THE IMPACT OF CONSUMER INNOVATIVENESS, ATTITUDE, AND SUBJECTIVE NORM ON COSMETIC BUYING BEHAVIOR: EVIDENCE FROM APU FEMALE STUDENTS.

By

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Abstract

Cosmetics have been used to protect human skin from environment as well as to express a female's desire for beauty over the past centuries. In recent decades, the cosmetic industry has grown explosively and still run well even under global crisis. However a stable growth of the cosmetic industry and progressive technology caused not only intense competition among cosmetic companies but also a flood of new cosmetic merchandises. Furthermore, it made consumers to dither over which products to buy. Therefore, understanding innovative cosmetic consumers who actively try new products earlier than others and directly express their opinions online, thus influencing others, is a crucial issue for marketers to develop more effective strategies. Amount of studies have explored innovative propensities of consumers in the context of fashion, electronic products and online shopping, the cosmetics field, however, has been hugely neglected. This research intends to fill this gap.

This study investigates whether and how factors (consumer innovativeness, attitude, and subjective norm) influence cosmetic consumers' purchasing intentions for new cosmetics by exploring the relationships between variables. To do this, the researcher used positivism approach applying quantitative method of data collection. Data was collected randomly through questionnaires gathered from 230 international students range between 18-30 years from the Ritsumeikan Asia Pacific University in Japan in order to investigate the interrelation between consumer innovativeness, attitude, and subjective norm and intention to purchase.

Different statistical methods were employed to analyze the data. These methods include frequency analysis, correlation, multiple regression, and Cronbach's alpha through SPSS. Finally, structural equation model was used to verify the results.

The results provide some supports for the hypotheses of the study: consumer innovativeness and attitude towards both skin care and makeup products were crucial predictors of purchase intention in the context of cosmetics while subjective norm towards skin care and makeup products seemed to be of minor importance in explaining new skin care and makeup cosmetics purchase intention. The findings provide an explanation why not all cosmetic consumers show the same degree of interest in buying new skin care and makeup products. On the basis of the research results, some suggestions were made for better marketing strategies of new skin care and makeup products.

Examination of two cosmetic categories may be one of limitations in this study and future studies may investigate purchase intention regarding products in different cosmetic categories by using three variables as predictors. Although the present study showed some limitations, this study has significance in the sense that it was the first attempt to apply consumer innovativeness in cosmetic filed by developing two research models.

Keywords: consumer innovativeness, cosmetic buying behavior, theory of reasoned action (TRA), cosmetics, skin care products, makeup products

CHAPTER 1: INTRODUCTION

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1.1. Background

1.1.1. Cosmetic Industry and Cosmetics Use

The cosmetic industry is one of the fastest growing and essential, but cut-throat industries in the world. Kumar and his colleagues (2006) defined the cosmetic industry as "a very lucrative, innovative, and fast paced industry" (p. 286). Cosmetics have grown rapidly in recent decades in keeping up with dramatic growth and aggressive consumption in Asian, Eastern European, and South American markets (Kumar, 2005). According to a global market research firm Datamonitor, world market size of production in 2009 was 223.7billion USD and it was a 3.7 percent increase from the previous record of 215.6 billion in 2008. From a regional prospective, the European market accounts for 42.1% of global cosmetic market share, followed by Asia-Pacific with 27.3% of it. Traditional market leaders such as Europe and North America has been regressing, while Asia, Latin America, Middle East, and Africa markets have been increasing since 2005 (Korea Health Industry Development Institute, 2010).

Beauty has been viewed as an important issue for women. The desire for beauty has been the greatest concern of humanity across ages around the world. Cosmetics are very closely linked to beauty because makeup has been observed as an important method to express a women's desire for beauty along with clothing and accessories. Cosmetics have been around for thousands of years ago and the use of cosmetics can be traced back to ancient times from the Egyptian, Greek,

and Roman eras (Kumar, 2005; Kumar, Massie, & Dumonceaux, 2006). At present, majority of women start their daily routines by wearing cosmetics. Applying cosmetics is a natural behavior for women and has become a major part of modern women's daily life.

1.1.2. Purpose of Cosmetic Use

People use cosmetics for many reasons (Nash, Fieldman, Hussey, Lévêque, & Pineau, 2006). They wear makeup for "sexual attractiveness", "social and professional interaction success", "emotional pleasure" (Vanessa, Patrick, Sandra, & Ralf, 2011), "better physical appearance", "self-perception" (Cox & Glick, 1986; Nash, Fieldman, Hussey, Lévêque, & Pineau, 2006) and "symmetrical face" (Mulhern, Fieldman, Hussey, Lévêque, & Pineau, 2003).

Both males and females prefer female faces with makeup as more attractive compared to the same faces with no makeup (Mulhern, Fieldman, Hussey, Lévêque, & Pineau, 2003). Women also think that they can be more feminine, sensual, sexual, and confident by using cosmetics (Cox & Glick, 1986; Buss & Schmitt, 1993; Cash 1988; Cash & Cash, 1982; Cash et al., 1985, cited in Vanessa, Patrick, Sandra, & Ralf, 2011).

Cosmetics help to emanate "symmetrical face" and it enhances women's attractiveness (Mulhern, Fieldman, Hussey, Lévêque, & Pineau, 2003) by manipulating their faces; they apply cosmetics to conceal or to correct their

shortcomings such as blemishes or mismatched eyelids.

Women can enjoy “emotional pleasure” such as “touch (with textures capable of giving a sensation of smoothness and/or coolness to the skin) and smell (sensual fragrances capable of creating a sense of well-being and pleasure)” (Sedgwick et al., cited in Vanessa, Patrick, Sandra, & Ralf, 2011, p.795) through cosmetics.

Cosmetics can also influence on a women’s mood which results in positive consequences such as confidence and behavior. When women wear makeup, they feel confidence. It reflected in their attitudes or behaviors which facilitate social interaction. Presenting good impression on the first date can be an example of successful social interaction (Nash, Fieldman, Hussey, Lévêque, & Pineau, 2006; Vanessa, Patrick, Sandra, & Ralf, 2011; Mulhern, Fieldman, Hussey, Lévêque, & Pineau, 2003; Cox & Glick, 1986).

Akin to wearing appropriate clothes, wearing the right makeup not only exposes a neat impression but also makes women look professional in the workplace, allowing them to engage in professional interaction for success which may allow them to acquire greater earning potential (or higher income) in more prestigious professions (Dellinger & Willams, 1997; Nash, Fieldman, Hussey, Lévêque, & Pineau, 2006; Kyle & Mahler,1996, cited in Vanessa, Patrick, Sandra, & Ralf, 2011).

Society is an integral factor triggering females to utilize cosmetics. In Asian society, for example, people value young, white and flawless skin as a beauty attribute (Li, Min, Belk, Kimura, & Bahl, 2008). To fit their natural skin to notion of beauty, many Asian people wear several layers of cosmetics. In summary, people use cosmetics predominantly to influencing factors of perception on a conscious and subconscious level. (Pooler, 2003)

1.1.3. Cosmetic Companies and Consumers

The first image that comes to mind, when exposed to the word ‘cosmetics’ is undoubtedly the feminine aura which cosmetic companies have mainly targeted. Before the nineties, people regard cosmetics as a female’s privilege (Kumar, Massie, & Dumonceaux, 2006). However, cosmetics are no longer monopolized by female segment, but now tailors new markets which target the preteen generation (Lee & Kuh, 2007) as well as the male segment (Souiden & Diagne, 2009) which are steadily emerging. The perception ‘appearance is competitiveness’ which is widely diffused among young female and male consumers created this phenomenon.

Consumers’ needs and demands are constantly evolving and companies are determined to satisfy them. Consequently, cosmetic firms are forced to create, innovate, replace, or upgrade their products (Akers & Porter, 2005, cited in Kumar, Massie, & Dumonceaux, 2006). Developing revolutionary technologies and shifting customers’ demands and needs contribute towards increasing cosmetic

companies' abilities to product various kinds of cosmetic merchandises (Kumar, Massie, & Dumonceaux, 2006). Accordingly, the more existing companies expand their market, the more new firms enter the market to share their profit. As a result, lots of cosmetic companies in the world are competing to capture a large market share through competitive method such as marketing strategies, product line, distrubution channel, and selling method. This fierce competition and an influx of new cosmetic products, the importance of cosmetic consumers particularly innovative consumers has more emphasized in order to take the advantageous position first in the market.

Cosmetic merchandises have varying degrees of product life cycles. According to Kumar (2005) some products have long life cycles (e.g. soaps, facial cleansing and deodorant) while makeup products such as lipstick and nail polish have short life cycles (three months). Although cosmetic product life cycle can be shorten by competition and technology development, the most significant determinant is the customer (Kumar, Massie, & Dumonceaux, 2006). In turn, the mainstay of any cosmetic product as a steady seller or a fad in the market depends on consumers' preferences, thus, innovative cosmetic consumers play significant roles as messengers of information. Cosmetics companies release new cosmetic products on a regular basis, for example, every season. Innovative cosmetic consumers are actively seeking those new cosmetics, while directly expressing their opinions about the product on the internet, thus persuading others to follow suit. Consequently they promote the diffusion of new products. Therefore, their

existences and roles are important as much as those of media and celebrities.

1.2. Statement of Problem and Purpose of the Study

The issue that this research addresses is that there is a lack of information on consumer innovativeness in the context of cosmetic buying behavior. Various scholars have studied cosmetic consumption behavior of females; college female students (Yang H. O., 2008), teenage girls (Cha G.-O. , 2006), and elderly women (Hong, Cho, Baik, Lee, Park, & Kwon, 2006). Some scholars have focused on cosmetic consumption behavior of males, as male cosmetic market has grown dramatically (e.g. Canadian and French men's consumption of cosmetics (Souiden & Diagne, 2009)). However, most of their studies focused on consumers' attitudes and motivations for cosmetic purchasing. Although consumer innovativeness is not a brand-new concept to explain consumers' different consumption behavior (e.g. online travel shopping behavior (Lee, Qu, & Kim, 2007)), it is surprising that few studies, if any, have examined the impact of consumer innovativeness on cosmetic shopping behavior. This study intends to fill this gap.

As cosmetics have become daily products, cosmetic producers have been interested in knowing consumer's willingness to try new cosmetic products in the market. In order to implement more effective and successful marketing strategies, it is needed to understand better about innovative cosmetic consumers' buying behaviors. Therefore, the main purpose of this research is to examine the impact of three key drivers of cosmetic buying behavior based on literature review,

namely consumer innovativeness, attitude and subjective norm. It is done by exploring international female students in Japan. Specifically, the research was conducted in Ritsumeikan Asia Pacific University (APU) by collecting data from both undergraduates and graduates female students. Ritsumeikan Asia Pacific University (APU) is a multicultural campus that is comprised of students from approximately 90 countries and regions (Ritsumeikan Asia Pacific University, 2011). Persons who are in their late teens to mid-20s make up the majority of female students of APU. Consumers develop their preferences at an early age and maintain them during the rest of their lives (Lambert-Pandraud & Laurent, 2010). Similarly, most women start to use cosmetics especially makeup products around their late teens or beginning of their college lives, and actively try new cosmetics and form their preferences. The unique environment of Ritsumeikan Asia Pacific University, namely its composition of various international students and distribution of the appropriate age group makes it ideal for researcher to study.

1.3. Research Question and Objectives

Research question is:

What is the effect of consumer innovativeness, attitude, and subjective norm on new cosmetic buying behavior?

Research objectives are:

- To explore cosmetic buying behavior in APU female students.
- To investigate the affecting factors on cosmetic buying behavior.

- To test the proposed frameworks.

1.4. Structure of the Study

This study is comprised of five chapters. The first chapter is introduction of background, research topic, purpose of the study, and research questions followed by objectives. The following chapter, 2, is literature review. In this chapter, the definition and criteria of cosmetics will be firstly presented to clarify the term of cosmetics which used in this study. The literature related to cosmetics, theory of reasoned action (TRA, a model explaining individual's behavior is determined by the individual's behavioral intention, which is a function of individual's attitude towards behavior and subjective norm), and consumer innovativeness will be reviewed. This will help to set up the theoretical background of this study. Chapter 3 is the methodology section which provides research model, hypotheses, research design, research method, and data analysis. In chapter 4, the result of the study will be discussed. Lastly, chapter 5 will present the conclusion, implications, and research limitation as well as suggestions.

CHAPTER 2: LITERATURE REVIEW

CHAPTER 2: LITERATURE REVIEW

In order to investigate the research question of the study, it is essential to define the scope of cosmetics which will be applied in this research, understand the origin of cosmetics usage and cultural differences in consumer behaviors, and review the theory of reasoned action (TRA) and consumer innovativeness. This chapter explores the following criteria.

1. scope of cosmetics: definition and category of cosmetics
2. history of cosmetic use
3. culture
4. theory of reasoned action (TRA)
5. consumer innovativeness

Those literatures will provide two research models for the study at the end of this chapter.

2.1. The scope of Cosmetics

2.1.1. Definition of Cosmetics

In general, cosmetics are the products which improve or positively alter people's appearance, making them more attractive. However each country has used a slightly different definition of cosmetics. In order to understand better about definition of cosmetics used in other countries, the researcher intends to review the definition accepted in the home of cosmetic industry, namely Europe and USA as well as in emerging Asia Pacific markets including Korea, Japan, and China.

According to the U.S. Federal Food, Drug, and Cosmetic Act, cosmetics are defined as:

"(1) Articles intended to be rubbed, poured, sprinkled, or sprayed on, introduced into, or otherwise applied to the human body or any part thereof for cleansing, beautifying, promoting attractiveness, or altering the appearance, and (2) articles intended for use as a component of any such articles; except that such term shall not include soap." [1]

According to the European Commission Directive 93/35/EEC Article 1:

"A cosmetic product means any substance or preparation intended to be placed in contact with the various external 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 exclusively or mainly to cleaning them, perfuming them, changing their appearance and/or correcting body odors and/or protecting them or keeping them in good condition." [2]

Under the Korean Cosmetic Law:

"Cosmetics are products (excluding drugs designated by the pharmaceutical affairs law) to be used for cleansing or beautifying of human body or making it more attractive or modifying its appearance and improving or maintaining the

[1] http://www.fda.gov/RegulatoryInformation/Legislation/FederalFoodDrugandCosmeticActFDCAct/FDCActChaptersIandIIShortTitleandDefinitions/ucm086297.htm
[2] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31993L0035:EN:HTML

skin and hair in good condition.” [3]

Under the Japanese Pharmaceuticals Affairs Law (PAL):

“Cosmetics are products (excluding drugs and quasi-drugs) to be applied to the body by rubbing, spraying or other similar applications with the aim of cleansing, beautifying or making it more attractive or modifying its appearance and of maintaining the skin and hair in good condition, to the extent that the action of the product on the human body remains moderate.” [4]

According to China’s State Food and Drug Administration (SFDA):

“Cosmetics are daily use chemical products which applied on the surface of any part of human body (skin, hair, nails, lips, etc.) by rubbing, spraying, or other similar methods to clean the body, to remove bad smell, to protect the skin, to make up the face, and to adorn the appearance.” [5]

Among these five countries, the European Union specifies in greater detail the ‘definition of site of application’ and ‘definition of product function’. The European Union designates epidermis, hair system, nails, lips, external genital organs, the teeth, and oral mucous as the site of application. Additionally, the definition of product function includes cleanliness, perfuming, alterations in

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[3] http://likms.assembly.go.kr/law/jsp/law/Law.jsp?WORK_TYPELAW_BON&LAW_ID=A1676&PROM_NO=09932&PROM_DT=20100118&HanChk=Y, free translation

[4] http://law.e-gov.go.jp/htmldata/S35/S35HO145.html#1000000000001000000000000000000000000000000000000000000000000000000000000000, free translation

[5] http://www.moh.gov.cn/publicfiles/business/htmlfiles/mohzcfgs/s3576/200804/29220.htm, free translation

appearance, prevention of body odor, protection, and maintenance of condition. On the other hand, however, USA's definition of cosmetics emphasizes 'intended use'. These are cleanliness, beautification, enhancement of charm, and changes of appearance (Korea Health Industry Development Institute, 2004).

China limits its definition of cosmetics which only applies to daily use chemical products. Although China has broad definition of site of application (any part of human body), it has limited definition of product function; cleanliness, removal of body odor, skin protection, and beauty treatment (Korea Health Industry Development Institute, 2004).

In the case of Korea and Japan, both countries have a similar definition of cosmetics. Both state that cosmetics are items that have minor impact on the human body. Also, both countries exclude drugs[6] or quasi-drugs (QD)[7] from definition of cosmetics. (Korea Health Industry Development Institute, 2004)

2.1.2. Category of Cosmetics

Resembling the definition of cosmetics, category of cosmetics varies depending on each country's respective laws. According to Korea Health Industry Development Institute (2004), the European Union classifies cosmetics and medicinal products very clearly while USA, Japan, China and Korea has an

[6] Drugs refer to "articles intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man and other animals" (FDA)

[7] QD (Quasi-Drugs) are products that "have the purposes given below and exert mild actions on the human body, or similar articles designated by the Minister of Health and Welfare".

additional category referring to the intermediate between cosmetics and medicinal products; OTC (Over-the Counter Drugs) drugs[8] in USA, QD (Quasi-Drugs) and special use cosmetics in Japan as well as functional cosmetics and QD (Quasi-Drugs) in Korea. Particularly, Korea uses a complicated classification of cosmetics classified into ordinary cosmetics, functional cosmetics, QD (Quasi-Drugs), and OTC drugs (Korea Health Industry Development Institute, 2004). Therefore, a product called cosmetics in one country can fall under the category of drugs in other countries. For example, skin-whitening products are categorized as cosmetics in both the European Union and USA, whereas they are regarded as functional cosmetics in Korea. But, it can be classified either cosmetics or QD (Quasi-Drugs) in Japan. Additional examples of such products among the four countries (the European Union, USA, Japan, and Korea) are illustrated in Table 2.1.

[8] OTC (Over-the Counter) Drugs are drugs that people can buy without doctor's prescription. It also called as Non-prescription drugs or OTC medicines (FDA). Toothpaste and anti-dandruff shampoos are examples of OTC Drugs.

Table 2. 1 The accepted scope of cosmetic products among major countries

Products	EU	USA	Korea	Japan	China
Crèmes, emulsion, lotion, gels and oils for the skin(hands, face, foot, etc.) without any efficacy claims	Cosmetics	Cosmetics	Cosmetics	Cosmetics	Cosmetics
Face masks (with the exception of chemical peeling products) without any efficacy claims	Cosmetics	Cosmetics	Cosmetics	Cosmetics	Cosmetics
Make-up powders, after-bath powders, hygienic powders, etc without any efficacy claims	Cosmetics	Cosmetics	Cosmetics	Cosmetics	Cosmetics
Toilet soaps, deodorant soaps, etc.	Cosmetics	Cosmetics/cosmetics-OTC drugs (anti-bacterial soap)	Cosmetics	Cosmetics (toilet soaps)/ QD(deodorant soaps)	NA
Depilatories	Cosmetics	Cosmetics	QD	QD	Special purpose cosmetics

Table 2.1 The accepted scope of cosmetic products among major countries (Continued)

Deodorants and anti-perspirants	Cosmetics	Cosmetic (deodorant)/OTC drugs (anti-perspirant)	QD	QD	Special purpose cosmetics
Hair care product such as shampoo or styling (except hair dye and permanent wave, hair growth)	Cosmetics	Cosmetics/ OTC drugs (anti-dandruff)/ NDA+Rx (hair growth)	Cosmetics	Cosmetics/QD (anti-dandruff)	Cosmetics/Special purpose cosmetics (hair dye, hair growth)
Products intended for application to the lips	Cosmetics	Cosmetics/ OTC drugs (skin protectant: lipbalm)	Cosmetics	Cosmetics	Cosmetics
Products for care of the teeth and the mouth	Cosmetics	Cosmetics/ OTC drugs (anti-cavity including fluoride or medicated mouth wash)	QD/ Drugs (medicated toothpaste)	Cosmetics(i.e. toothpaste including fluoride)/ QD (medicated toothpaste)	Cosmetics

Table 2.1 The accepted scope of cosmetic products among major countries (Continued)

Sunbathing products (i.e. sunscreen protects)	Cosmetics	OTC-drug (sunscreen)	Functional cosmetics	Cosmetics	Special purpose cosmetics
Anti-wrinkle products	Cosmetics	Cosmetics or OTC drugs	Functional cosmetic	Cosmetics	NA
Anti-acne product	OTC/ cosmetics (oily skin/ skin imperfections/ skin problems)	OTC drugs	QD	QD(acne prevention) / OTC drugs (acne cure)	Special purpose cosmetics

Source: Korea Health Industry Development Institute (2004), Ministry of Health of the People's Republic of China (1989)

Cosmetics can be categorized according to intended use (e.g. cleansing cosmetics), parts-per-use (e.g. skin, hair, and body cosmetics), formulations (e.g. liquid cosmetics) (Daco D&S, 2007), and age (e.g. baby and adolescent cosmetics). However, Datamonitor, a global market research organization, have used five categories to show global cosmetic industry market data. In their report, the cosmetic, toiletry, and fragrance industry is classified into five separate categories; skin care, hair care, makeup, fragrance, and personal hygiene. In addition, the makeup category includes four sub categories consisting of face makeup, lipstick, eye makeup, and nail products (Kumar, 2005). The category of cosmetics is illustrated in Figure. 2.1.

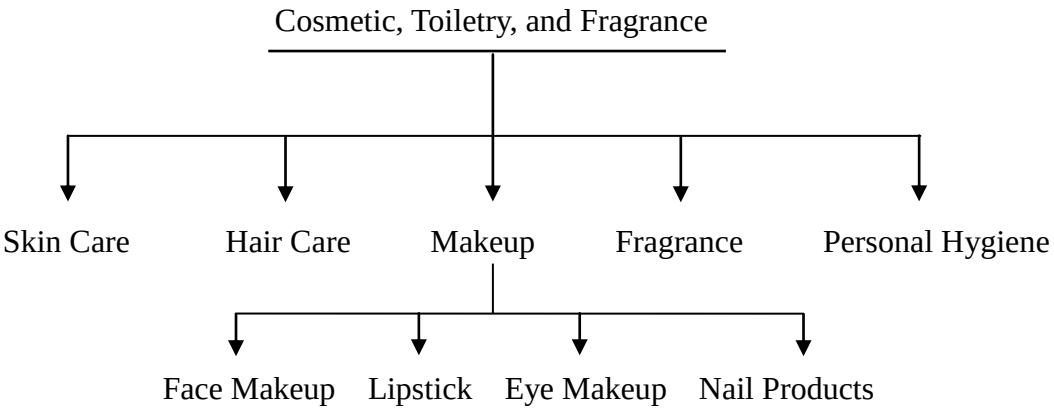

Figure 2. 1 Category of cosmetics in terms of product classification
(source: Datamonitor (Kumar, 2005))

Cosmetic products category used in this study is based on Datamonitor's classification, however the study only covers both skin care and makeup products lines including face, lip, eye, and nail products given that the majority of females use both of them to improve their appearance: females tend to consider hair care

and personal hygiene as personal commodities while they equate fragrance as emotional and symbolic products (Lambert-Pandraud & Laurent, 2010).

2.2. History of Cosmetics Use

2.2.1. The Prehistoric Time

Many scholars agreed that history of cosmetics goes way back to ancient times such as Egyptian, Greek, and Roman eras (Choi, 2009; Chaudhri & Jain, 2009; Gamberinia, Baraldia, Palazzoli, Ribechini, & Baraldi, 2008; Kumar, 2005; Lucas, 1930). However, some scholars refuted the origin of cosmetics: human beings have used cosmetics from prehistoric ages. According to Ogilvie (2005), humans in prehistoric age used cosmetics as the tool of camouflage from the environment. They painted or tattooed their body to fight and survive from wild animals and harsh environmental elements. The use of body paints and tattoos for camouflage gradually had more symbolic and protective purposes and further, expanded to ceremonial worship of deities (Corson, 1972; Gunn, 1973, cited in Ogilvie, 2005). Primitive people used cosmetics particularly makeup as a sign/symbol due to the symbolic meaning of colors. They preferred red and yellow colors which symbolized the sun while avoiding dark colors. Consequently, they used red color to represent blood, black color to denote night or evil representations, and white color to signify death or spiritual dimension (Gunn, 1973, cited in Ogilvie, 2005). Mankinds, or more specifically, Neanderthal man which is known as one of humanspecies in the Paleolithic era used clay, mud and arsenic to paint his face and even curled his/her hair with bones (Kumar, 2005).

2.2.2. Egyptian Times

Artifacts discovered in Egyptian tombs offer some evidence that Egyptians wore makeup (Ogilvie, 2005). Regardless of age and gender, Egyptian loved to wear makeup and used various types of cosmetics including eye-paints, face-paints, oils, creams (ointments) (Lucas, 1930), and henna (Chaudhri & Jain, 2009).

The Egyptian had great interest in eye makeup. Literatures referring to the use of eye makeup cosmetics were abundantly. Green powder made from malachite (which is one of commonest raw material for eye-paints) and eyeliner were frequently used to emphasize their eyes. They applied green powder to both upper and lower eyelids and lined their eyes and eyebrow with kohl (Draelos, 2001) – "a dark-colored powder made of crushed antimony, burnt almonds, lead, oxidized copper, ochre, ash, malachite, chrysocolla (a blue-green copper ore) or any combination thereof" (Chaudhri & Jain, 2009, p. 164). The Egyptian used multiple colors such as black, grey, green, aqua, turquoise, and brown to adorn their eyes, but colors were used according to personal preference (Ogilvie, 2005).

During this period, cosmetics were used not only to beautify their face, but also to protect their skin and eye against the sun, dust, sand, and dry winds (Chaudhri & Jain, 2009; Ogilvie, 2005). Henna was used to color their palms, soles, nails and hairs (Lucas, 1930) for adornment purpose, while moisturizing cream in the form of cone was applied to their hair to protect against the harsh sun (Chaudhri & Jain, 2009). The fact that kohl eyeliner was heavily used can be understood in the same

context. The ancient Egyptian believed that kohl could reduce sun glare, minimize eye infection, restore eyesight (Chaudhri & Jain, 2009), and even heal suppuration of the eyes (Angeloglou, 1970, cited in Ogilvie, 2005).

"Cleanliness is godliness", this Egyptian belief indicates that the ancient Egyptian regarded their appearance and cleanliness as a fundamental principle. Bathing either in the river or in the house was their daily routine, and cleansing cream – a mixture of animal or vegetable oil, powered lime, and perfume - was used. With cleanliness, emanating pleasant scents was essential in Egyptian society, since people believed that it was a sign of holiness and played a role into the afterlife. As the result, perfume was used for spiritually rather than other physical purposes. Moreover, certain types of perfumes and oils were used in mummification (Chaudhri & Jain, 2009).

2.2.3. Greek Times

In the early stage, the ancient Greeks wore little makeup since their ideal of beauty emphasized on purity (Angeloglou, 1970, cited in Ogilvie, 2005). However, women had used various forms of cosmetics including washes and paints by the late 4th century B.C (Ogilvie, 2005). The use of cleansing cream in modern society dates back to ancient Greek era. According to Kumar (2005), an ancient Greek physician called Galen was the inventor of cold cream[9]. This original cold cream was made of animal and vegetable fats and oils, beeswax and olive oil (Wivell,

[9] Cold cream is an emulsion of water and fats which are used to protect, clean, and soften the skin (wiseGEEK).

1996).

The Greeks had desired a particular face with features depicted as

"the nose must be straight or fall in a slightly depressed line from its root to the tip, the forehead has to be low in order to produce the youthful appearance ....eyebrows that grew together over the nose....the mouth should be naturally red, and the lower lip slightly more plump than the upper" (Winckelmann, 1873, cited in Romm, 1989, p. 1-2). In order to achieve this desired appearance, the Greek women applied makeup. They used powder and rouge (Ogilvie, 2005), lined their eyes with black and red pencils, covered wrinkles with white lead, and dyed their hair (Romm, 1989). However, cosmetics during this period contained toxic cocktails, which caused bad complexion and premature death of the Greeks (Ogilvie, 2005).

2.2.4. Roman Times

The Romans used perfumes on their bodies the same way the ancient Egyptians did. Perfumes were oil-based and they even applied perfumes to their weapon (Kumar, 2005). However, the Romans used their own type of eye makeup cosmetics which called *fuligo* (black smoke) to line eyebrows and mark eyelashes. Moreover, cosmetics could be adhered better on their skin by mixing colored powders with excipients vegetable oils, animal fats or shells (Gamberinia, Baraldia, Palazzoli, Ribechini, & Baraldi, 2008).

According to Corson (1972), a regime existed that women would follow by bathing in ass's milk and covered their face with white lead under the reign of Nero. During this period, red colored cheeks and lips, darkened eye lids, eye lashes and brow, and bluish veins were popular among the women. Various herbal ingredients were used to color their nails, bleach freckles or hair, and to improve their complexion (Corson, 1972, cited in Ogilvie, 2005).

2.2.5. From 4th Century to 19th Century

4th to 10th Century

After the fall of the Roman Empire, there was a long cultural dark age so-called the Middle Ages. The rise of Christianity caused a sudden decline in makeup culture since Christianity emphasized on asceticism and neglected women's superficial looks. During the dark ages makeup meant vulgarity and symbolized lasciviousness and prostitution (Yang, Lee, Park, Woo, & Lee, 2008). Powerful Christianity was severe on cleanliness (Ogilvie, 2005) and strictly banned the use of soap since they believed that "exposing the flesh to bathe was evil" (Draelos, 2001, p. 175). To purge bad smell resulted from restriction on bathing practices, people used perfumes instead (Yang, Lee, Park, Woo, & Lee, 2008).

14th to 15th Century

There were two phases to makeup during this period: one is aversion to makeup and the other is praise the beauty of the ideal women. The Renaissance started from the mid 14th century which revived the interest in the use of cosmetics. The

ideal standard of beauty during this period was one who has white skin tone and broad forehead. Women thus plucked and shaved hairs, trimmed eyebrows in the shape of the arch to have this ideal forehead, and maintained the whiteness of their teeth (Yang, Lee, Park, Woo, & Lee, 2008) .

17th to 18th Century

Early 17th century to 18th century, a beauty patch which is made of black silk or velvet piece in the shape of star, moon and heart was widely used. It was useful to cover freckle, pimples (Yang, Lee, Park, Woo, & Lee, 2008), and scars left on the face by smallpox which was a devastating disease that plagued the population at the time (Ogilvie, 2005; Draelos, 2001). Since patch had different meanings depending on where it is placed, it was carefully used: a patch around a women's eye meant enchanting, a patch placed near mouth indicated playfulness (Yang, Lee, Park, Woo, & Lee, 2008) or flirtatiousness, and a patch on right cheek implied she was married (Draelos, 2001). Draelos (2001) argued that this beauty patch is the forerunner of the facial foundation used today.

19th century

In 19th century people pursued natural look under the influence of naturalism and the French Revolution (Yang, Lee, Park, Woo, & Lee, 2008) whereas theatrical performers and elderly people who had used cosmetics for their faces and cheeks. In this period, both males and females used cosmetics. Women in particular sought ethereal look which was in vogue at the time. To produce this pale ethereal

image, they used white face washes, river powder, and face-whitening lotions (Ogilvie, 2005).

2.2.6. 20th Century

Cosmetics were once again in its prime in the 20th century. This century can be defined as the times of cosmetics popularization and rapid growth of the cosmetic industry. Makeup culture and the use of cosmetics spread across the United States and Europe (Peiss, 2010). Although cosmetic industry was not considered as a vital industry in the early 20th century, this industry had the potential to have a vital impact in the 20th century economy in terms of its sales, profit, and enterprise scales. In actuality this industry became the 10th largest industry in the United States in 1930 (Peiss, 1998).

Public's attitude towards makeup had shifted and cosmetics were used freely without any dishonor (Ogilvie, 2005). Consequently, multiple cosmetics products were introduced into the market and lots of innovations applied to cosmetics and its packaging during the 20th century (Peiss, 2010). The first example is a cake makeup[10] which was developed as the first facial foundation in 1936 by Max Factor, one of dominant cosmetic companies in the United States. This cake makeup could surpass the limitation of previous facial makeup "grease paints" which could only be used in the theater: Although makeup, particularly facial cosmetics became popular due to the influence of theater, ballet, and movie stars,

[10] Cake makeup is a cosmetic preparation widely used as a makeup base. A powder base, fatty materials such as fats, oils, and waxes consist of its ingredients. After mixing those ingredients, it is pressed into cake form. (Miles, 1948)

it was arduous to apply. This invention which was developed to satisfy women's desire to mimic theater celebrities, was easy to wear and helpful to make velvety skin with great coverage (Chaudhri & Jain, 2009; Draelos, 2001) thanks to its ingredients and formula.

Before facial foundation launched in the market, Eugene Schueller, the founder of L'Oreal invented hair dye in 1907 (Chaudhri & Jain, 2009) and T. L. Williams, the founder of Maybelline, created the first cake mascara in 1917 (Maybelline, 2011). According to Barone and his colleagues (2002), one of first commercialized lipstick was introduced in 1880 by the Guerlain Company. However, some scholars argued that present-day lipstick was introduced in 1915 in the form of cylindrical metal tubes (Chaudhri & Jain, 2009) or the push-up holder (Draelos, 2000).

Nail polish also called nail enamel was developed in the 1920s with lacquer technology which was originally developed and used in automobile industry (Draelos, 2001; Draelos, 2000).

2.3. Culture

Various scholars in different academic fields have studied "culture" over a half century. Those scholars have modified and denied existing definitions and produced new definitions (Straub, Loch, Evaristo, Karahanna, & Strite, 2002). But in general, a number of scholars have agreed with the idea that "culture is a set of

value patterns that are shared across individuals and within groups" (Straub, Loch, Evaristo, Karahanna, & Strite, 2002, p. 15) throughout individuals' lifetime (Hofstede, Hofstede, & Minkov, 2010). Culture not only affects the specific products people buy, but also forms consumption motivation and pattern of consumer and even individual's decision making process (Blackwell, Miniard, & Engel, 2005).

Among the numerous definitions of culture, one particular cultural framework that stands out is the Western vs. Oriental culture presented in Edward Hall's (1976) contextual theory. Western culture holds low context and individualism features whilst Oriental culture values refer to high context and collectivism (Kim, Pan, & Park, 1998). Furthermore, four dimensions identified by Hofstede (1980) in his national culture theory are more widely used in management fields to explain cultural differences in consumer behaviors. The following sections explain these four dimensions.

Individualism and collectivism

In individualistic society, people are involved in a loose social structure in which people emphasize "I" consciousness and individual identity. They value emotional independence, individual initiative and achievement, private life, autonomy, variety, and individual decisions. On the other hand, collectivistic society has a tight social framework in which "we" consciousness and belongings to a group are predominant. People in collectivistic society show high degree of group

behavior, tend to follow group norms, and value group decisions, order, duty, and security (Hofstede G. , 1980; Steenkamp, Hofstede, & Wedel, 1999).

Uncertainty avoidance

According to Steenkamp, Hofstede, and Wedel (1999), uncertainty avoidance refers to "the extent to which societies tend to feel threatened by uncertainty, risky, ambiguous, or undefined situations and the extent to which they try to avoid such situations" (p. 59). In societies with high uncertainty avoidance, people establish more formal rules, adopt strict codes of behaviors, and do not tolerate deviant ideas and behaviors.

Power distance

Power distance is the extent to which less powerful people in a given society accept the fact that their power in institutions and organizations is distributed unequally (Hofstede, Hofstede, & Minkov, 2010). Societies with large power distance lay emphasis on status (Hofstede, Hofstede, & Minkov, 2010) and tend to be highly collectivistic (Singh S. , 2006).

Masculinity and femininity

Masculinity is the degree to which a society is associated with the importance of assertiveness or nurturance. More masculine societies place emphasis on earnings, recognition, advancement, challenge, ambition, and achievement (Hofstede, Hofstede, & Minkov, 2010; Hofstede G. , 1980). On the other hand, more

feminine societies place value on people, care giving others, preserving the environment, and cooperation (Hofstede, Hofstede, & Minkov, 2010; Singh S. , 2006; Hofstede G. , 1980)

It is obvious that culture is one of the influential factors explaining various consumer behaviors and consumer innovativeness. Although scholars have applied this concept of culture in comparative or cross-national studies, it might be more effective when this study is used to compare fewer nations (e.g. less than 5 nations). For example, Singh (2006) investigated the relationship between culture and consumer innovativeness by examining two nations, namely France and Germany. In his study, consumers from societies in higher individualism, small power distance, weaker uncertainty avoidance, and more masculine tendencies were likely to indicate more innovative behaviors. This study aims to examine the model by exploring a large number of females regardless of their nationalities, avoiding comparison with other cultures, thus, cultural dimension is not employed in this study.

2.4. Theory of Reasoned Action (TRA)

To explain cosmetic consumers' purchasing behavior regarding newly released products in the market, this study used Fishbein and Ajzen's theory of reasoned action (TRA) as a theoretical framework. Over the past few decades several models were introduced to explain a person's behavior with his/her attitude (e.g., Bentler & Speckart, 1979; Fishbein & Ajzen, 1975; Acock & DeFleur, 1972).

Among those models, Fishbein and Ajzen's (1975) model has been a predominant and influential (Liska, 1984) which was applied in various studies (e.g. online travel shopping behavior (Lee, Qu, & Kim, 2007), fast food restaurant consumption (Bagozzi, Wong, Abe, & Bergami, 2000), renewable energy (Bang, Ellinger, Hadjimarcou, & Traichal, 2000), women's career behavior (Vincent, Peplau, & Hill, 1998), and coupon usage (Shimp & Kavas, 1984)).

The theory of reasoned action is based on the assumption that an individual's behavior is determined by the individual's behavioral intention (BI), which is jointly influenced by the individual's attitude towards the behavior (A) and subjective norm (SN) (Ajzen & Fishbein, 1980). Behavioral intention is a key factor to perform a target behavior since this intention stimulates motivational factors which influence behavior. In general, the more a person behaves a certain way, the more likely the person will follow through with the action (Ajzen I. , 1991). Attitude toward the behavior is defined as "a person's general feeling of favorableness or unfavorableness for that behavior" (Ajzen & Fishbein, 1980, p. 54). Subjective norm refers to the perception of social pressure to perform or not to perform a behavior (Ajzen I. , 1991).

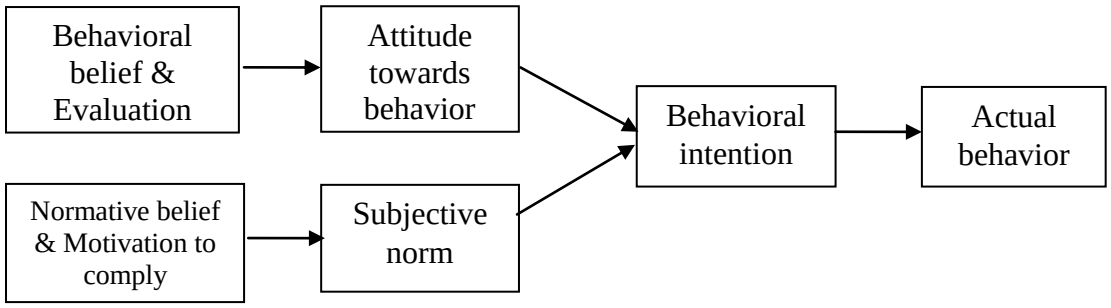

Figure 2. 2 Theory of Reasoned Action

(source: Ajzen & Fishbein (1980))

Furthermore, the theory of reasoned action covers the determinants of attitude and subjective norm (Fishbein & Guinan, 1996). According to the theory, an individual evaluates the outcome of performing a behavior depending on the individual's behavioral belief, which is a belief that performing the behavior will lead to a certain outcome. It can be viewed that if an individual believes that performing the behavior will lead to a negative outcome, he/she will have a negative attitude (Ajzen I. , 2005). Similarly, if an individual believes that performing a certain behavior will bring a positive outcome, he/she is likely to have a positive attitude, and thus the individual is more likely to perform a certain behavior. Consumption of skin care products represents a way for females to satisfy their needs for beauty and care of appearance (Kim & Chung, 2011; Todd, 2004). Over time, the latest technologies have been applied to skin care products and it gives women hope that their personal aspirations can be achieved. Hence, it is assumed that if a consumer believes that buying skin care product will bring about a positive outcome (protect the skin, prevent aging, etc), she is likely to have a positive attitude toward skin care products and consequently it increases

her intention to buy new skin care products. Thus, the researcher proposes hypothesis 1 in the following:

> **H1:** Attitude towards skin care products will promote cosmetic consumers' intention to purchase new skin care products.

Normative belief and motivation to comply underlie the individual's subjective norm (Ajzen I. , 1991). She explains that individuals get perception to perform or not to perform a behavior based on suggestions by important referents who think the individual should or should not perform the behavior as well as to what degree he/she wants or does not want to perform the behavior which referent people think he/she should do. The likelihood is that if an individual has a strong belief that important referents think that he/she should or should not perform a behavior, the more the individual is motivated to comply with the referents, the stronger the subjective norm will lead to performing or to not performing that specific behavior (Fishbein & Guinan, 1996). People get normative pressure which forms subjective norm from their peers, superiors (Venkatesh & Morris, 2000), parents, other family members, and close friends (Ajzen I. , 1991). Interestingly, subjective norm strongly influences in women's decision making process (Venkatesh & Morris, 2000) and a significant relationship between subjective norm and purchase intention for organic personal care products was shown in recent study (Kim & Chung, 2011). Therefore, hypothesis 2 is offered as:

> **H2:** Subjective norm towards skin care products will promote cosmetic consumers' intention to purchase new skin care products.

2.5. Consumer Innovativeness

Innovativeness has received widespread attention from information system scholars (e.g., Agarwal & Prasad, 1998) consumer researchers (e.g., Goldsmith & Hofacker, 1991; Hirunyawipada & Paswan, 2006; Midgley & Dowling, 1978), and marketing researchers (e.g., Tajeddini, 2010; Tajeddini & Trueman, 2008; Hult, Hurley, & Knight, 2004; Hurley & Hult, 1998). Rogers (2003) defined innovativeness as " the degree to which an individual (or other unit of adoption) is relatively earlier in adopting new ideas than other members of a system" (p. 267). His diffusion theory categorized consumers who adopt innovations based on the time of adoption: innovators, early adopters, early majority, late majority, and laggards. However, the theory was criticized as an operational definition and a temporal concept because the word 'relatively' equated time-of-adoption to the notion of innovativeness (Midgley & Dowling, 1978). Since the measurement of time-of-adoption cannot predict future behavior (Goldsmith & Hofacker, 1991) nor explain the reality of innovation adoption, differences between "persisting individual tendency to innovate" and "individual's actualized adoption", these terms should be distinguished by researchers (Schillewaert, Ahearne, Frambach, & Moenaert, 2005; Midgley & Dowling, 1978). Midgley and Dowling (1978) demonstrated this perspective in their study that relative time of adoption is not a persisting individual characteristic, but rather, it can vary across innovations due to the effect of personal interest in products, situational factors, and communication process.

Although definitions and measurements can vary depending on the techniques in which scholars have used, there are two main approaches to innovativeness; global (general) innovativeness and domain (product)-specific innovativeness. From the generalized innovativeness perspective, some scholars classified innovators on the basis of their personality traits and cognitive style (Im, Bayus, & Mason, 2003). Midgley and Dowling (1978) proposed global innovativeness as a personality trait that each members in a society possessd more or less. On the other hand, Joseph and Vyas (1984) focused on cognitive style, which incorporates a person's intellectual, perceptual, and attitudinal characteristics. They demonstrated that persons with high degree of openness were more willing to adopt new products, thus, it is a powerful predictor of innovative behavior. Global or general innovativeness is not tied to specific innovations/specific products (Steenkamp, Hofstede, & Wedel, 1999; Midgley & Dowling, 1978), hence, global innovativeness tends to be adopted to explain the notion of consumer innovativeness. Consumer innovativeness which was defined in Steenkamp, Hofstede, and Wedel's (1999) study refers to "the predisposition to buy new and different products and brands rather than remain with previous choices and consumption patterns" (p. 56). More recently, Im and his colleagues (2003) viewed consumer innovativeness as "an individual's inherent innovative personality, predisposition, and cognitive style toward innovations that can be applied to consumption domains across product classes" (p. 65).

On the other hand, domain-specific innovativeness can be explained from the

more domain or product specific perspective, rather than personality traits. Domain or product specific innovativeness is "the tendency to learn about and adopt innovations (new products) within a specific domain of interest" (Goldsmith & Hofacker, 1991, p. 211). Goldsmith and Hofacker (1991) developed a domain-specific innovativeness scale and maintained that it is more suitable and more useful predictor of consumers' innovation adoption behavior. Agarwal and Prasad (1998) and recent study also support this idea. Hirunyawipada and Paswan (2006) asserts that domain-specific innovativeness predict more accurately of consumer's actual adoption and acquisition of information regarding new products, since it is positioned at the narrowest level in the hierarchy of innovativeness. The domain-specific innovativeness often associated with personal innovativeness which was proposed by Agarwal and Prasad (1998) in the context of adoption of new information technology. They defined the domain of information technology (PIIT) as the willingness of an individual to try out any new information technology as a trait which is a stable and invariant predictor of individuals.

Although consumer innovativeness and personal innovativeness have been used to explain consumers' innovations (new products or technologies) adoption behaviors from different point of view, the essence of both definitions are the same. Namely, "innovativeness" is conceptualized as reflecting "willingness to change" (Hurt, Joseph, & Coo, 1977, cited in Hirunyawipada & Paswan, 2006), "optimum simulation level and tolerance of ambiguity" (Steenkamp, Hofstede, & Wedel, 1999), "risk taking" (Steenkamp, Hofstede, & Wedel, 1999; Agarwal &

Prasad, 1998), “novelty seeking” (Hirschman, 1980). Therefore, the researcher posits that consumer innovativeness and personal innovativeness are interchangeable terminalogy and approaches consumer innovativeness from personal traits and domain (product) specific interest. Based on above mentioned studies, the researcher defined consumer innovativeness used in the study as “individual's predisposition to buy new skin care and makeup products which enter the market ”.

Most consumers do not have sufficient knowledge about potential benefits new skin care products can provide. Since consumers cannot confirm whether a new product is really superior to existing ones when introduced into the market, only bold individuals who have curiosity may buy this product. In turn, more innovative cosmetic consumers will invest more time and money to try new skin care products, because the risk-taking propensity is a feature of consumer innovativeness (Agarwal & Prasad, 1998). Although Tellis and his colleagues (2009) demonstrated that females have strong innovativeness for cosmetics among different product categories, segmented relationship between consumer innovativeness and purchase intention for skin care products has not been shown in previous research. Therefore, hypothesis 3 is proposed as below:

> **H3:** Consumer innovativeness will promote cosmetic consumers’ intention to purchase of new skin care products.

Based on various studied literature, hypothesized research model of skin care is

illustrated in Figure 2.3.

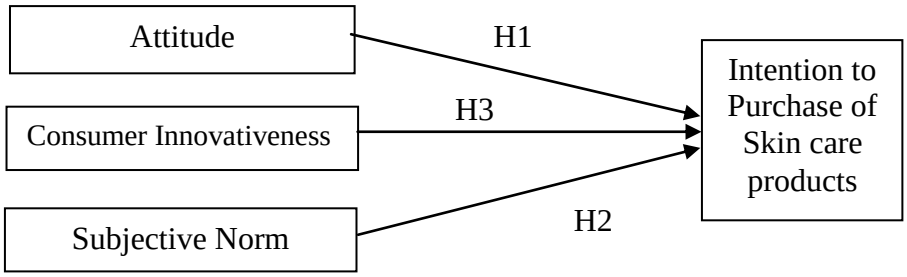

Figure 2. 3 Hypothesized research model of skin care

The same arguments might be true and applicable for makeup products. Unlike skin care products, makeup products do not seem to contribute to the fundamental care of skin conditions. Makeup cosmetics is also called as "color makeup", "point makeup" or "decorative cosmetics" and major functions of makeup products are to enhance a female's appearance by covering flaws, changing color tones, and shading on faces and to express a female's inner world (Lee & Kim, 2006). As a result, makeup products can give some benefits such as emotional pleasure and changes of outward appearance to consumers. Therefore, it is assumed that if a consumer believes that she can enjoy a positive outcome by purchasing new makeup products, she is more likely to have a positive attitude toward makeup products, resulting in purchasing behavior. Also, if a consumer has a strong belief that important referents think makeup products are good, she will have more intention to buy new makeup products. Therefore hypotheses 4 and 5 are proposed as:

H4: Attitude towards makeup products will promote cosmetic consumers'

intention to purchase of new makeup products.

H5: Subjective norm towards makeup products will promote cosmetic consumers' intention to purchase of new makeup products.

Generally speaking, makeup products have released more often than skin care products, indicating makeup product lines have a faster product cycle because those products reflect new seasons' color trends. Therefore, fashion-conscious young females are likely to express their individualities through makeup products which are relatively cheaper than skin care products. Fashion-conscious females are also likely to be innovators because they are sensitive to beauty and appearance (Jordaan & Simpson, 2006). They enjoy evaluating qualities of products, finding out how new makeup products work, and learning how to apply them (Hirunyawipada & Paswan, 2006). As the result, they have the tendencies to buy makeup cosmetics more frequently than skin care products (Kim & Kim, 2010). To put it from another perspective, purchase intention for new makeup products provides consumers the opportinuties to play with the products as well as to test and analyze the freshness of cosmetics (Hirunyawipada & Paswan, 2006). Hence, the researcher proposes a direct relationship between consumer innovativeness and consumer's purchase intention for makeup products. Therefore:

H6: Consumer innovativeness will promote cosmetic consumers' intention to purchase of new makeup products

Based on literatures the researcher explored in this chapter, hypothesized research model of makeup is illustrated in Figure 2.4.

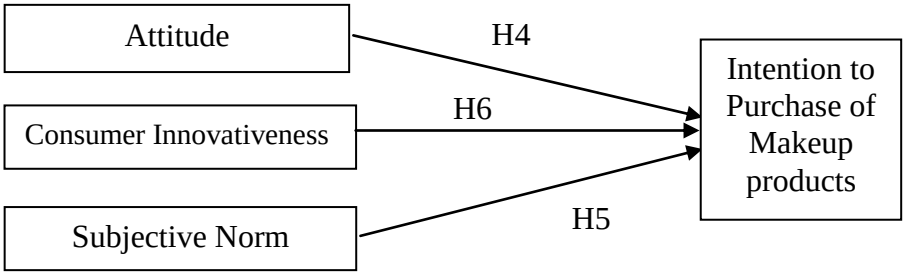

Figure 2. 4 Hypothesized research model of makeup

CHAPTER 3: METHODOLOGY

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3.1. Research Design and Philosophy

Continued tendency to study consumers' motivation and attitude towards consumer goods is derived from rapidly evolving business environment and customer needs. Consumer purchasing behavior has been studied in different fields and it incorporates several subtopics. This researcher intends to delve deeper into the realms of cosmetics, especially its consumers' buying behaviors given that cosmetic consumers play a significant role as early determinants for the survival of competing of cosmetic products and firms.

This study is based on the assumption that cosmetic consumers' innovative propensities may influence on their cosmetic consumptions regarding new skin care/makeup products. The research question of this study examines the effects of consumer innovativeness, attitude, and subjective norm on cosmetic consumers' purchasing behavior of new cosmetic products. Due to the nature of this research, positivism approach is used as it deals with positive facts, utilizing scientific approach and statistical analysis in order to generalize findings. Positivism is regarded as "a commitment to a unified view of science, and the adoption of methodologies of the natural sciences to explain the social world" (Smith, 1996, p. 11). This philosophy focuses on the efforts to verify hypotheses which are stated in quantitative propositions that can be easily converted into mathematical formulas showing functional relationships (Guba & Lincoln, 1994).

Selecting the right methodology is one of the most important steps in order to achieve valid results and it depends on the research problem and its purpose. To collect data through primary sources, the researcher has to decide on data collection method; qualitative or quantitative or mixed method (Ghauri & Gronhaug, 2010).

Ponterotto and Grieger (1999) note that "quantitative methods focus on the strict quantification of observations (data) and on the empirical control of variables. This form of research most often incorporates large-scale sampling procedures and the use of statistical tests to study group averages and variance." (p.50). On the other hand, qualitative methods focus on understanding social processes from the perspective of respondent (Ghauri & Gronhaug, 2010).

Ambert and his colleagues (1995) explain the difference between qualitative and quantitative methods. Firstly, quantitative researchers seek breadth and aim to get a large and representative data from an entire population while quanlitative researchers focus on in depth and intimate information on a smaller group. Secondly, quantitative research focuses on what people do or believe whereas qualitative research aims to examine how and why people behave and think. Thirdly, qualitative research has more a flexible spectrum than quantitative research in terms of its goals. Last but not least, quantitative research focuses on verification of hyphothesis in contrast to qualitative research which focuses on new discovery.

The researcher attempts to investigate the relationship between variables including attitude, subjective norm, and consumers' innovativeness propensity and cosmetic buying behavior of new cosmetics; it refers to systematic empirical investigation. In other words, the researcher asks "what" instead of "why". Although consumer behavior is a sophisticated decision making process which can be characterized within explanatory aspect of research, the researcher does not focus on understanding the process, but tries to test hypothesis and verify research question based on collected data. Therefore, quantitative method is used in this study.

3.2. Data Collection

3.2.1. Survey Instrument (Questionnaire)

When the researcher studies large number of research units and topics, it is common to collect quantitative data. In this case, survey, particularly written questionnaire is commonly used because it is more efficient in terms of time and cost (Velde, Jansen, & Anderson, 2003). Velde and his colleagues (2003) note some additional advantages of using written questionnaire. Firstly, it is simple to collect and analyze data. Secondly, the questionnaire gives anonymity to the respondents, thus, they are more willing to answer certain personal questions. Thirdly, the risk of persuaded results by the surveyor is lower if written questionnaire is in a structured format compared to a face-to-face interview. Hence, the questionnaire is used in this study as the primary data.

In this study, the researcher uses a self-administered questionnaire which is an "instrument used to collect information from people who complete the instruments themselves" (Bourque & Fielder, 2002, p. 2). According to Bourque and Fielder (2002), almost all of self-administered questionnaires have been executed using paper and pencil. As internet and personal computers have diffused rapidly, many researchers prefer to use internet or e-mail survey. Although internet or e-mail survey has some advantages such as low participation cost, fast response, no geographical restraint (Ridings, Gefen, & Arinze, 2002), the researcher cannot monitor whether respondents fill the questionnaire out (Velde, Jansen, & Anderson, 2003). In addition, people who use internet are often asked to answer various surveys, in which respondents are more likely to ignore. In turn, online surveys may find it difficult to achieve higher respondent rates. Furthermore, accessibility to the target group is not difficult since this research intends to study undergraduate and graduate female students attending at Ritsumeikan Asia Pacific University.

3.2.1.1. Questionnaire Design

The researcher is unable to provide personal explanations to the respondents if he/she uses a written questionnaire (Velde, Jansen, & Anderson, 2003). Thus, the questions should be clear and easy to understand, in order to the respondents to answer the questionnaire without researcher's help. According to Ghauri and Gronhaug (2010), questionnaire format such as layout, length, and even paper color is one of influencing factors on respondents' answers. It is therefore crucial

for the researcher to make a user-friendly questionnaire.

The questionnaire implemented in this study is illustrated in Appendix 1 is divided into two parts. The first part of the questionnaire is designed to ask respondents' personal data and general cosmetic purchasing behavior. The respondents' personal data includes their nationality, age, education level, and major. The questionnaire consists of closed-ended questions except nationality. The respondents are asked about their general cosmetic purchasing behavior such as duration of cosmetic use, products of cosmetics usage per day, timeframe of cosmetics purchase. The second part of the questionnaire has a total of 24 questions to measure the respondents' attitude, subjective norm, consumer innovativeness, and intention to purchase. In order to obtain more detailed information of those four variables, the researcher divides the second part (research variables) into two sub parts; skin care products and makeup products. Therefore, each of sub parts is made up of 12 questions. All variables are measured with five-point Likert-type scales; from left to right side, it ranges from strongly disagree (1) to strongly agree (5). Scales for measuring attitude and subjective norm are adapted from Taylor and Todd (1995). Attitude towards both skin care products and makeup products is measured with four items. This scale is intended to indicate how cosmetic consumers think about using skin care/makeup cosmetics products. Subjective norm is measured with two items which is subjected to indicate the importance of referents' approval for the respondents' use of skin care/makeup cosmetics products. The measurement of consumer

innovativeness is adapted from Agarwal and Prasad (1998). Four items made by Agarwal and Prasad (1998) describe prototipical behaviors in the context of consumer innovativeness. These items are subjected to indicate the degree of respondents' willingness to try new skin care/makeup cosmetics products. The only dependent variable, intention to purchase is adapted from Venkatesh and Davis (2000). Two items of intention to purchase are designed to indicate whether cosmetic consumers have intention of purchasing new released skin care/makeup cosmetics products in the future. Table 3.1. summarizes the constructs, question items, and adapted measures as well as sources of the questionnaire.

Table 3. 1 Measurement of research variables

Constructs		Question Items	Source
Skin care products			
Attitude	SK_AT1	I think using skin care products is a good idea.	Taylor and Todd (1995)
	SK_AT2	I think using skin care products is a wise idea.	
	SK_AT3	I like the idea of using skin care products.	
	SK_AT4	I think using skin care products would be pleasant.	
Subjective norm	SK_SN1	People who influence my behavior would think that I should use skin care products.	Taylor and Todd (1995)
	SK_SN2	People who are important to me would think that I should use skin care products.	
Consumer innovativeness	SK_CI1	If I heard about a new skin care products, I would look for ways to experiment with it.	Agarwal and Prasad (1998)
	SK_CI2	Among my peers, I am usually the first to try out new skin care products.	
	SK_CI3	In general, I am hesitant to try out new skin care products	
	SK_CI4	I like to experiment with new skin care products.	
Intention to purchase	SK_INT1	I plan to purchase new skin care products in the future.	Venkatesh and Davis (2000)
	SK_INT2	I expect to purchase new skin care products in the future.	

Notes: SK_AT1 through SK_AT4 = skin care attitude1 through skin care attitude4; SK_SN1 through SK_SN2 =skin care subjective norm1 through skin care subjective norm2; SK_CI1 through SK_CI4= skin care consumer innovativeness1 through skin care consumer innovativeness4; SK_INT1 through SK_INT2=skin care intention 1 through skin care intention2

Table 3.1 Measurement of research variables (Continued)

Makeup products			
Attitude	MK_AT1	I think using makeup products is a good idea.	Taylor and Todd (1995)
	MK_AT2	I think using makeup products is a wise idea.	
	MK_AT3	I like the idea of using makeup products.	
	MK_AT4	I think using makeup products would be pleasant.	
Subjective norm	MK_SN1	People who influence my behavior would think that I should use makeup products.	Taylor and Todd (1995)
	MK_SN2	People who are important to me would think that I should use makeup products.	
Consumer innovativeness	MK_CI1	If I heard about a new makeup products, I would look for ways to experiment with it.	Agarwal and Prasad (1998)
	MK_CI2	Among my peers, I am usually the first to try out new makeup products.	
	MK_CI3	In general, I am hesitant to try out new makeup products.	
	MK_CI4	I like to experiment with new skin care products.	
Intention to purchase	MK_INT1	I plan to purchase new makeup products in the future.	Venkatesh and Davis (2000)
	MK_INT2	I expect to purchase new makeup products in the future.	

Notes: MK_AT1 through MK_AT4 = makeup attitude1 through makeup attitude4; MK_SN1 through MK_SN2 =makeup subjective norm1 through makeup subjective norm2; MK_CI1 through MK_CI4= makeup consumer innovativeness1 through makeup consumer innovativeness4; MK_INT1 through MK_INT2=makeup intention 1 through makeup intention2

3.2.2. Sampling and Survey Procedure

Velde, Jansen, and Anderson (2003) defined population as “every complete collection or research units or objects that collectively form your research domain” (p. 59). In reality, it is sometimes difficult to reach the entire population because

there are some limitations such as geography or age. Due to the time and cost limitation of using population, a vast majority of researchers have been using a sample which is defined as “a representative subgroup of the population” (Velde, Jansen, & Anderson, 2003, p. 59).

There are two categories of sampling selection; probability and non-probability sampling. Probability sampling is based on random selection and emphasizes that each unit has an opportunity to be selected, therefore, probability sampling is useful in scientific research to test hypotheses and to draw inferences of the population (Ghauri & Gronhaug, 2010). On the other hand, non-probability sampling is based on the possibility that some units in the population can be selected more than other units and it is used in qualitative research to get insights about a particular phenomenon (Ghauri & Gronhaug, 2010). Due to the purpose of the study, the researcher applys probability sampling and uses random sampling.

For this research, the survey is conducted in two languages according to the predominant languages used at the campus of Ritsumeikan Asia Pacific University; English and Japanese. The questionnaire is translated carefully by using back translation process. In order to enhance the quality and validation of the questionnaire, two bilingual translators are asked to help the researcher to use this approach (Cha, Kim, & Erlen, 2007). Japanese, who studies bachelor’s degree in Ritsumeikan Asia Pacific University, translates the questionnaire from the original language (English) to the target language (Japanese). And then, the other Japanese,

who also studies master's degree in the same University, translates the questionnaire back to the original language (English) to ensure the same meaning.

The survey is planned to be conducted in the week of 6-17, October 2011 and the questionnaire will be distributed in person in order to receive immediate feedback. The data will be collected from female students attending Ritsumeikan Asia Pacific University where a great variety of culture and nationality exist. An age range of female students comprising the University is appropriate for this study because they actively use cosmetics in this age group. Those who are currently attending at university will soon have purchasing power and they will be important consumers that cosmetic companies actively and strategically promote. The respondents are only limited to female students who wear cosmetics. Therefore, before distributing the questionnaire the researcher will confirm whether the respondents use cosmetics in practice.

3.3. Data Analysis

In order to analyze collected data and to test hypothesis, SPSS version 17.0 and AMOS 18.0 are employed to conduct both descriptive statistics analysis and structural equation modeling. Descriptive statistics analysis using graphical and/or numerical techniques is used to present and summarize the data (Keller, 2009), subsequently, all the findings will be summarized in chapter 4, result and discussion. Structural equation modeling (SEM) is a multivariate statistical technique which integrates factor analysis, canonical correlation, and multiple

regression (Tabachnick & Fidell, 2001). Ghauri and Gronhaug (2010) explain structural equation modeling as appropriate and an efficient technique since all regressions are shown and estimated simultaneously. In other words, SEM shows a hypothesized model by using path diagram which is a vital technique of SEM (Tabachnick & Fidell, 2001). In addition, SEM is a useful tool to explain why two or more variables are related or not (Kelloway, 1998). Hence, SEM is performed to reassess and summarize the results of hypothesized relationships among variables.

Frequency analysis, a useful tool to deliver information about the collected data to the users in a sensitive way (Ghauri & Gronhaug, 2010), is conducted to examine demographic data of the respondents and will be illustrated in the following chapter. Three types of the graphs, namely pie chart, bar chart, and histogram are commonly used to describe distributions in frequency analysis (Ghauri & Gronhaug, 2010). These graphs will be employed to present demographic characteristics of the respondents.

Correlation and multiple regression are used to test the hypothesis. Correlation is a statistical measure that is often used to show covariation relationship between two variables (Ghauri & Gronhaug, 2010). The correlation coefficient (*r*) has several patterns. Theoretically *r* can have the value between -1 to +1. If r value is closed to -1, two variables (x and y) have a negative correlation which means that high values of one variable (x) correlate with low values of the other variable (y).

If r value is closed to +1, x and y variables have a positive relationship which indicates that if values of x increase, values of y also increase. A perfect correlation (r = 1.00) occurs when all points exactly lie on a straight line while r near zero implies that there is a random and unrelated relationship between x and y (Velde, Jansen, & Anderson, 2003). Salkind (2009, p. 129) introduces the rule of interpreting a correlation coefficient as below:

- 0.1 to 0.2 weak or no relationship
- 0.2 to 0.4 weak relationship
- 0.4 to 0.6 moderate relationship
- 0.6 to 0.8 strong relationship
- 0.8 to 1.0 very strong relationship

Although absolute value of correlation coefficient is important, there is more widely utilized technique to interpret the correlation coefficient. That is, so called the coefficient of determination. The square of the correlation coefficient (R^2) between two variables means that proportion of variance of one variable can be explained by the other variable (Ghauri & Gronhaug, 2010; Velde, Jansen, & Anderson, 2003).

Like the correlation coefficient, regression analysis is a useful and commonly applied measures to test the relationships between variables (Ghauri & Gronhaug, 2010). Regression analysis helps to understand what extent the values of the dependent variable can be affected when the values of independent variables change (Velde, Jansen, & Anderson, 2003). Multiple regression is a statistic

technique that explains/predicts the dependent variable by using more than one independent variable to "make the model more realistic, control for other variables, and explain more of the variance in the dependent variable (and thus reduce residuals)" (Ghauri & Gronhaug, 2010, p. 182).

3.4. Validity and Reliability

Validity and reliability are critical in all research although measuring methods of the veracity and credibility of research findings can vary depending on the research type (Carter & Porter, 2000). Carter and Porter (2000) defined validity as the degree to which an instrument measures what it is supposed to be measured. There are several kinds of validity that the researcher can utilize when she/he assesses accuracy of an instrument: face validity, content validity, convergent validity, and discriminant validity. Face validity is a validity that tells whether the measure reflects the content of the concept in question, and thus seeks to validateo research target (Singh K. , 2007). Face validity is established by asking opinions of other people who are familiar about the research topic (Ghauri & Gronhaug, 2010; Singh K. , 2007). Content validity refers to information soundness which assesses whether the content of the instrument represents relevant aspects of the concept (Velde, Jansen, & Anderson, 2003). Content validity is established by consulting with researchers/experts (Velde, Jansen, & Anderson, 2003; Jackson, 2011). Convergent validity and discriminant validity consist of construct validity. Convergent validity refers to the degree to which the concepts or the constructs are comparable and should be correlated theoratically and are in fact related in

reality (Velde, Jansen, & Anderson, 2003). On the other hand, discriminant validity assesses whether the concepts or the constructs which are supposed to be unrelated to each other are, in fact, unrelated (Singh K. , 2007). To minimize the threats of validity, the researcher uses validated existance questions: the researcher not only adapt and modify instrument from other scholars, but also tries to make the questionnaire clear and understandable so that all questions do not include any technical terminology. In addition, the questionnaire is developed by using back translation process and data is collected randomly. Furthermore, the researcher plans to perform face validity check.

Carter and Porter (2000) defined reliability as "the degree of consistency or accuracy with which the instrument (used under similar conditions) measures the attribute under investigation" (p. 29). In other words, reliability is a concept that can be expressed in words, namely, 'stability', 'consistency', 'predictability', 'accuracy', and 'dependability'. There are four ways to estimate reliability: inter-rater or inter-observer reliability, test-retest reliability, parallel-forms reliability, internal consistency reliability. Inter-rater reliability or inter-observer reliability is " a measure of consistency that assesses the agreement of observations made by two or more raters or judges" (Jackson, 2011, p. 70) and it is employed in interviewing and content analysis (Singh K. , 2007). In test-retest method, the researcher repeats the same test with the same instrument to the same research unit at a different time (Velde, Jansen, & Anderson, 2003). It implies that time gap between two tests is critical since the sample can give different score on two

occasions. As the time gap is short, the researcher can get more similar scores. Therefore, short time gap leads higher correlation. However Velde and his colleagues (2003) cite that implementing this method in practice is not easy since it not only costs more, but also the researcher has to inconvenience research respondents with the same contents. Parallel test method may supplement weak points of test-retest method. Parallel test method measures the same sample with two instruments which measure the same concept, therefore, it is expected to have the same score (Velde, Jansen, & Anderson, 2003). However, this method also has its own shortcomings. According to Velde and his colleagues, finding two instruments which reflect the same construct and measure the same concept is difficult in practice. Internal consistency reliability is widely used to assess survey instuments and scales, and applied to groups of items (Litwin, 2003). With this method we can estimate how well the different items reflecting the same construct measure the same concept. Cronbach's alpha (alpha coefficient) is the most popular measurement for the internal consistency reliability. Alpha coefficient is roughly equivalent to the mean correlation of the item. In other words, if the mean correlation of the items increases alpha value also increases (Velde, Jansen, & Anderson, 2003). They mention that alpha value is also determined by the number of items in the scale and consequently it is important to obtain higher alpha value with the smaller number of items. Scholars provide somewhat different rules of alpha coefficient. Velde and his colleagues (2003) provide a sketchy explanation that 0.6 is a minimum value, 0.7 is acceptable and 0.8 or higher alpha means good. On the other hand, George and Mallery (2003) explain the rule more in detail: 0.9

or higher alpha is considered excellent, 0.8 or higher value is good, 0.7 or higher alpha is acceptable, 0.6 or higher is questionable, 0.5 or higher is poor, and 0.5 or lower is unacceptable. In brief, scholars agree with the idea that 0.7 alpha coefficient is cut-off value (Nunnally, 1978). Hence, internal reliability of the data will be measured by Cronbach's alpha based on the cut-off value.

3.5. Questionnaire Survey Limitation

Questionnaire survey, one of the most popular and convenient method, is used in this study. A determining factor to implement this type of survey is owed to the time and cost efficiencies. Unlike interviews, questionnaire survey allows examinees to have sufficient time to fill out the form. Therefore, it guarantees privacy, anonymity, and response autonomy of examinees, and willingness to answer personal or sensitive questions. Nevertheless there are still several issues regarding limitation of the questionnaire survey. First, it is difficult to control the surrounding environment, meaning that the questionnaire can be completed by proxies such as family, friends, or colleagues. Secondly, the examinees tend to interpret survey questions based on their linguistic habits and language skills. Thirdly, it is difficult to investigate complicated contents with simple questions. Fourthly, it is difficult to ensure independence of questions back and forth since examinees can check all questions in a questionnaire before they answer. Fifthly, socially sensitive questions can be ignored by examinees. Sixthly, questionnaires have low response rates.

In order to reduce examinees' tendencies to interpret the questions differently, the researcher not only uses validated existing questions, but also tries to write as easy as possible by avoiding any technical terms. Considering that the predominant languages on campus are English and Japanese, the researcher prepares two versions of questionnaires and plans to distribute the questionnaire according to their preferences. Since this research does not include any socially sensitive questions, the fifth limitation mentioned above is not a consideration, however, the researcher needs to overcome a fundamental problem of so-called 'low response rate'. To raise the response rate, the researcher plans to distribute the questionnaires not through telephone or e-mail, but in person on campus. There are instances whereby some respondents return their questionnaires over an extended period of time. In these cases, the researcher cannot utilize those data, thus, the researcher will allow ample time to answer the questionnaire and collect it immediately.

CHAPTER 4: RESULTS AND DISCUSSION

CHAPTER 4: RESULTS AND DISCUSSION

This chapter reports the results derived from the questionnaires. The survey was conducted from October 6th, 2011 to October 17th, 2011 and the questionnaire was distributed in person. The data was collected from undergraduate and graduate female students studying at Ritsumeikan Asia Pacific University. The ages of the participants were between 18 and 30. In order to achieve superior accuracy data, the researcher filtered out participants who do not wear cosmetics. A total of 300 questionnaires were distributed and 235 of them were completed. Five incomplete questionnaires were excluded and 230 questionnaires were used for data analyze, which resulted in 76.67% of the response rate. All the findings of the questionnaire survey will be presented and the results will be analyzed as follows.

4.1. Findings

4.1.1. Profile of Respondents

Frequency analysis, the researcher's first task after coding data (Ghauri & Gronhaug, 2010), was conducted to examine demographic data of the respondents. Demographic data of the respondents include their nationalities, education, major, age, and general cosmetic buying behavior which comprised duration of usage, products of usage per day, and periods of purchase.

Nationality

As of November 1, 2011, there were 5722 students from 78 nations or regions in Ritsumeikan Asia Pacific University (Ritsumeikan Asia Pacific University, 2011).

Of which, 230 students from 23 nationalities responded to the research. The nationalities of respondents are illustrated in Table 4.1. Composition of Japanese (22.2%), Korean (17.8%), and Indonesian (16.5%) students accounted for over 50% of total respondents.

Table 4. 1 Descriptive statistics of respondents' nationalities (*n* = 230)

Nationality	Frequency	Percent
Japanese	51	22.2
Korean	41	17.8
Indonesian	38	16.5
Chinese	30	13.0
Vietnamese	19	8.3
Thai	16	7.0
Taiwanese	6	2.6
American	3	1.3
Malaysian	3	1.3
Filipino	2	0.9
Mexican	2	0.9
Mongolian	2	0.9
Tanzanian	2	0.9
Argentine	1	0.4
Australian	1	0.4
Canadian	1	0.4
German	1	0.4
Ghanaian	1	0.4
Kyrgyz	1	0.4
Myanmar	1	0.4
Norwegian	1	0.4
Singaporean	1	0.4
Zimbabwe	1	0.4

Education and Major

Table 4.2 shows the descriptive statistics of the respondents' profiles. 85.7% of the

respondents were undergraduate students while graduate students accounted for 13.9% of total respondents. 40.9% of the respondents were majoring in Asia Pacific Studies (APS), 45.2% were specializing in International Management (APM), 7.4% were studying Asia Pacific Studies at graduate student level (GSAM), 4.8% were majoring in Master of Business Administration (GSM), and 0.4% was pursuing a doctorate in Asia Pacific Studies (GSAD).

Table 4. 2 Descriptive statistics of respondents' characteristics (*n*=230)

Demographics	Frequency	Percent
Education		
Undergraduate Student	197	85.7
Graduate Student	32	13.9
Major		
APS	94	40.9
APM	104	45.2
GSAM	17	7.4
GSM	11	4.8
GSAD	1	0.4
Age		
Below 18	9	3.9
18 - 21	160	69.6
22 - 25	44	19.1
26 - 29	8	3.5
Over 30	8	3.5

Table 4.2 Descriptive statistics of respondents' characteristics (Continued)

Duration of usage		
Less than 1 year	62	27.0
1-2 years	46	20.0
2-3 years	38	16.5
More than 3 years	82	35.7
Products of usage/day		
Less than 3 products	89	38.7
3-4	63	27.4
5-6	43	18.7
More than 7 products	34	14.8
Periods of purchase		
About once a month	11	4.8
About once every three months	74	32.2
About once every sixth months	63	27.4
About once a year	33	14.3
Anytime	48	20.9

Age

The majority of respondents were between the ages of 18 and 21 years old (69.6%). Followed by respondents whose age ranged from 22 to 25 years old (19.1%) and then those under the age of 18 (3.9%). The respondents both who were 26 to 30 and who above 30 showed small and equal (3.5% each) proportions of the respondents. Figure 4.1 shows the frequency of the respondents arranged by their age and education level. The majority of undergraduate students were located in the 18 to 21 age group (80.2%) while frequencies of graduate students had little difference in each age range: 40.6% of graduate students were located in the 22-25 age segments, followed by 25% with ages ranged from 26 to 29 and 25% of

ages ranging over 30. The lowest frequency recorded was 6.3% which was less than 18 (see Figure 4.2 and Figure 4.3).

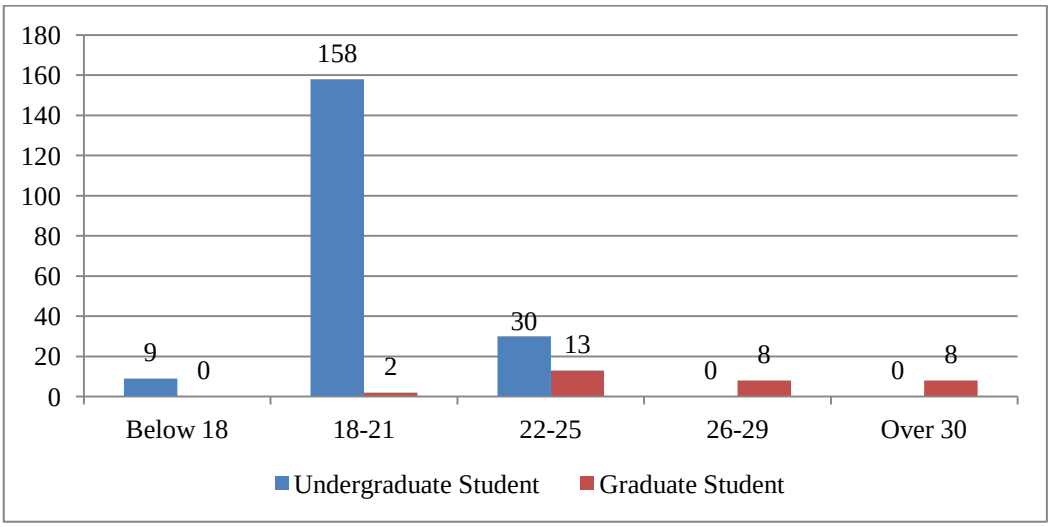


Figure 4. 1 Frequency of respondents by age and education (unit = people)

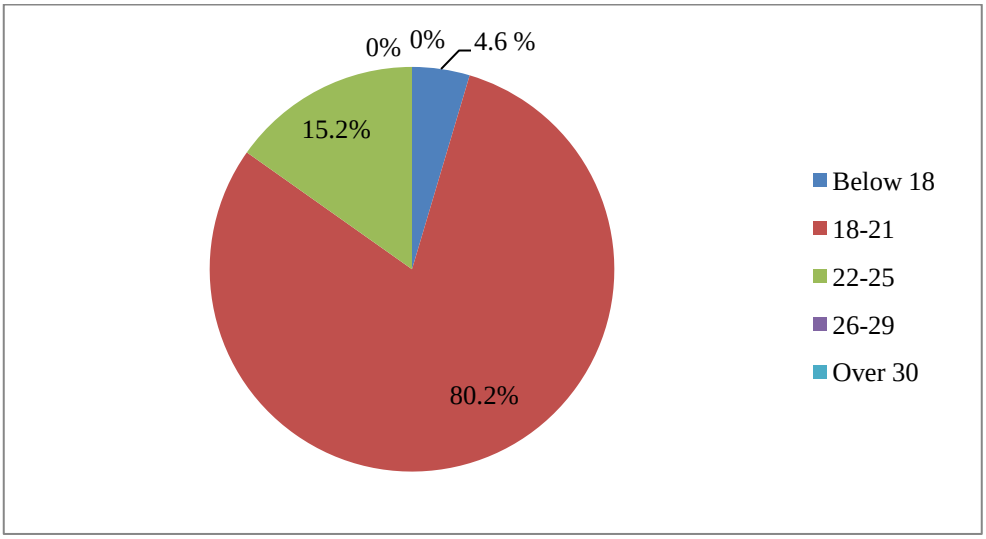


Figure 4. 2 Percentage of undergraduate student by age

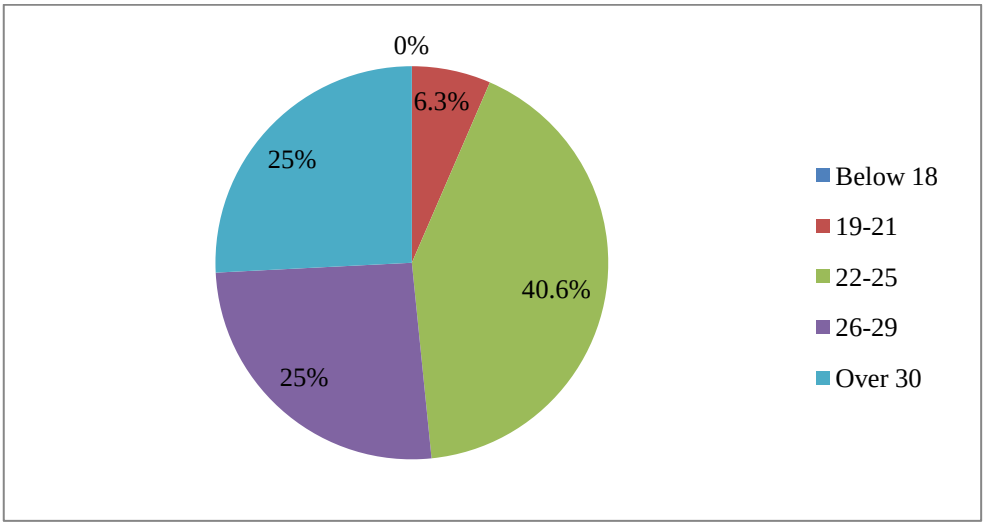


Figure 4. 3 Percentage of graduate student by age

In terms of respondents' general cosmetic buying behavior, nearly 36% of the respondents had 3 or more years of cosmetic use experience. 27% of them had less than 1 year experience, 20% of them had 1-2 years experiences and 16.5% had 2-3 years experiences. About 40% of the respondents reported using less than 3 products per day. 27.4% answered that they use 3 to 4 cosmetic products per day, and then 18.7% replied that they use 5-6 products per day. Those who used more than 7 cosmetic products per day comprised of 14.8% of total respondents. 32.2% of the respondents answered that they bought cosmetic products about once every three months. 27.4% of total said that they purchased cosmetics about once every six months while 14.3 % bought cosmetics about once a year. Those who purchased cosmetics about once a month formed only 4.8% of the respondents.

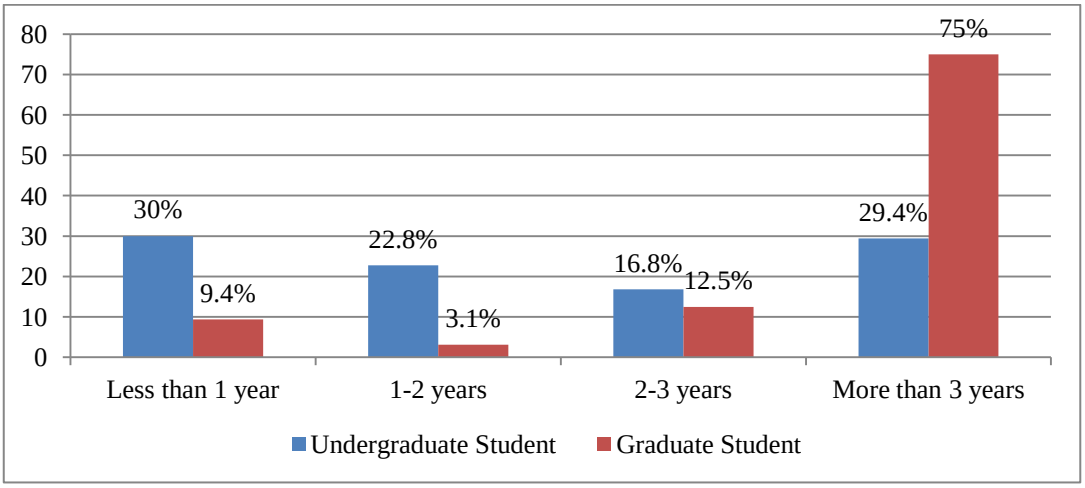


Figure 4. 4 Duration of cosmetic usage for different educations (%)

Figure 4.4 shows the distinction of cosmetic usage experience distinguished by female students' education levels. Less than 1 year cosmetic use experience and more than 3 years of cosmetic use experience were chosen by undergraduate students, which make up nearly 30%. 22.8% of respondents whom have used cosmetics for 1 to 2 years, while 16.8% of them have used cosmetics 2 to 3 years.

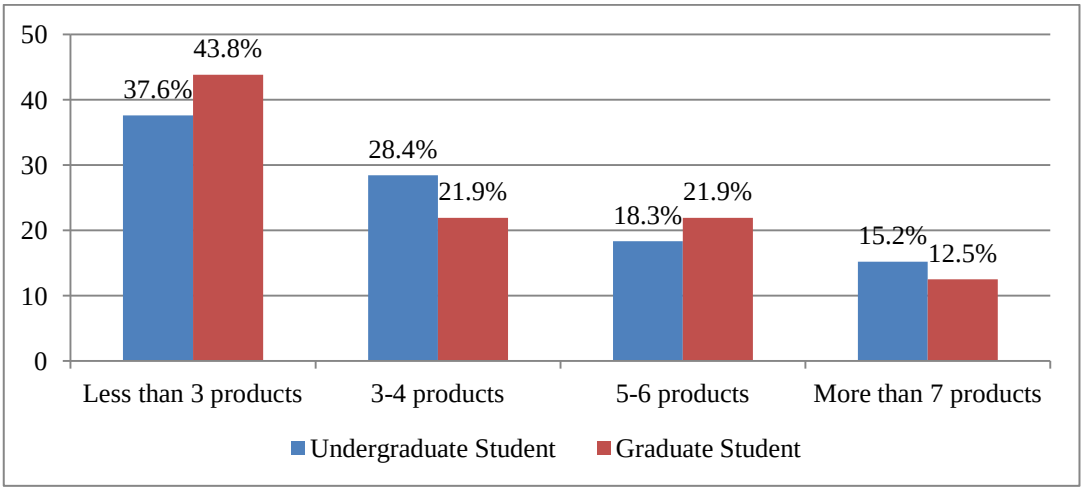


Figure 4. 5 Cosmetic products usage per day for different educations (%)

As for cosmetic products usage, about 38% of undergraduate students indicated that they used less than 3 cosmetic products per day and 28.4% of them used 3-4 products per day. Those who used more than 7 products represented 15.2% of total undergraduate students follow by 18.3% of undergraduate respondents who used 5-6 cosmetic products a day. 43.8% of graduate students answered that they used less than 3 products a day. Graduate students who used 3-4 cosmetic products and 5-6 cosmetic products per day were equally accounted for 21.9%. Finally, 12.5% of graduate students described that they used more than 7 products a day (see Figure 4.5).

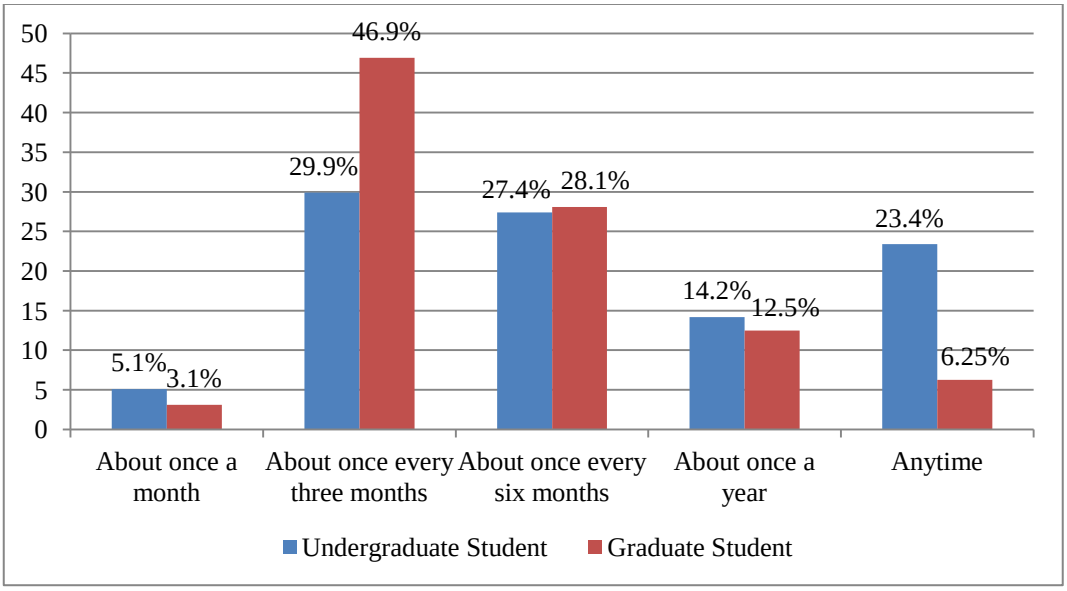


Figure 4. 6 Periods of cosmetic purchase for different educations (%)

With regards to the periods of cosmetic purchase, nearly 30% of undergraduate students revealed that they bought cosmetics about once every three months and 27.4% bought cosmetics about once every six months. 14.2% of undergraduate

students purchased cosmetics about once a year follow by 23.4% of undergraduate students who acquired cosmetics without a fixed schedule. Only 5.1 % of undergraduate students buy cosmetics about once a month. As for cosmetic purchase period of graduate students, the most frequent response was purchasing about once every three months (46.9%), followed by purchasing about once every six months (28.1%). 12.5% of graduate students reported that they bought cosmetics about once a year and 6.25% of them acquired cosmetics without a fixed schedule. Only 3.1% of graduate students answered that they purchased cosmetics about once a month (see Figure 4.6).

4.1.2. Validity and Reliability

The researcher used validated existance questions to reduce the threats towards the validity of the data. Pre-existing questions have already been tested by other scholars and have proved that they can be used as good indicators of the concepts, therefore, it saves cost and time to develop and test new questions. Furthermore, face validity was performed with a cosmetic selling manager in the biggest cosmetics shop in Beppu city to confirm whether the sample could understand the contents of measurement and reflect the items that it was designed to measure (Tajeddini, Trueman , & Larse, 2006).

Acceptable internal reliability was satisfied with Cronbach’s alpha of eight measurements (attitude, consumer innovativeness, subjective norm, and intention to purchase of skin care and makeup products). Alpha coefficients of three

measurements (attitude, subjective norm, and intention to purchase) regarding skin care products were 0.900, 0.789, 0.886 respectively whilst Cronbach alpha coefficients of attitude, subjective norm and intention to purchase of makeup products were 0.927, 0.861, and 0.929 respectively. Initial Cronbach's alpha values of two measurements (consumer innovativeness of skin care and that of makeup products) were below the threshold level of 0.7 (Nunnally, 1978): the Cronbach's alpha of consumer innovativeness of skin care products was only 0.560 and the alpha coefficient value of consumer innovativeness of makeup products was 0.685. The construct of consumer innovativeness for skin care and makeup products included 4 questions each. By eliminating one question (SK_CI3 and MK_CI3) of each measurement, two values could reach the cut-off: the Cronbach's alpha value of consumer innovativeness (skin care) was increased from 0.560 to 0.744: that of consumer innovativeness (makeup) was also increased from 0.685 to 0.771. As the result, the overall Cronbach's alpha coefficients values are greater than cut-off value of 0.7 (see Table 4.3 and Appendix 3).

Table 4. 3 Reliability analysis scales

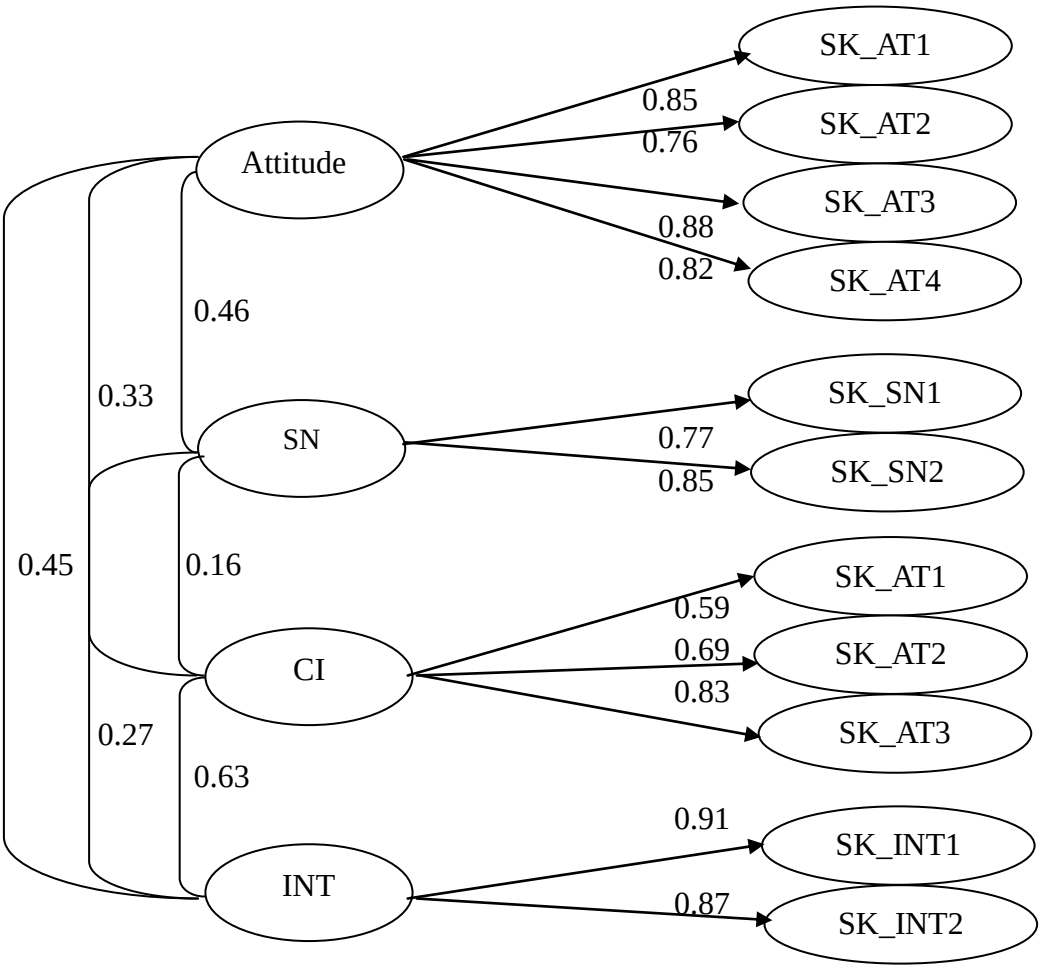
Construct	Variables	Cronbach's alpha	Alpha if item deleted
Skin care products			
Attitude		0.900	
	SK_AT1		0.862
	SK_AT2		0.888
	SK_AT3		0.858
	SK_AT4		0.875
Subjective norm		0.789	
	SK_SN1		NA
	SK_SN2		NA
Consumer		0.560	
innovativeness	SK_CI1		0.408
	SK_CI2		0.313
	SK_CI3		0.744
	SK_CI4		0.358
Intention to purchase		0.886	
	SK_INT1		NA
	SK_INT2		NA

Notes: SK_AT1 through SK_AT4 = skin care attitude1 through skin care attitude4; SK_SN1 through SK_SN2 =skin care subjective norm1 through skin care subjective norm2; SK_CI1 through SK_CI4= skin care consumer innovativeness1 through skin care consumer innovativeness4; SK_INT1 through SK_INT2=skin care intention 1 through skin care intention2

Table 4.3 Reliability analysis scales (Continued)

Makeup products			
Attitude		0.927	
	MK_AT1		0.891
	MK_AT2		0.919
	MK_AT3		0.900
	MK_AT4		0.910
Subjective norm		0.861	
	MK_SN1		NA
	MK_SN2		NA
Consumer		0.685	
innovativeness	MK_CI1		0.544
	MK_CI2		0.549
	MK_CI3		0.771
	MK_CI4		0.561
Intention to purchase		0.929	
	MK_INT1		NA
	MK_INT2		NA

Notes: MK_AT1 through MK_AT4 = makeup attitude1 through makeup attitude4; MK_SN1 through MK_SN2 =makeup subjective norm1 through makeup subjective norm2; MK_CI1 through MK_CI4= makeup consumer innovativeness1 through makeup consumer innovativeness4; MK_INT1 through MK_INT2=makeup intention 1 through makeup intention2

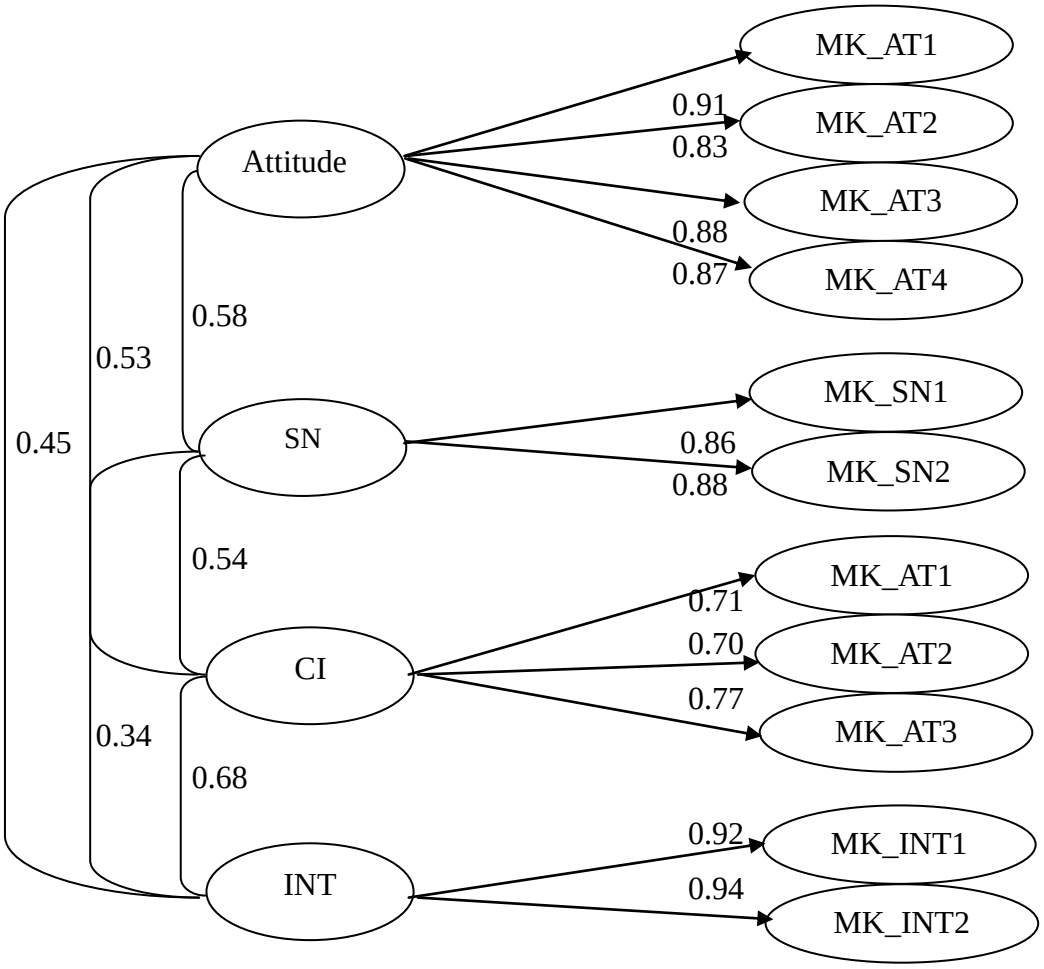


Notes: SN=subjective norm; CI=consumer innovativeness; INT=intention to purchase
Notes: The model fit: Chi square=81.70; df (degree of freedom) = 38; p=.00; Chi square/df=2.15; Comparative fit index (CFI) = 0.96, and Incremental fit index (Delt a2) =.97, The Tucker-Lewis index (TLI) = 0.94 Root mean square error of approxi mation (RMSEA) = 0.07

Figure 4. 7 Goodness of fit of the skin care model

Table 4. 4The fitness index of the model (Skin care)

Model	CMIN	DF	P	CMIN/DF	IFI Delta2	TLI Rho2	CFI	RMSEA
Default	81.70	38	0.00	2.15	0.97	0.94	0.96	0.07



Notes: SN=subjective norm; CI=consumer innovativeness; INT=intention to purchase
Notes: The model fit: Chi square=43.39; df (degree of freedom) = 38; p=.01; Chi square/df=1.30; Comparative fit index (CFI) = 0.99, and Incremental fit index (Delt a2) =.99, The Tucker-Lewis index (TLI) = 0.99 Root mean square error of approxi mation (RMSEA) = 0.04

Figure 4. 8 Goodness of fit of the makeup model

Table 4. 5 The fitness index of the model (Makeup)

Model	CMIN	DF	P	CMIN/DF	IFI Delta2	TLI Rho2	CFI	RMSEA
Default	43.39	38	0.01	1.30	0.99	0.99	0.99	0.04

The indices of SEM appeared in Figure 4.7 and 4.8 as well as Table 4.4 and 4.5 show acceptable model fits of skin care and makeup: Values of IFI and CFI in skin care and makeup model were above 0.90, which indicate good-fitting models (Kelloway, 1998; Hu & Bentler, 1999); values of TLI were above 0.90 which indicate acceptable models (Hu & Bentler, 1999); value of RMSEA in skin care model was between 0.05 and 0.08 which indicate reasonable models (Byrne, 1998) while of RMSEA in makeup model was below 0.06 which indicate good-fitting model (Hu & Bentler, 1999). All data of fitness index are presented in Appendix 2.

4.1.3. Correlation Analysis among Variables

Since the research variables were normally distributed, correlation analysis was carried out via the Pearson correlation to examine the intercorrelations of the variables and to explain the variance among the variables. Table 4.6 and table 4.7 illustrate the intercorrelations among the variables of two models, skin care and makeup products separately (for the full results of correlation analysis, see Appendix 4).

Table 4. 6 Mean, standard deviation, and intercorrelations results of skin care

	Attitude (SK_AT)	Subjective norm (SK_SN)	Consumer innovativeness (SK_CI)	Intention to purchase (SK_INT)
SK_AT	1			
SK_SN	0.387**	1		
SK_CI	0.290**	0.163*	1	
SK_INT	0.391**	0.219**	0.515**	1
Mean	3.94	3.25	2.65	3.23
SD	0.85	0.94	0.92	1.06
Sample size	230	230	230	230

Notes: *significant at $p<0.05$; ** significant at $p<0.01$

Notes: SK_AT = attitude towards skin care; SK_SN=subjective norm towards skin care; SK_CI= skin care consumer innovativeness; SK_INT=intention to purchase of skin care products

Table 4.6 shows that all variables were positively correlated. The moderate positive correlation was identified between consumer innovativeness and intention to purchase of new skin care products (r=0.515, p<0.01) according to Salkind (2009). This demonstrates cosmetic consumers who had greater consumer innovativeness level were likely to have higher propensity to purchase new skin care products. Although six pairs of the variables were positively correlated, four pairs of them were weakly correlated and one pair of the variables was weakly or not correlated: attitude towards skin care products and intention to purchase of new skin care products was weakly correlated (r =0.391, p<0.01); attitude towards skin care products and consumer innovativeness were weakly correlated (r=0.290, p<0.01); attitude towards skin care products and subjective norm towards skin care products were weakly correlated (r =0.387, p<0.01); subjective norm towards

skin care products and intention to purchase of new skin care products were weakly correlated (r =0.219, p<0.01); consumer innovativeness was weakly or not correlated with subjective norm towards skin care products (r=0.163, p<0.05).

Table 4. 7 Mean, standard deviation, and intercorrelations results of makeup

	Attitude (MK_AT)	Subjective norm (MK_SN)	Consumer innovativeness (MK_CI)	Intention to purchase (MK_INT)
MK_AT	1			
MK_SN	0.517**	1		
MK_CI	0.443**	0.440**	1	
MK_INT	0.414**	0.298**	0.571**	1
Mean	3.37	3.07	2.80	3.33
SD	0.99	1.02	0.92	1.08
Sample size	230	230	230	230

Note: ** significant at p<0.01

Notes: MK_AT = attitude towards makeup; MK_SN=subjective norm towards makeup; MK_CI= makeup consumer innovativeness; MK_INT=intention to purchase of makeup products

The overall relationship among variables of model (makeup) shows positive correlations (see Table 4.7). According to the rule of interpreting a correlation coefficient proposed by Salkind (2009), attitude towards makeup products was positively correlated with intention to purchase of new makeup products (r=0.414, p<0.01), consumer innovativeness (r=0.443, p<0.01), subjective norm towards makeup products (r=0.517, p<0.01); consumer innovativeness was also positively correlated with subjective norm towards makeup products (r=0.440, p<0.01) and intention to purchase of new makeup products (r=0.571, p<0.01); these are

moderate correlations. Only the correlation between subjective norm towards makeup products and intention to purchase of new makeup products was weak (r=0.298, p<0.01).

4.1.4. Hypotheses Testing

In order to test hypotheses H1-H6, multiple regression was performed and structural equation modeling was used to summarize the results. The reported results had provided some supporting grounds for the hypotheses of the research. The summarized results of multiple regression analysis are reported in Table 4.8 and Table 4.9 (for the full results of multiple regression analysis, see Appendix 5)

Table 4. 8 Multiple regression results of skin care

Independent Variables	B	Beta	t	Sig.
Attitude	0.307	0.244	4.005	P<0.001
Subjective norm	0.060	0.053	0.905	0.366 (ns)
Consumer innovativeness	0.506	0.436	7.652	P<0.001
R^2	0.332			
Adjusted R^2	0.323			
F (df=3,226)	37.358			p<0.01

Notes: dependent variable = intention to purchase; ns=not significant

The results of the multiple regression analysis reported in Table 4.8 show that attitude towards skin care products was significantly associated with intention to purchase of new skin care products, thus, hypothesis 1 was supported (β=0.244, t=4.005, p<0.001). However, the results rejected hypothesis 2. That is, there was

no significant relationship between subjective norm towards skin care products and intention to purchase of new skin care products. Hypothesis 3, however, was strongly supported. The relationship between consumer innovativeness and intention to purchase of new skin care products was statistically significant (β=0.436, t=7.652, p<0.001). The regression analysis showed that 33% of dependent variable (intention to purchase of new skin care products) is explained by the independent variables, namely attitude, subjective norm, and consumer innovativeness. Also the results reported in Table 4.8 shows (F value=37.358, p<0.001) indicating we may proceed the statistical analysis for the hypothesized model and test the hypotheses.

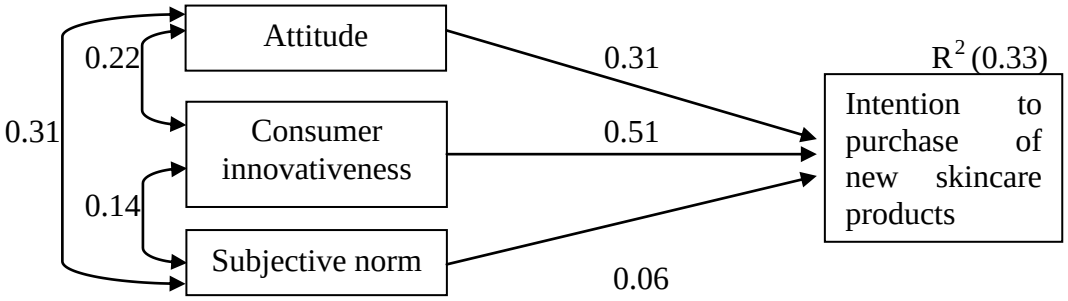


Figure 4. 9 The result of hypothesized research model of skin care

The structural model appeared in Figure 4.9 provides the comprehensive summary of the relationships between variables. This structural model, in common with the results of multiple regressions, found significant values of two relationships. Attitude towards skin care products and consumer innovativeness showed a significant effect on intention to purchase of new skin care products while the impact of subjective norm towards skin care products on intention regarding new

skin care consumption was weak.

Table 4. 9 Multiple regression results of makeup

Independent Variables	B	Beta	t	Sig.
Attitude	0.231	0.210	3.244	P<0.01
Subjective norm	-0.028	-0.026	-0.404	0.687 (ns)
Consumer innovativeness	0.575	0.490	7.928	P<0.001
R^2	0.359			
Adjusted R^2	0.351			
F (df=3,226)	42.200			p<0.01

Notes: dependent variable = intention to purchase; ns=not significant

The results of multiple regression analysis of hypotheses 4, 5 and 6 are reported in Table 4.9. As Table 4.9 shows, there was a positive and significant relationship between attitude towards makeup products and intention to purchase new makeup products (β=0.210, t=3.244, p<0.001). Hence, hypothesis 4 was not rejected. However, insignificant association was found between subjective norm towards makeup products and intention to purchase new makeup products, therefore, hypothesis 5 is rejected. The results strongly supported hypothesis 6. The relationship between consumer innovativeness and intention to purchase of new makeup products was strong, positive, and significant (β=0.490, t=7.928, p<0.001). As shown in Table 4.9, the combination of all variables accounted for 36% of the variance in intention to purchase of new makeup products. In addition the results reported in Table 4.8 shows (F value=42.200, p<0.001) indicating we may proceed the statistical analysis for the hypothesized model and test the

hypotheses.

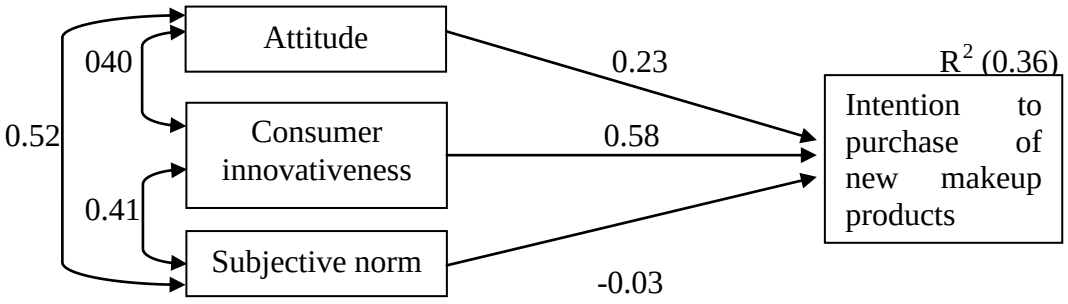


Figure 4. 10 The result of hypothesized research model of makeup

The summarized results shown in Figure 4.10 indicate that attitude towards makeup products and consumer innovativeness had significant positive effect on intention to purchase of new makeup products. On the other hand, subjective norm towards makeup products was negatively related to intention regarding new makeup products consumption.

4.2. General Analysis and Discussion

4.2.1. The Analysis of the Characteristics of the Respondents

According to Table 4.2, the majority of respondents were undergraduate female students (85.7%) who are aged at 18 to 21 years old (69.6%). The profile of majority of respondents proved that this study revealed a valid sample for the research purpose. Since, young female consumers are eager to try cosmetics and lead the market in purchasing products.

According to Figure 4.4, graduate students have been using cosmetics longer than

undergraduate students. If we consider general age distribution of graduate students, the result is understandable. The result found that 30% of undergraduate students had less than 1 year cosmetic use experience while 29.4% of them have been using cosmetics more than 3 years. Although this result can be explained by various reasons such as the respondents' cultures, living environments, and influence of mass media, the result can be related to Cha's (2006) study as she demonstrated that females tend to start to use cosmetics from adolescence. The researcher can draw a conclusion from the result that most undergraduate students started to use cosmetics from their adolescent periods or the initial stages of their college life.

The number of cosmetic products people use and their preferred makeup styles can vary depending on nation, culture, occupation, life style, season, age and environment (e.g., Korean women who are in thirties prefer natural make-up and use average 15 products a day (Daco D&S, 2007)). Figure 4.5 indicates that the respondents use a minimum number of cosmetic products in their daily lives. Considering this result in conjunction with cosmetic use experience, the result may be interpreted that young female students either lack the skills of applying makeup or they prefer natural and light makeup to match with their occupations, ages, and weather in living area.

Generally speaking, consumers show different purchasing patterns according to their occupations, educations, ages, and incomes (e.g., Vinith and Prakash (2007)).

This research cannot demonstrate it since this study only focuses on heterogeneous age and occupational group. However, this study found that both undergraduate and graduate students bought cosmetics about once every three months indicating that they purchase cosmetics by seasons (see Figure 4.6).

4.2.2. Main Effect

This study examined the influence of three variables (consumer innovativeness, attitude and subjective norm) on intention regarding cosmetic consumptions with two hypothesized models of skin care and makeup. The results of the study confirmed that subjective norm played a minor role in explaining both skin care and makeup products purchasing behavior. Instead, however, attitude and consumer innovativeness were better predictors of cosmetic consumers' purchasing intentions.

Regarding main effect among the variables, the results revealed that subjective norm was not an important factor of cosmetic consumers' intentions to purchase of new skin care products and it even has a negative impact on purchase intention for new makeup products. This finding did not support the theory of reasoned action (TRA) which argued that subjective norm is a determinant of behavioral intention. This result also rejected Kim and Chung's (2011) findings in which subjective norm predicted intention to purchase of skin care products. They mentioned that organic cosmetic consumers choose cosmetics through the pressure of the important referents. However, this study found that innovative

cosmetic consumers make cosmetic products purchasing decisions based on their convictions rather than the opinions of referents. Thus, the result of the present study supports the findings of Roberto and his colleagues (2003) as well as Myers and Horswill (2006). Roberto and his colleagues (2003) demonstrated that subjective norm was not a significant predictor of fighting. Myers and Horswill's (2006) study also found that subjective norm was not a strong predictor of intention to use sun protection.

In terms of attitude, the results showed that attitude towards skin care and makeup products enhanced cosmetic consumers' intentions to purchase of new skin care and makeup products. It implies that the more cosmetic consumers had a positive attitude towards skin care and makeup products, the greater intention led them to purchase new skin care and makeup products. This finding supports TRA which asserted that attitude is a determinant of behavioral intention. Additional support for this finding was found in Kim and Chung's (2011) result that attitude is a significant predictor of organic personal care products purchasing intention. The present study also agreed with the findings of the previous studies: Jin and Kang's (2011) study illustrating the importance of attitude on Chinese consumers' purchase intention toward a US apparel brand; Lee and her colleagues' (2007) study indicating the influence of attitude on traveler's shopping behavior; Bagozzi and his colleagues' (2000) study on the effect of attitude on fast food consumption; Shimp and Kavas's (1984) study of a direct effect of attitude on coupon usage.

With regard to consumer innovativeness, the finding is consistent with the results

of other researches (e.g., Lee & Huddleston, 2010; Beneke, Scheffer, & Du, 2010; Lee, Qu, & Kim, 2007; Thompson, Compeau, & Higgins, 2006; Hirunyawipada & Paswan, 2006). All these findings support the significant role of consumer innovativeness in new product adoption, online purchase intention, and intention to use technology technologies. However, the results did not support Im and his colleagues' (2003) argument that consumer innovativeness was not significantly associated with new product adoption due to the difference between intention and actual behavior. However the results of the present study indicated that consumer innovativeness was statistically positive and significant, and it was a predominant indicator in explaining both skin care and makeup products buying behavior. It might have occurred because domain specific innovativeness is a more appropriate concept to connect intention and actual behavior (Kim H. J., 2011). Therefore, at least for skin care and makeup cosmetic products, the research underlines the importance of the consumer innovativeness affecting cosmetic consumers' intentions regarding new skin care and makeup products consumptions.

CHAPTER 5: CONCLUSION AND SUGGESTIONS

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5.1. Conclusion and Implications

Innovative consumers play a vital role in the diffusion of new cosmetic products and prevention of new cosmetic product failures. By delivering usefulness of new cosmetic products to the majority of the market, innovative consumers not only decrease the risk of uncertainty derived from new cosmetics but also help companies to save marketing cost concerning new products. From the company's perspective, utilizing limited marketing budget on innovative consumers is more efficient to enhance marketing new cosmetic products (Kim H. J., 2011).

Generally, it has been known that innovative consumers are young and educated, have higher income and favorable attitude towards risk, and tend to adopt new products more often and faster than less innovative consumers (Im, Bayus, & Mason, 2003; Rogers, 2003; Kim H. J., 2011). Also, it has been demonstrated that women have higher innovativeness in specific product categories: home appliances, food, grocery products, and cosmetics (Tellis, Yin, & Bell, 2009).

This study was undertaken to explore how consumer innovativeness influences on cosmetic consumer's buying behavior based on the literature. Specifically it has been examined whether consumer innovativeness affects consumer's buying intention for different cosmetic categories by approaching from domain-specific interest but not from global innovativeness which across product categories. This study also tested whether attitude and subjective norm affect cosmetic consumer's

purchasing behavior by employing Fishbein and Ajzen's theory of reasoned action.

The research design of this study was quantitative method using correlation, multiple regression, and structural equation modeling to evaluate the hypothesized models. Multiple regression was used to test the hypotheses. Specially, structural equation modeling was used to evaluate the fit of the model and calculate the covariances. In addition, it helps to summarize the results.

The results of this study provided partial supports for hypotheses. In the context of cosmetics, consumer innovativeness and attitude were significant predictors of cosmetic purchase intention for new skin care and makeup products. This result revealed that although skin care and makeup are included in different categories due to its unique features and functions, consumer innovativeness was a key indicator in explaining consumer's cosmetic purchase intention for both. Subjective norm seemed to be a minor reason for consumers to buy new skin care and makeup products.

This study provides useful implications for marketers to implement their marketing strategies regarding new cosmetic products. The findings of the study show that if cosmetic consumers have a positive attitude toward cosmetics, this positive attitude would lead their intention to purchase new cosmetics. Therefore, in order to increase cosmetic consumer's purchase intention of new skin care and makeup products, marketers should focus on creating a positive attitude towards

purchasing new skin care and makeup products. Developing marketing strategies which emphasize the pleasure through new cosmetic consumption and usefulness of cosmetics will be a major consideration for marketers.

In addition, this study demonstrates that consumers do not care about ideas and pressures from important referents to consume new skin care and makeup products. It implies that newness of cosmetic product features such as ingredients, quality, textures, functions, and even packaging may strongly stimulate innovative consumer's purchase intention for skin care and makeup products. As a result, marketers should employ these attributes in their marketing strategies with an indirect mass media communication method which enables consumers to perceive it less influential to attract consumers (Lee, Qu, & Kim, 2007). Advertising which is designed to arouse consumer's curiosity is an example. Managers can also satisfy innovative consumer's novelty seeking by managing a group of new cosmetics testers.

5.2. Contribution of the Research

The major contribution of this study is that it is the first attempt to apply consumer innovativeness into the cosmetic field by developing the research model which is based on the theory of reasoned action (TRA). Previous studies have modified TRA model with a unique dimension, consumer innovativeness. However scholars have used consumer innovativeness and personal innovativeness from different viewpoints. This study is different in the sense that

the researcher approached consumer innovativeness from personal traits and domain specific interest as Goldsmith and Hofacker (1991) had proposed.

This study tries to explain cosmetic consumer's purchasing intentions regarding new cosmetics in the market. Additional contribution of this research is that this study examined the impact of consumer innovativeness on cosmetic buying intention of skin care and makeup products separately. Past researches which focused on cosmetic buying behavior have used the term 'cosmetics' encompassing all kinds. Although both skin care and makeup products comprise a common category, cosmetics, skin care products are more timeless and much expensive than makeup products. Therefore the researcher posited that even females are innovative consumers, the females would not have intention regarding skin care product consumption as strong as makeup product consumption. Even though the results indicate that there is no difference between cosmetic purchasing intention of new skin care products and makeup products among consumers, this study provides important evidence that consumer innovativeness is one of the main reasons to explain why cosmetic consumers show different level of interest in purchasing new cosmetics.

5.3. Limitation and Suggestions for Future Study

Based on the research findings, the researcher found several limitations and suggestions for future research.

Firstly, this study investigated the effect of consumer innovativeness, attitude, and subjective norm on cosmetic buying behavior. It is important to point out that the findings of this study are only limited to the examination of two product categories selected among five categories (Kumar, 2005). However, other categories such as hair care, fragrance, or personal hygiene can be added in future studies. Future researchers can investigate how different cosmetic consumers' purchasing intentions regarding products in each category can be indicated by three elements (attitude, subjective norm, and consumer innovativeness).

Secondly, there are several factors influencing customer's cosmetic buying decision besides consumer innovativeness, attitude, and subjective norm. However, if future research will solely focus on consumer innovativeness, he/she can consider other personal traits such as opinion leadership and shopping orientation that Lee and her colleagues (2007) suggested as well as present orientation. Although future researcher intends to research consumer innovativeness in the context of cosmetics, they should be careful to apply it to organic cosmetic products since organic cosmetic consumers are health conscious, environment conscious and appearance conscious (Kim & Chung, 2011).

Thirdly, this study focuses on testing model rather than cultural comparison. In order to test the models, the sample used in this study covered a variety of demographic profiles from different nations and regions. However, the sample was gathered from limited regional area (Asia Pacific University in Beppu City,

Japan), thus, future study needs to examine these models to confirm whether it works in other cultures. Due to the time and cost limitations, the survey was conducted for 10 days. As a result, the sample size (n=230) of the present study makes it difficult to assert generalization of the findings, therefore, future research with bigger sample size will be needed. In addition to this, further research may add cultural dimension to the research model and apply the model to a cross cultural study of two or more countries.

Fourthly, there was a limitation caused by adoption of the questionnaire survey. For this study, all the questionnaires were distributed in person and the survey was conducted at Ritsumeikan Asia Pacific University, which meant there was no access problem. Using the questionnaire with paper and pencil techniques is often slower but it is likely to have higher response rate than online survey methods. However, this type of method showed a weakness: there was no tool to prevent missing data. Skipped questions could not be determined by the researcher whether the questions were left unanswered by mistake or intentional omissions. Therefore future study may use both online and offline questionnaire survey for a more comprehensive sample. By using online survey, future researchers can set a function that does not allows respondents to skip questions before they continue to answer subsequent questions. The researcher would achieve more accurate data.

Fifthly, the validity of this survey is in question because some of the respondents seemed to be unwilling to provide accurate data. Especially in personal data

section, the researcher asked the respondents' nationalities and ages in order to confirm the respondents' demographic profile. However, some respondents left those questions blank. One possible reason might be characteristics of females and the composition of the sample used in this study. The respondents might think that the researcher would look their answers when they submit the questionnaires. The sample of this study involves various international female students. Some of the respondents were Muslims who were not willing to reveal their uses of cosmetics containing alcohol or any animal ingredients, thus, they might be sensitive about answering personal questions. Therefore, if future researchers eager to use demographic data as a variable, they need to consider the cultural background of the sample since a common question in one country may be deemed as an unpleasant question in other.

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APPENDICES

Appendix 1: The Questionnaire

Dear APU students:

The purpose of this questionnaire is to collect data from APU students about their cosmetic buying behavior. This survey is conducted under the supervision of professor TAJEDDINI Kayhan. All information gathered from you will be used for MBA thesis research purpose only and your privacy will be strictly protected. This questionnaire may take less than 10 minutes. If you have any question, please do not hesitate to contact me by e-mail (bokyse10@apu.ac.jp)

Sincerely

Seo Bo Kyung

PART I: Personal Data

Please write your nationality in bracket.

1. Nationality ( )

Please check in the corresponding box appropriate to your response.

2. Age

- □ Less than 18 years
- □ 18 but less than 22
- □ 22 but less than 26
- □ 26 but less than 30
- □ More than 30

3. Education Level

- □ Undergraduate Student
- □ Graduate Student

4. Major

- □ APS
- □ APM
- □ GSM
- □ GSAM

5. Duration of cosmetics usage (How long have you been using cosmetics?)

- □ Less than 1 year
- □ 1-2 years
- □ 2-3 years
- □ More than 3 years

6. Products of cosmetics usage/day (How many cosmetics do you use a day?)

- □ Less than 3 products
- □ 3 but less than 5
- □ 5 but less than 7
- □ More than 7 products

7. Periods of cosmetics purchase (How often do you buy cosmetics?)

- □ About once a month
- □ About once every three months
- □ About once every six months
- □ About once a year
- □ Anytime

***Skin care products**, in this questionnaire, include toner, essence, lotion, facial cream, anti-ageing cream, eye cream, moisturizer, facial mask, facial mist, and sunscreen. **Makeup products**, in this questionnaire, include makeup base, foundation, BB cream, highlighter, powder, lip makeup, blusher, eye makeup (eye shadow, mascara, etc), and nail polish. Other cleansing products (both body and face), body care products, hair care products, and perfumes are excluded in this study.

PART II : Research Variables

How far do you agree or disagree with each of the following statements?
Please circle one answer to each statement.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

PART II- I: Skin Care Products

1. I think using skin care products is a good idea.	1	2	3	4	5
2. I think using skin care products is a wise idea.	1	2	3	4	5
3. I like the idea of using skin care products.	1	2	3	4	5
4. I think using skin care products would be pleasant.	1	2	3	4	5
5. People who influence my behavior would think that I should use skin care products.	1	2	3	4	5
6. People who are important to me would think that I should use skin care products.	1	2	3	4	5
7. If I heard about a new skin care products, I would look for ways to experiment with it.	1	2	3	4	5
8. Among my peers, I am usually the first to try out new skin care products.	1	2	3	4	5
9. In general, I am hesitant to try out new skin care products.	1	2	3	4	5
10. I like to experiment with new skin care products.	1	2	3	4	5
11. I plan to purchase new skin care products in the future.	1	2	3	4	5
12. I expect to purchase new skin care products in the future.	1	2	3	4	5

PART II- II: Makeup Products

13. I think using makeup products is a good idea.	1	2	3	4	5
14. I think using makeup products is a wise idea.	1	2	3	4	5
15. I like the idea of using makeup products.	1	2	3	4	5
16. I think using makeup products would be pleasant.	1	2	3	4	5
17. People who influence my behavior would think that I should use makeup products.	1	2	3	4	5
18. People who are important to me would think that I should use makeup products.	1	2	3	4	5
19. If I heard about a new makeup products, I would look for ways to experiment with it.	1	2	3	4	5
20. Among my peers, I am usually the first to try out new makeup products.	1	2	3	4	5
21. In general, I am hesitant to try out new makeup products.	1	2	3	4	5
22. I like to experiment with new makeup products.	1	2	3	4	5
23. I plan to purchase new makeup products in the future.	1	2	3	4	5
24. I expect to purchase new makeup products in the future.	1	2	3	4	5

----------Thank for your cooperation----------

Appendix 2: The Fitness Index

The Fitness Index of Skin Care

1. CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	39	81.70	38	.00	2.15
Saturated model	77	.00	0		
Independence model	11	1289.35	66	.00	19.54

2. Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.94	.89	.97	.94	.96
Saturated model	1.00		1.00		1.00
Independence model	.00	.00	.00	.00	.00

3. Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.58	.54	.56
Saturated model	.00	.00	.00
Independence model	1.00	.00	.00

4. NCP

Model	NCP	LO 90	HI 90
Default model	43.70	21.44	73.71
Saturated model	.00	.00	.00
Independence model	1223.35	1110.41	1343.69

5. FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.36	.19	.09	.32
Saturated model	.00	.00	.00	.00
Independence model	5.63	5.34	4.85	5.87

6. RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.07	.05	.09	.05
Independence model	.28	.27	.30	.00

7. AIC

Model	AIC	BCC	BIC	CAIC
Default model	159.70	164.01		
Saturated model	154.00	162.52		
Independence model	1311.35	1312.57		

8. ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.70	.60	.83	.72
Saturated model	.67	.67	.67	.71
Independence model	5.73	5.23	6.25	5.73

9. HOELTER

Model	HOELTER .05	HOELTER .01
Default model	150	172
Independence model	16	17

The Fitness Index of Makeup

1. **CMIN**

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	39	49.39	38	.10	1.30
Saturated model	77	.00	0		
Independence model	11	1694.30	66	.00	25.67

2. **Baseline Comparisons**

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.97	.95	.99	.99	.99
Saturated model	1.00		1.00		1.00
Independence model	.00	.00	.00	.00	.00

3. **Parsimony-Adjusted Measures**

Model	PRATIO	PNFI	PCFI
Default model	.58	.56	.57
Saturated model	.00	.00	.00
Independence model	1.00	.00	.00

4. **NCP**

Model	NCP	LO 90	HI 90
Default model	11.39	.00	33.67
Saturated model	.00	.00	.00
Independence model	1628.30	1497.86	1766.12

5. **FMIN**

Model	FMIN	F0	LO 90	HI 90
Default model	.22	.05	.00	.15
Saturated model	.00	.00	.00	.00
Independence model	7.40	7.11	6.54	7.71

6. **RMSEA**

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.04	.00	.06	.79
Independence model	.33	.31	.34	.00

7. **AIC**

Model	AIC	BCC	BIC	CAIC
Default model	127.39	131.70		
Saturated model	154.00	162.52		
Independence model	1716.30	1717.52		

8. **ECVI**

Model	ECVI	LO 90	HI 90	MECVI
Default model	.56	.51	.65	.58
Saturated model	.67	.67	.67	.71
Independence model	7.49	6.93	8.10	7.50

9. **HOELTER**

Model	HOELTER .05	HOELTER .01
Default model	248	284
Independence model	12	13

Appendix 3: Reliability Analysis

Reliability Analysis of Skin Care

Attitude

1. Case Processing Summary

		N	%
Cases	Valid	225	97.8
	Excluded[a]	5	2.2
	Total	230	100.0

a. Listwise deletion based on all variables in the procedure

2. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.900	.900	4

3. Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/ Minimum	Variance	N of Items
Item Means	3.937	3.827	4.147	.320	1.084	.023	4

4. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SK_AT1	11.60	6.777	.802	.644	.862
SK_AT2	11.92	6.690	.732	.556	.888
SK_AT3	11.90	6.554	.811	.667	.858
SK_AT4	11.92	6.788	.764	.616	.875

Subjective norm

1. Case Processing Summary

		N	%
Cases	Valid	226	98.3
	Excluded[a]	4	1.7
	Total	230	100.0

a. Listwise deletion based on all variables in the procedure

2. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.789	.790	2

3. Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/ Minimum	Variance	N of Items
Item Means	3.261	3.257	3.265	.009	1.003	.000	2

4. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SK_SN1	3.26	1.089	.652	.426	.a
SK_SN2	3.27	1.031	.652	.426	.a

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

Consumer Innovativeness

1. Case Processing Summary

		N	%
Cases	Valid	227	98.7
	Excluded[a]	3	1.3
	Total	230	100.0

a. Listwise deletion based on all variables in the procedure

2. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.560	.563	4

3. Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/ Minimum	Variance	N of Items
Item Means	2.768	2.326	3.141	.815	1.350	.121	4

4. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SK_CI1	8.15	5.096	.433	.250	.408
SK_CI2	8.74	4.952	.550	.397	.313
SK_CI3	7.93	7.553	-.010	.008	.744
SK_CI4	8.38	5.060	.494	.396	.358

Consumer Innovativeness (After deleting SK_CI3)

1. Case Processing Summary

		N	%
Cases	Valid	227	98.7
	Excluded[a]	3	1.3
	Total	230	100.0

a. Listwise deletion based on all variables in the procedure

2. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.744	.747	3

3. Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/ Minimum	Variance	N of Items
Item Means	2.643	2.326	2.916	.590	1.254	.089	3

4. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SK_CI1	5.01	3.854	.500	.250	.745
SK_CI2	5.60	3.798	.610	.394	.615
SK_CI4	5.24	3.707	.607	.392	.617

Intention to purchase

1. Case Processing Summary

		N	%
Cases	Valid	229	99.6
	Excluded[a]	1	.4
	Total	230	100.0

a. Listwise deletion based on all variables in the procedure

2. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.886	.887	2

3. Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/ Minimum	Variance	N of Items
Item Means	3.231	3.210	3.253	.044	1.014	.001	2

4. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SK_INT1	3.21	1.210	.769	.634	.a
SK_INT2	3.25	1.313	.769	.634	.a

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

Reliability Analysis of Makeup

Attitude

1. Case Processing Summary

		N	%
Cases	Valid	226	98.3
	Excluded[a]	4	1.7
	Total	230	100.0

a. Listwise deletion based on all variables in the procedure

2. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.927	.927	4

3. Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/ Minimum	Variance	N of Items
Item Means	3.377	3.288	3.478	.190	1.058	.006	4

4. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
MK_AT1	10.03	8.803	.871	.760	.891
MK_AT2	10.22	9.178	.789	.641	.919
MK_AT3	10.13	9.010	.846	.723	.900
MK_AT4	10.15	9.130	.815	.683	.910

Subjective norm

1. Case Processing Summary

		N	%
Cases	Valid	230	100.0
	Excluded[a]	0	.0
	Total	230	100.0

a. Listwise deletion based on all variables in the procedure

2. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.861	.861	2

3. Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/ Minimum	Variance	N of Items
Item Means	3.067	3.022	3.113	.091	1.030	.004	2

4. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
MK_SN1	3.02	1.174	.755	.571	.a
MK_SN2	3.11	1.201	.755	.571	.a

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

Consumer Innovativeness

1. Case Processing Summary

		N	%
Cases	Valid	228	99.1
	Excluded[a]	2	.9
	Total	230	100.0

a. Listwise deletion based on all variables in the procedure

2. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.685	.680	4

3. Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/ Minimum	Variance	N of Items
Item Means	2.848	2.509	3.026	.518	1.206	.055	4

4. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
MK_CI1	8.41	5.652	.581	.360	.544
MK_CI2	8.88	5.550	.570	.381	.549
MK_CI3	8.36	7.598	.198	.048	.771
MK_CI4	8.52	5.609	.552	.376	.561

Consumer Innovativeness (After deleting MK_CI3)

1. Case Processing Summary

		N	%
Cases	Valid	228	99.1
	Excluded[a]	2	.9
	Total	230	100.0

a. Listwise deletion based on all variables in the procedure

2. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.771	.771	3

3. Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/ Minimum	Variance	N of Items
Item Means	2.788	2.509	2.982	.474	1.189	.061	3

4. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
MK_CI1	5.38	3.911	.588	.345	.711
MK_CI2	5.86	3.693	.615	.379	.680
MK_CI4	5.49	3.687	.612	.376	.684

Intention to purchase

1. Case Processing Summary

		N	%
Cases	Valid	229	99.6
	Excluded[a]	1	.4
	Total	230	100.0

a. Listwise deletion based on all variables in the procedure

2. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.929	.929	2

3. Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum/ Minimum	Variance	N of Items
Item Means	3.328	3.319	3.336	.017	1.005	.000	2

4. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
MK_INT1	3.34	1.250	.868	.753	.a
MK_INT2	3.32	1.271	.868	.753	.a

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

Appendix 4: Correlation Analysis

Correlation Analysis of Skin Care

1. Descriptive Statistics

	Mean	Std. Deviation	N
SK_AT	3.9373	.84595	230
SK_SN	3.2478	.94470	230
SK_CI	2.6478	.91452	230
SK_INT	3.2348	1.06312	230

2. Correlations

		SK_AT	SK_SN	SK_CI	SK_INT
SK_AT	Pearson Correlation	1	.387**	.290**	.391**
	Sig. (2-tailed)		.000	.000	.000
	N	230	230	230	230
SK_SN	Pearson Correlation	.387**	1	.163*	.219**
	Sig. (2-tailed)	.000		.013	.001
	N	230	230	230	230
SK_CI	Pearson Correlation	.290**	.163*	1	.515**
	Sig. (2-tailed)	.000	.013		.000
	N	230	230	230	230
SK_INT	Pearson Correlation	.391**	.219**	.515**	1
	Sig. (2-tailed)	.000	.001	.000	
	N	230	230	230	230

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Correlation Analysis of Makeup

1. Descriptive Statistics

	Mean	Std. Deviation	N
MK_AT	3.3707	.98575	230
MK_SN	3.0674	1.02097	230
MK_CI	2.7986	.92173	230
MK_INT	3.3261	1.08290	230

2. Correlations

		MK_AT	MK_SN	MK_CI	MK_INT
MK_AT	Pearson Correlation	1	.517**	.443**	.414**
	Sig. (2-tailed)		.000	.000	.000
	N	230	230	230	230
MK_SN	Pearson Correlation	.517**	1	.440**	.298**
	Sig. (2-tailed)	.000		.000	.000
	N	230	230	230	230
MK_CI	Pearson Correlation	.443**	.440**	1	.571**
	Sig. (2-tailed)	.000	.000		.000
	N	230	230	230	230
MK_INT	Pearson Correlation	.414**	.298**	.571**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	230	230	230	230

** Correlation is significant at the 0.01 level (2-tailed).

Appendix 5: Multiple Regression Analysis

Multiple Regression Analysis of Skin Care

1. Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	SK_CI, SK_SN SK_AT[A]	.	Enter

a. All requested variables entered

2. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.576[a]	.332	.323	.87497

a. Predictors: (Constant), SK_CI, SK_SN, SK_AT

3. ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	85.801	3	28.600	37.358	.000[a]
	Residual	173.020	226	.766		
	Total	258.822	229			

a. Predictors: (Constant), SK_CI, SK_SN, SK_AT

b. Dependent Variable: SK_INT

4. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std.Error		t	Sig.
1	(Constant)	.491	.306		1.603	.110
	SK_AT	.307	.077	.244	4.005	.000
	SK_SN	.060	.066	.053	.905	.366
	SK_CI	.506	.066	.436	7.652	.000

a. Dependent Variable: SK_INT

Multiple Regression Analysis of Makeup

1. Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	MK_CI, MK_SN MK_AT[A]	.	Enter

a. All requested variables entered

2. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.599[a]	.359	.351	.87270

a. Predictors: (Constant), MK_CI, MK_SN, MK_AT

3. ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	96.420	3	32.140	42.200	.000[a]
	Residual	172.123	226	.762		
	Total	268.543	229			

a. Predictors: (Constant), MK_CI, MK_SN, MK_AT

b. Dependent Variable: MK_INT

4. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std.Error		t	Sig.
1	(Constant)	1.022	.235		4.350	.000
	MK_AT	.231	.071	.210	3.244	.001
	MK_SN	-.028	.069	-.026	-.404	.687
	MK_CI	.575	.073	.490	7.928	.000

a. Dependent Variable: MK_INT