



***RATIONAL-IRRATIONAL DIALECTIC IN THE THEORY OF PLANNED  
BEHAVIOR IN COSMETIC USE IN MALAYSIA***

**GEETHA A/P MUTHUSAMY**

**FEP 2019 6**



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BEHAVIOR IN COSMETIC USE IN MALAYSIA**

By

**GEETHA A/P MUTHUSAMY**

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,  
in Fulfillment of the Requirements for the Degree of Doctor of Philosophy**

**May 2019**

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree of Doctor of Philosophy

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**May 2019**

**Chairman : Associate Professor Kenny Teoh Guan Cheng, PhD**  
**Faculty : Economics and Management**

The Theory of planned behaviour (TPB) is a model that is based largely on cognition i.e., logical cognition (Ajzen & Fishbein, 1980). As a result, the rational component in TPB predominates in influencing the dependent variable that is intention; meaning that, TPB largely ignores the role of irrational influences in decision making. The study, being explorative, attempts to extend the social-psychological behavioural model i.e. Theory of Planned Behavior (TPB) by including two moderators i.e., Cognitive Bias and Irrational Beliefs to predict female consumers purchase decision towards cosmetic products due to the intense competition identified in cosmetics industries. These two moderators are quite prevalent in the psychological domain. Hence, to the extent that it can incorporate the measurement of irrational variations, this research postulates that TPB can be improved as a model of behavioural intention. To this end, to complement cognitive rationality which is already present in the TPB model, this research will introduce irrational factors to complete the picture. Further, this study evaluates the Purchase Decision Behavior of consumer to test the Intention-Behavior relationship. A self-administered questionnaire was employed to gather data from 380 consumers via purposive sampling and subsequently analyzed using Partial Least Squares-Structural Equation Modeling (PLS-SEM). The questionnaire was distributed to female cosmetic users who are 18 years old and older in Klang Valley. Overall, this study proposes thirteen (13) hypotheses. In addition, the proposed moderators, Cognitive Bias tend to strengthen the Behavioral Beliefs and Attitude, Normative Beliefs and Subjective Norms relationship; meanwhile, Irrational Beliefs are found to strengthen the Attitude and Intention, Subjective Norms and Intention relationships. Thus, the findings of this study contribute to the existing theory and practice by using psychological theories beyond its original domain on study through the verification of the framework; and its practical contribution consequently provides useful insights to assist marketers of cosmetic industries to create effective integrated marketing communication strategies (IMC) that incorporate the concurrent influence of both, rational and irrational elements, in the decision making of consumers; with

the result that marketers would have a more realistic and pragmatic model on which to guide their marketing strategies.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**PERBAHASAN RASIONAL— NYAHRASIONAL DALAM TEORI  
GELAGAT PERANCANG DALAM KONTEKS PENGGUNAAN KOSMETIK**

Oleh

**GEETHA A/P MUTHUSAMY**

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**Pengerusi : Profesor Madya Kenny Teoh Guan Cheng, PhD**  
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Teori Gelagat Perancang (TPB) adalah model yang kebanyakannya didasarkan pada kognisi iaitu kognisi logik (Ajzen dan Fishbein, 1980). Akibatnya, komponen rasional dalam TPB mendominasi dalam mempengaruhi pemboleh ubah niat beli yang bermakna bahawa, TPB sebahagian besarnya mengabaikan peranan pengaruh tidak rasional dalam membuat keputusan. Kajian ini, sebagai eksploratif, cuba untuk memperluaskan model tingkah laku sosial-psikologi iaitu Teori Gelagat Perancang dengan memasukkan dua moderasi iaitu Bias Kognitif dan Kepercayaan Nyahrasional untuk meramalkan pembeli wanita membeli keputusan terhadap produk kosmetik akibat daripada persaingan yang agak ketara dari segi penjualan kosmetik. Kedua-dua moderator ini agak lazim di dalam domain psikologi. Oleh itu, setakat yang dapat menggabungkan pengukuran variasi yang tidak rasional, kajian ini memperlihatkan bahawa TPB dapat ditingkatkan sebagai suatu model niat tingkah laku. Untuk tujuan ini, untuk melengkapkan rasionaliti kognitif yang sudah ada dalam model TPB, penyelidikan ini akan memperkenalkan faktor yang tidak rasional untuk melengkapkan gambar. Selanjutnya, kajian ini menilai Kelakuan Keputusan Membeli pengguna untuk menguji hubungan Niat beli-Perilaku. Soal selidik yang digunakan untuk mengumpulkan data dari 380 pengguna melalui teknik persampelan bertujuan dan seterusnya dianalisis dengan menggunakan Partial Least Square (PLS-SEM). Soal selidik diedarkan kepada pengguna kosmetik wanita berusia 18 tahun ke atas di Lembah Klang. Keseluruhannya, kajian ini mencadangkan tiga belas (13) hipotesis. Di samping itu, moderasi yang dicadangkan, Bias Kognitif cenderung untuk mengukuhkan hubungan Kepercayaan Gelagat—Sikap dan Kepercayaan Normatif—Norma; Sementara itu, Kepercayaan Tidak Rasional didapati memperkuat hubungan Sikap-Niat dan Norma- Niat. Oleh itu, penemuan kajian ini menyumbang kepada teori dan amalan yang sedia ada melalui pengesahan rangka kerja dimana teori yang sering digunakan dalam bidang psikologi digunapakai di luar domain pengajiannya; dan sumbangan praktikalnya memberikan wawasan berguna untuk membantu para pemasar industri kosmetik untuk mewujudkan strategi komunikasi pemasaran

bersepadu yang bersepadu yang menggabungkan pengaruh serentak kedua-dua elemen yang rasional dan tidak rasional, dalam keputusan membuat pengguna; dengan hasilnya pemarkar akan mempunyai model yang lebih realistik dan pragmatik untuk membimbing strategi pemasaran mereka.



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This thesis was submitted to the Senate of the Universiti Putra Malaysia and has been accepted as fulfillment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

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## LIST OF ABBREVIATIONS

AVE	Average Variance Extracted
CB-SEM	Covariance Based-Structural Equation Model
CMV	Common Method Variance
CR	Composite Reliability
$f^2$	Effect Size
PLS-SEM	Partial Least Square-Structural Equation Model
$Q^2$	Predictive Relevance
$R^2$	Co-efficient of Determination
SEM	Structural Equation Model
SRMR	Standardized Root Means Square Error
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action

# CHAPTER 1

## INTRODUCTION

This chapter consists of ten (10) sections. Section 1.1 narrates the research Background of the Research and followed by Section 1.2 discusses on the overview of Cosmetic Industry. Introduction consists of the background of the research of this research. Next, Section 1.3 discusses on the Problem Statement of the research and Section 1.4 define the terms used in this research. Further, it narrates the contents of the research which are guided by the Research Questions and Research Objectives in Section 1.5 and 1.6 respectively. Next, this chapter contemplates the predictable Research Significance gained through this research in Section 1.7. Subsequently, Section 1.8, 1.9 and 1.10 enlighten the Scope of the research, Organization of the research and finally the Chapter Summary.

### 1.1 Research Background

The Theory of Planned Behavior (TPB) model was designed to focus exclusively on rational reasoning (Sniehotta et al., 2014; Sheeran et al., 2013; Conner et al., 2013; Ajzen, 2011); excluding cognitive and affective processes. This controversy has culminated in the general consensus that TPB would be better off, if it incorporated both rational and irrational elements—“A frequently voiced criticism of TPB and other reasoned action models is that they are too “rational”, not taking sufficient account of cognitive and affective process that are known to bias human judgements and behavior,” (Ajzen, 2011); And this “exclusive focus on rational reasoning” is further critiqued by Sniehotta et al., (2014); and also by Sheeran et al (2013); Conner et al (2013). Hence, by incorporating the role of irrational factors into the model, this research addresses the rational—irrational dialectic in the TPB model.

When choosing what products/services to buy, people often think they are making smart decisions and behaving in ways that are highly rational and congruent with their values and intentions. If people are rational, one would expect that their final decisions would be rational as well. However, in reality, people are not always rational. People routinely deviate from the ‘rational choice’ model of human behavior, in which one objectively weighs up the costs and benefits of all alternatives before choosing the optimal course of action (Frederiks, Stenner, & Hobman, 2015). This is because a consumer’s thoughts and actions are the sum effect of both rational and irrational factors (Herrmann, 2015; Becker, 1962).

In spite of this glaring truth, prior research has mostly focused on how cost and benefit utilities have been optimized by rational agents to choose the best options available among the alternatives (Townsend & Kahn, 2014; O’Shaughnessy & Jackson O’Shaughnessy, 2002; Huffman & Kahn, 1998). Norman (2004) stressed that consumer purchase behavior is often influenced by human instinct, which is often the first reaction to an external stimulus. However, researchers have paid scant attention

to the cognitive and affective components behind this phenomenon (Mick et al., 2004; Havlena & Holbrook, 1986). To add on, consumers' emotional responses towards their purchasing behavior are triggered when they are offered with abundance choice of products (Zhang et al., 2014; Sheng & Joginapelly, 2012).

This research into the Rational—Irrational Dialectic will focus on the cosmetics industry because the role of irrationality is most apparent in this industry (Sinha, 2003; Bray, 2008). Hence, it is here, in the cosmetics industry, that rational and irrational factors are juxtaposed in stark contrast; and this presents the ideal setting for an examination of the Rational—Irrational Dialectic.

Cosmetics are substances used to enhance the attractiveness of the human body (Morris & Venkatesh, 2000; Noles, Cash & et al., 1985, Berscheid & Walster, 1974; Cash, 1981; Cash & Burns, 1977). In fact, Lewinsohn's (1974) Reinforcement Theory suggests that consumers of cosmetics are more susceptible to irrational behavior in their decision making; And Kotler & Keller (2006) have stressed that "...a consumer's behavior is affected by three different factors: cultural, social and personal factors," all of which inhere strong emotional values which are irrational.

## **1.2 Cosmetic Industry: An Overview**

Country Guide: Malaysia Personal Care & Cosmetics Products (2016), reports that countries in Asia represent some of the largest and high potential markets for export-led growth for U.S. Personal Care and Cosmetics industries. Comprising over 20% of U.S. global exports in the sector, the Asian countries offer the cosmetic industry more than 3 billion potential consumers in the fastest growing global markets. This base includes consumers in well-established markets for U.S. products such as Japan and South Korea, which together accounted for more than \$1 billion in U.S. personal care and cosmetics exports in 2015; and in China, which at an estimated \$500 to \$600 million in U.S. exports that same year, is predicted to become the largest global market for cosmetics in the near future; For example, Fujifilm, a famous Japanese multinational photography and imaging company in Tokyo started a new line of cosmetics developed using the company's film-related technologies in 2006 (Shibata et al., 2017). Cosmetics and film may seem like unrelated industries, but Fujifilm diversified to achieve a surprising synergy between them. Not only did the decision make total scientific sense for a film company, it may also have been one of the major reasons that Fujifilm could ride the digital revolution. This shows that cosmetic industries are continuously growing to satisfy consumer demand for beauty. Furthermore, the global cosmetics market is expected to reach \$429.8 billion by 2022.

Cosmetics are a huge industry in Malaysia, with the total trade volume for personal care and cosmetic products at about US\$2.24 billion in 2015 (Gerstle, 2016). Over 50% of this demand was met by US\$1.13 billion in imports. In descending order, China, Thailand, France, the EU28, the United States, South Korea and Japan are the main exporters to Malaysia. Skin-care products command the biggest market share

with a total import value of US\$292 million. This is followed by cosmetics and toilet preparations (including shaving, bath preparation and deodorants) with a value of US\$109 million. The third highest import category for Malaysia are soaps and other skin-wash products, valued at US\$104 million. Since 2012, the United States' exports to Malaysia grew by 25%, with an average annual increase of 9% over the past five years.

According to the Malaysian External Trade Development Corporation (MATRADE), in 2015 Malaysia's domestic manufacturers exported RM1.124 billion (about US\$270 million) worth of cosmetics and toiletries. The Malaysian government aimed to increase this number by 5% for 2016 which resulted in the Jan-August 2016 domestic exports increasing to RM809 million (US\$194 million). The domestic production of cosmetics and toiletries products in Malaysia has been increasing in volume in the market. There are two categories of domestic manufacturers: multinational companies (MNCs) and domestically owned entities. Major MNCs either have sales offices or manufacturing facilities in-country or regionally with most of them focused on the mass consumer markets. While some local manufacturers produce, and own their house brands, a big proportion of them focus on Original Equipment Manufacturing (OEM).

In recent years, a significant number of local skin-care companies have been shifting towards having their own cosmetic labels rather than import foreign brands. This is especially true for the skin-care products targeting the medical professional channels like dermatologists, and plastic surgeons. In Malaysia, most products are sold via spas and salons, retail stores, and multi-level marketing and direct selling channels. There are 210 cosmetic manufacturers in Malaysia who conform to the Good Manufacturing Practices (GMP) requirement in accordance with the Country Guide: Malaysia Personal Care & Cosmetics Products (2016).

### **1.2.1 Type of cosmetics**

Cosmetic products can be described as any substance or preparation applied to the human body such as skin, hair, nails, lips, eyes or teeth for beautifying, cleansing, colouring, perfuming, conditioning, protecting, preserving or changing the appearance (Spicoli, 2010). Cosmetics are designed to produce the appearance of looking healthy, clean and attractive. Moreover, rising trend of the use of natural ingredients in cosmetic products is observed among various manufacturers. This trend caters to the ever-increasing demand for natural or organic cosmetic products among customers.

According to Euromonitor (2011), the cosmetic industry is a very segmented market including hair care, skin care, make up, perfumes and fragrances, oral hygiene, bath and shower, deodorants, men's toiletries, baby care and sun care. Specifically, demand for skin whitening products by women – as well as men – is driving the trend, but other beauty products are not far behind (Alexander, 2011). Normally, the cosmetic industry is taken to mean the colour cosmetics or makeup segments, but other sub-

segments are equally important, such as, bath and shower products, deodorants, hair care, oral hygiene, fragrances, skin care depilatories and sun care (Perez, 2008). According to experts at UN COMTRADE, the total import from 2012 to 2014 for Essential Oils, Perfumes, Cosmetics and Toiletries into Malaysia totalled (USD 910,637,000).

### **1.2.2 Consumer Profile**

Malaysian consumers of mass market FMCG cosmetics and toiletries include both males and females. The consumer profile of cosmetic using Malaysians can be categorized into age group, household income level, and urban/rural population. About 70% of Malaysians are urban dwellers. It is also this group that has higher disposable income to consume cosmetic products.

Currently, the attitudes towards using cosmetics are changing (Hassali et al., 2015) and the market in Malaysia is no different. Women lay great importance on personal grooming and those with higher incomes are often interested to buy premium personal care products. Similarly, Malaysian men tend to see personal grooming as a necessity rather than a luxury; thus, Malaysia is also seeing increasing demand for skin-care and grooming services by the urban male population. Hence, consumers seem to be ready to pay higher prices for high quality and good benefit products, such as whitening, multi-functions and anti-ageing products.

Besides that, increasing female work force participation, better education, overseas exposure and familiarity with foreign cosmetics and skin care brands, and knowledge of the basics of skin-care regimen are all factors that bode well for cosmetic use in Malaysia. The younger generation females tend to purchase Korean branded products because of the massive media presence of K-pop and K-drama in Malaysia. Further, Korean cosmetics and personal care products that are available in Malaysia are more affordable in comparison to the U.S., EU, Australian and Japanese products. The profile of this consumer group is the 12-25 year range, female, with a high school or higher education level, urban dweller who resides in middle to upper-middle income households. The number of skin-care product types used by this age group is around three to five including, cleanser, toner, moisturizer, sunscreen, and acne treatment. In terms of hair-care usage, about 2-3 product types are typical: shampoo, conditioner and hair serum. The number of products used is reduced if they have multi-purpose functions, e.g., Blemish-Balm (BB) or Colour Correcting (CC) creams (Country Guide: Malaysia Personal Care & Cosmetics Products, 2016).

Meanwhile, Malaysian males in this age group usually are simpler and tend to use mass market brands in terms of skin-care products. They typically use one to two face care products: cleanser and acne treatment. On the other hand, Malaysian men quite focused on hair-styling products. The number of hair products used is comparable to their female counterparts, in the range of 2-3 products as well: shampoo, conditioner, and one hair styling product (hair-mud/styling clay/hair gel etc.).

However, the female to male consumer ratio for facial/ spa treatment is 3:1. The number of skin-care products used by this age group can be upwards of eight products for females. Daily rituals include double cleanse, tone, essence and/or serum, eye cream and face cream, sunscreen, and the weekly scrub and mask. The average number of products used by males is slightly less than females—5 products (Hassali et al., 2015). The main influencers are facial and spa treatment centres, retail outlets, direct selling companies, and friends (Country Guide: Malaysia Personal Care & Cosmetics Products, 2016). There are also two categorical groups in the men segment: Those who take care of their skin and thus would use a comparable number of products as just described (albeit slightly less); and those who merely cleanse their face and do little else. Malaysia is located in the tropics and its climate is hot and humid; thus, it is very important that the products formulated for this market do not leave a tacky after-feel but can withstand heavy humidity.

### **1.2.3 Distributors/Competitive Growth**

Currently, global competition is severe because many brands sell the same products and different factors influence consumers' selections of products (Kumar & Babu, 2014). One of the reasons could be, the mode of sale for cosmetic products comprises retail and online sale, where retail mode of sale is further classified into general departmental store, supermarkets, drug stores and brand outlets. It is quite apparent that cosmetic users prefer the retail experience in which sales assistants are ready with samples geared towards pleasing the senses of the customer. However, use of the online medium for the purchase of cosmetic product has shown a rising trend among customers (Rajput, 2016).

There is also a high prevalence of cosmetics and toiletries being sold via multi-level marketing (MLM)/direct sales distribution channels in Malaysia. Typically, the MLM companies have their own private labels. Some of the cosmetic toiletries of MLM corporations in Malaysia are: Amway, Avon, Cosway, Nu Skin, Nutri-Metics and Mary Kay. Subsequently, the extensive use of cosmetics, including soap, deodorant, shampoo to luxury beauty products such as makeup and perfume, drives this market; and this is supported by the increasing beauty consciousness and purchasing power of consumers leading to increased demand for cosmetic products. In addition, attractive packaging and innovative marketing strategies are prime factors, which boost market growth (Bettman et al., 1998).

## **1.3 Problem Statement**

The Theory of planned behavior (TPB) is a model that is based largely on cognition i.e., logical cognition (Ajzen & Fishbein, 1980). As a result, the rational component in TPB predominates in influencing the dependent variable that is intention; meaning that, TPB largely ignores the role of irrational influences in decision making. However, in the behavioral economics paradigm, an individual decision is based on both rational and irrational forces (Micklitz et al., 2011; Mullainathan & Thaler, 2000).



It is the combination of psychology and economics which believes that humans deviate from the standard economic model.

TPB assumes that human behavior and decision making is reasoned, deliberate, and mindful. However, other research has since shown that decision making can instead be effortless, unintentional, uncontrollable, automatic, and conscious or non-conscious (Ajzen & Fishbein, 2000; Wegner & Bargh, 1998; Bargh, 1996; Bargh, Chen, & Burrows, 1996; Posner & Snyder, 1975). The critics of this theory claim that TPB too 'rational,' because it does not take sufficient account of cognitive and affective processes which are known to bias human judgments and decision making (Esposito, van Bavel et al., 2016; Sniehotta et al., 2014). These investigators deny the primacy of consciousness as a causal determinant (Wegner, 2002; Wegner & Wheatley, 1999); but rather impute human social behavior to implicit attitudes (Greenwald & Banaji, 1995) and other irrational mental processes (Uhlmann & Swanson, 2004; Aarts & Dijksterhuis, 2000; Bargh & Chartrand, 1999).

Erasmus et al., (2001) postulate that models such as TPB have been criticized not so much for their emphasis on rational decision-making behavior, but rather for their lack of consideration that consumers effort in purchase decisions do not occur in sequential stages in all cases of decision making; even for the most efficient decisions (Langley et al., 1995; Witte et al., 1972). Similarly, TPB model does not attempt to reproduce the characteristics of a specific pragmatic sequential decision-making process; but it is simplified by including important characteristics of such processes (Sniehotta et al., 2014).

Nevertheless, TPB contemplates consumer decision making process as a logical problem-solving process. However, prior studies point out that consumers do not always have conclusive preferences, but rather create them during the decision process itself (Sproule & Archer, 2000; Bettman et al., 1998). Hence, the TPB approach is a limitation that instigates a positivistic viewpoint for model development; rather than incorporate traditional decision-making processes (Bozinoff, 1982). In sum, it is better to have a model that incorporates flexibility and can be adapted by decision makers.

Moreover, there is a pressing need in the field to balance the rational, cognitive side of marketing thought and practice with new ideas and research on the emotional facets of marketing behavior (Kahneman, 2011; Stojanovic, 2013). Therefore, the approach of Cognitive Bias, Kahneman & Tversky (1972) and Irrational Beliefs, Ellis (1974) are adopted in this study. These two approaches initially – and still are – applied in clinical psychology.

Ho, Lim & Camerer (2006) have expounded that classic economic models applied in areas of marketing can be shaped accordingly thus improving both psychological precision and predictive power of the model. Similarly, Johnson (2006) and Prelec (2006) have suggested that new models could be more definite about underlying psychological processes (which rational models ignore). Thus, this study demonstrates

the importance of unified models that incorporate both the rational and irrational factors into one model.

Apart from the limitation addressed in TPB Theory, research shows that TPB is limited in terms of predicting consumer behavior (Davies et al., 2002); thus, including the behavioral measures would allow for an investigation of the relationship between intention and Purchase Decision Behavior. Consequently, this study also explores whether TPB intentions are related to Purchase Decision Behavior.

This study selects cosmetic industry as the context because of the subjective nature (irrational) of cosmetic use, which makes it ideal for creating a unified theory that incorporate rational and irrational factors. On the global basis, countless brands sell similar products and different features influence consumers' selections of products (Wu & Lee, 2016; Kumar & Babu, 2014). The complexity of decision making intensifies further with the abundance of choice and retail outlets including online sales, which creates a massive array of choice for consumers as well. Similarly, the Malaysian cosmetics industry is emerging and there is a high competition among local brands and global brands. As a result, the cosmetics industry is consistently changing and new products with distinctive features have been introduced through exhibition events. To further compound the situation, this intense competition leads to marketing problems and doubled the competition among cosmetic manufactures.

Consequently, choosing cosmetic products between various options has been shown to have potentially negative consequences for the decision maker resulting in regret and dissonance (Botti, 2004). Similarly, Ariely (2010) asserts that when people attempt to consider all relevant attributes and options, they may as a result, erroneously give weights to attributes that they do not actually value high—such as purchasing fake cosmetics. Cosmetic users randomly choose products to be used without carefully examining the usefulness and the negative outcomes of the usage (Markey et al., 2013; Rodda, 2004). It is quite apparent that, without effective marketing tactics, the said plights are likely to continue. Perhaps, a study which investigates these adversities by a model could help to regulate the situation which assists the marketers to foresee a technique to market their products.

To improvise marketing strategies, the psychological reason of cosmetic users purchasing behavior must be scrutinized in detail; specifically, on the psychology of consumers while making decisions between alternatives (e.g., brands, products, and retailers); and how consumers are influenced by the environment (e.g., culture, family) must be taken into consideration (Ward & Thuhang, 2007). There are opposing views on whether having many choices is associated with positive or negative consequences (Scheibehenne, Greifeneder, & Todd, 2010). One way to reconcile these views is to search for variables that moderate consumers decisions. decisions (Shah & De'Souza, 2009). In addition, psychological models have paid scant attention to cosmetic Since the application of TPB in cosmetics purchasing behavior is scant, therefore, the literature reviewed will include behavioural studies from psychological domains, in addition to the studies based on Purchase Decision Behavior. Consequently, two

constructs have been added as moderators for this study “Cognitive Bias and Irrational Beliefs”.

The concept of **Cognitive Bias** refers to an inclination to think in certain ways that can lead to systematic deviations from a standard of rationality or good judgment. Despite being a deviation on to the rational choice model, cognitive biases can be viable tools to enhance the profitability and the competitive advantage of the firm. Cognitive bias has been found to influence other factors within the rational choice model (Hanson & Kysar, 1999); for instance, consumers often seek continual information and filter their search for evidence that will support their prior belief (Schacter, 1999); and, re-evaluate price in relation to external reference prices. This application is a clear example of the substantive role of cognitive bias in marketing and consumer behavior. In conclusion, the concept of Cognitive Bias can be meaningfully incorporated in the TPB Model for examination.

The concept of Cognitive Bias is prevalent in the psychological domain, along with the growth of research in clinical and non-clinical approach; however, there is an increasing concern over the measurements of cognitive biases. The gathering, processing, and interpreting data, typically referred to as ‘cognitive biases’ have consistently been demonstrated to be relevant to psychotic symptoms in both clinical and non-clinical groups. However, only recently have self-report measures been developed and validated against experimental tasks (Peters et al., 2014; van der Gaag et al., 2013). Thus, this study on cosmetic purchasing behavior provides an important opportunity to enhance the measures of DACOBS Scale; a scale which have been previously used to measure Cognitive Bias on clinical studies, to be measured on the general population, particularly by assessing consumers psychological behavior in purchase decision making. Therefore, this study aims to contribute by adopting Cognitive Bias as a moderator in the TPB Model especially in uncertain and complex conditions, namely, in cosmetics purchasing behavior.

Next, the notion of **Irrational Beliefs** Ellis (1955), refers to unreasonable evaluation and inferential beliefs, which are developed through illogical manners, emphasizing necessity and pressure which consequently produce emotions and behavioral complications (Hamidi & Hosseini, 2010; Shafiabadi & Naseri, 2002). Although research has been carried out on irrational beliefs, studies within this domain are still in its infancy. Meanwhile, studies claim that compulsive buyers with irrational beliefs (Harnish & Bridges, 2015; Becker, 1962) are found to be more passionate in buying clothing, cosmetics, and jewellery in general (Black, 2001; Faber & O’Guinn, 1989).

Of particular importance is that, tested evidence using Ellis’ Irrational Beliefs Scale have found that irrational beliefs influence logical decision making (Jeromy & Gary, 1982) supported by (Dijksterhuis et al., 2006; Perugini & Conner, 2000), and this denotes the potential dialectic between one’s reasoning and one’s emotions; that is there is an inter-play between emotion’s and reasoning in decision making. Consequently, it brings to mind the TPB Model which is essentially logical; and how this model can be made more efficacious by the incorporation of illogical factors in

the model. Therefore, this study aims to contribute to this growing area of research by adopting Irrational Beliefs as a moderator in the TPB Model.

#### 1.4 Definition of Terms

There are twelve (12) terms that are specific to this research. The definitions are adopted from published research. Details for each definition are provided in Table 1.1

**Table 1.1 : Definition of Terms**

Term	Author (Year)	Definition
Behavioral Beliefs	Fishbein & Ajzen (1975)	Represents subjective probability that an object has a certain attribute. For example, “a person may believe that physical exercise (the object) reduces the risk of heart disease (the attribute)”
Normative Beliefs	Ajzen (1985)	Represents an individual’s beliefs about the extent to which other people who are important to them think they should or should not perform a behavior.
Control Beliefs	Ajzen (1985)	Represents an individual’s beliefs about the presence of factors that may facilitate or hinder performance of the behavior.
Attitude	Ajzen & Fishbein (2000)	Represents ones’ accessible beliefs about the behavior, where a belief is defined as the subjective probability that the behavior will produce a certain outcome.
Subjective Norms	Amjad & Wood (2009)	Represents an individual's perception about the behavior, which is influenced by the judgment of significant others (e.g., parents, spouse, friends, peers).
Perceived Behavior Control	Ajzen (2002)	Represents an individual's perceived ease or difficulty of performing the behavior. It is assumed that perceived behavioral control is determined by the total set of accessible control beliefs.
Intention	Ajzen (1991)	Represents an indication of an individual's readiness to perform a given behavior. It is assumed to be an immediate antecedent of behavior.
Cognitive Bias	Tversky & Kahneman (1972)	Represents a systematic pattern of deviation from norm or rationality in judgment, whereby inferences about other people and situations may be drawn in an illogical fashion.
Irrational Beliefs	Ellis (2002)	Represents beliefs that are illogical, and/or do not have empirical support, and/or are non-pragmatic.
Purchase Decision Behavior	Payne, Bettman, & Johnson (1993)	“The use of various decision strategies or behavior is an adaptive response of a limited-capacity information processor to the demands of complex task environments”. The purchase decision behavior consist of 2 types of decision behavior which are:
	Gilboa (2011)	Rational — a process of identifying and choosing alternatives based on the values and risk preferences of the decision maker.
	Thaler & Sunstein (2008)	Irrational — human decisions are strongly influenced by context, including the way in which choices are presented to us.

## 1.5 Research Questions

This research proposes Research Questions to close the research gap that affects the predictive validity of the Theory of Planned Behavior (TPB). The existing direct relationships of the TPB Model are examined as well, to complete the study of this model in the current context. Thus, the proposed research questions are:

Research Question 1 Are there any relationships between Behavior Beliefs and Attitude; Normative Beliefs and Subjective Norms; and Control Beliefs and Perceived Behavior Control in cosmetic purchasing behavior?

Research Question 2 Are there any relationships between Attitude, Subjective Norms, and Perceived Behavioral Control and their effects on Intention in cosmetic purchasing behavior?

Research Question 3 What is the role of Intention in the Purchase Decision Behavior of cosmetic users?

Research Question 4 Can the relationships Behavioral Beliefs and Attitude; Normative Beliefs and Subjective Norms; and Control Beliefs and Perceived Behavior Control; Attitude and Intention; Subjective Norms and Intention; and Perceived Behavioral Control and Intention, be to be moderated by the Cognitive Bias and Irrational Beliefs?

## 1.6 Research Objectives

This study adapts the Theory of Planned Behavior (TPB) model to understand consumer purchase decision behavior in the context of cosmetic users. The objective of this study is to examine the moderating effect of Cognitive Bias and Irrational Beliefs on consumer intention, and finally, determine their effect on Purchase Decision Behavior. At the same time, this study examines the direct relationship of Behavior Beliefs and Attitude, Normative Beliefs and Subjective Norms, and Control Beliefs and Perceived Behavior; also, the impact of Attitude, Subjective Norms, and Perceived Behavioral Control towards Intention to engage in a cosmetic user Purchasing Behavior. In accordance with the research questions stated above, the objectives of this study are articulated below:

Research Objective 1	To determine the relationships between Behavior Beliefs and Attitude, Normative Beliefs and Subjective Norms, and Control Beliefs and Perceived Behavior Control.
Research Objective 2	To determine the relationships between (Attitude, Subjective Norms, and Perceived Behavioral Control) and Intention.
Research Objective 3	To determine the relationship between Intention and Purchase Decision Behavior.
Research Objective 4	To determine the moderating effects of Cognitive Bias on Behavior Beliefs and Attitude.
Research Objective 5	To determine the moderating effects of Cognitive Bias on Normative Beliefs and Subjective Norms.
Research Objective 6	To determine the moderating effects of Cognitive Bias on Control Beliefs and Perceived Behavior Control.
Research Objective 7	To determine the moderating effects of Irrational Beliefs on Attitude and Intention; Subjective Norms and Intention; and Perceived Behavioral Control and Intention.

## **1.7 Research Significance**

The contribution of this study to the current literature and practice, in terms of theoretical and practical contribution, here on:

### **1.7.1 Theoretical contribution**

This study is expected to contribute theoretically to the current literature on different levels. Currently, the TPB model assesses consumer decision making mainly from the perspective of rational elements. This research, however, adjusts the TPB model to incorporate cognitive and affective factors which are expected to make the TPB Model more representative of reality. After all, consumers are both rational and emotional at the same time (Hirschman, 1984; Zajonc & Markus, 1982). This study is expected to result on a theoretical framework which inheres the psychological, the cognitive and the irrational.

Furthermore, this study will apply theories from different fields to the framework: Prospect Theory and Rational Emotive Behavioral Theory (REBT) to explain the moderating effect of Cognitive Bias and Irrational Beliefs. Finally, this study contributes to the development of existing theories by applying these theories in the arena of consumer behavior, particularly, cosmetic users Purchase Decision Behavior. Hence, this study is expected to fill gaps in the Theory of Planned Behavior, Cognitive Bias and Irrational Beliefs.

### **1.7.2 Practical contribution**

It is expected that insights will be delivered to practitioners, on the importance of irrational factors that influence consumers; and, by applying the moderators, this study is intended to assist marketers to create effective Integrated Marketing Communication strategies (IMC) that incorporate the concurrent influence of both, rational and irrational elements, in the decision making of consumers; with the result that marketers would have a more realistic and pragmatic model on which to guide their marketing strategies.

When, in the past, marketing efforts emphasized the rational elements of decision making and scant, or little, attention was paid to the irrational elements; today, there is growing evidence (Tversky & Kahneman, 1986; Simon, 1955) that the irrational elements exert an equally important influence on consumer decision making. This is particularly true in the aesthetics industry where beauty and self-concept have been shown to be a mysterious mix of both the rational and the irrational. According to the Business Week website, creating an effective brand is to ‘build a company with a heart and soul that people could feel just by touching the case of the product and that could affect women in a positive way (Business Week, 2007). For example, in Asia, if a brand creates cosmetic products that give consumers a Westernized image (look and feel) when different shades of makeup are applied, the consumer would be interested in that cosmetic brand (Seewan & Benjarongkij, 2014).

It is expected that by taking into consideration the various biases exhibited by consumers, with respect to rational choice, there will be practical importance especially in product differentiation—e.g. to differentiate products by traits in consumer cognition (Ellison, 2005). Therefore, employing the rational model with irrational factors this study, will be fruitful to investigate how a firm’s marketing mix actions will be enhanced when it faces a group of customers with cognitive bias and irrational beliefs. It is hoped that by incorporating these changes, this study might provide explanations to many seemingly market paradoxes that cannot be explained using just standard economic models. Thus, it is expected that brands could optimize their communication strategy to address these fears at consumer touch points.

## **1.8 Scope of the Research**

This research focuses on – and incorporates – irrational factors in consumer decision-making theory, namely, the Theory of Planned Behavior. Accordingly, the Purchase Decision Behavior will be the dependent variable of this study.

Additionally, too, the starting point of this research will be the beliefs which have been proposed in TPB theory. The direct relationships in TPB are retained in this research to analyse their significances – their relationships are tested.

This investigation would be incomplete without the presence of moderators to complete the picture; therefore, the scope of this research will incorporate the role of the following moderators – Cognitive Bias and Irrational Beliefs both of which have been shown to influence the decision-making process. Cognitive Bias has been chosen because humans make systematic patterns in decision making which deviate from the norm i.e., in illogical fashion (Tversky & Kahneman, 1974; Buss, 2005); and Irrational Belief because it encapsulates the non-conscious processes which can be inferred post hoc from the individual's feelings and behavior, and the belief system underlying the person's thoughts, emotions, and behavior (Ellis, 1977b, pp 7).

This study elects the cosmetic industry since the rational — irrational elements juxtaposed clearly in this industry. The study is conducted in Klang Valley area, particularly focusing on female cosmetic users who are 18 years old and older. The data collection focused in Klang Valley due to the number of cosmetic stores located within this area.

Certainly, astute marketers of wide range of products and services should therefore recognize how consumers psychologically evaluate gains and losses. Accordingly, the marketers should adjust tactics to provide stronger psychological inputs and make their products' appeals tangible (Lidwell et al., 2010; West & Douglas, 1997).

## **1.9 Organization of the Research**

This study consists of six (6) chapters. Chapter One, “Introduction” introduces this research and highlights the background of the research and discusses the, problem statement, definition of terms, research questions, research objectives and, research significance. Chapter Two “Literature Review” presents the literature review from past studies about each construct and the theoretical support. Chapter Three, “Theoretical Framework and Hypothesis Development” explains the theoretical framework and hypothesis development used for this research. Chapter Four, “Methodology,” discusses research methodology for data collection and analysis while Chapter Five examines the “Data Analysis and Findings”. Finally, Chapter Six highlights the “Discussion and Conclusion” of the study.

## **1.10 Chapter Summary**

This chapter presents an overview of this study, its scope and its motivation. The next chapter focuses on the Literature Review of the key variables in this research and their theoretical underpinnings.



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