put tick mark (✓) accordingly)**
 - f) 20-30 ☐
 - g) 31-40 ☐
 - h) 41-50 ☐
 - i) 51 -60 ☐
 - j) 61 & Above ☐
4. **Marital Status: (Please put tick mark (✓) accordingly)**
 - e) Married ☐
 - f) Unmarried ☐
 - g) Separated/Divorcee ☐
 - h) Widow ☐
5. **Place of Residence: (Please put tick mark (✓) accordingly)**
 - c) Urban ☐
 - d) Rural ☐
6. **Educational Qualification: (Please put tick mark (✓) accordingly)**
 - f) SSC & Below ☐
 - g) HSSC ☐
 - h) Graduation ☐
 - i) Post-Graduation ☐
 - j) Other if any_____ (Please mention)

7. Monthly Income: (Please put tick mark (✓) accordingly)

- g) Below 10,000 ☐
- h) 10,001-20,000 ☐
- i) 20,001-30,000 ☐
- j) 30,001-40,000 ☐
- k) 40,001-50,000 ☐
- l) 50,001 & Above ☐

8. What kind of cosmetics do you use? (Please put tick mark (✓) accordingly)

- d. Chemical cosmetics ☐
- e. Green cosmetics ☐
- f. Both ☐

9. How often do you use cosmetics? (Please put tick mark (✓) accordingly)

- f. Every day ☐
- g. A few times a week ☐
- h. Approximately once a week ☐
- i. Less than once a week ☐
- j. On special occasions ☐

10. How often do you buy cosmetics? (Please put tick mark (✓) accordingly)

- f) Monthly ☐
- g) Bi monthly ☐
- h) When stock is over ☐
- i) On occasions ☐
- j) Any other please indicate _____

11. How much do you spend (monthly) on cosmetics? (Please put tick mark (✓) accordingly)

- g) Less than ₹2,000 ☐
- h) ₹2,001-4,000 ☐
- i) ₹4,001-6,000 ☐
- j) ₹6,001-8,000 ☐
- k) ₹8,001-10,000 ☐
- l) ₹10,001- and more ☐