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Identifying Crucial Factors of the Purchase Intention of Male Skincare Products on the Basis of the Perceived Risk

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Abstract: It's a human nature to love to be beautiful. Nowadays, not only women do, but men also start to be aware of their appearance and image. And as men gradually take special care of their faces, male skincare products are taking a leading role in the sales market. Having such an immense business opportunity, companies should understand male consumers perceived risk of male skincare products to erase men's fear of purchasing them and strengthen their purchase intention. This study applied the five dimensions of perceived risk associated with purchase decision-making (Jacoby & Kaplan, 1972), as well as literature review and collected feedback from experts to summarize the five risk dimensions and their criteria. Also in this study, the Analytic Hierarchy Process (AHP) is applied to obtain the relative weights of the dimensions and their criteria. With the relative weights, manufacturers can know the consumer's level of perceived risk. Thus, they will be able to utilize marketing strategies flexibly, reduce customer concerns, and increase sales volume of products as well as overall revenue.

Keywords: male skincare products, perceived risk, analytic hierarchy process (AHP), purchase intention

1. INTRODUCTION

Most people want to be good-looking, and an attractive facial appearance can boost a person's confidence. Although it is widely thought that only women seek to improve their appearance and cultivate fair skin, men working in fashion or entertainment industries or those who are frequently publicized seem to dedicate themselves to improving their appearance more seriously than do their female counterparts. Generally, the male skin secretes more sebum than does the female skin and can age quickly if chronically exposed to tobacco or alcohol consumption or polluted environments without proper care. Thus, men have increasingly appreciated the relevance of facial skincare and used male skincare products because attractive appearances can improve their confidence and even contribute to their career success.

Consumer's buying behavior is important. The company is care Consumer's buying behavior(Bhandari & Sharma, 2017).Although the skincare product market is predominantly devoted to female consumers, male skincare product sales in the United States have almost doubled over the past decade and those in Europe have also grown substantially over the same period. This trend indicates the growing role of male consumers in the skincare market. To reap profits from this growing market, skincare companies should understand male consumers' perceived risks of purchasing skincare products, thereby reassuring them about the products and strengthening their purchase intention.

Based on this rationale, this study applied the five dimensions of perceived risk associated with purchase decision-making (Jacoby & Kaplan, 1972),as well as conducted a literature review and collected expert feedback to summarize the five risk dimensions and their underlying principles. The analytic hierarchy process (AHP) was subsequently performed to structure the hierarchy of perceived risk and questionnaires were developed and administered to invited experts. Finally, their responses were investigated using the AHP on an Excel spreadsheet to yield the relative weights of the five risk dimensions and their underlying principles. These results indicated the levels of all the risk elements as perceived by male consumers when they purchased skincare products.The findings of this study can be used to improve skincare marketing to reduce consumers' concern over male skincare products and increase the sales of the products and the overall revenue of a skincare companies.

2. THEORETICAL ANALYSIS

Male skincare products

As society progresses and norms change, younger generations have begun prioritizing appearance more so than did older generations. In particular, cosmetics and skincare are gaining attention from men, along with the growing popularity of good-looking actors of Korean dramas and male pop idols hired for product endorsements. From the perspective of societal competition, men generally engaged in more competition than do women and must take more care to project a clean, healthy image. A likeable appearance can improve a person's career prospects; therefore, men have increasingly applied skincare products to maintain and enhance their skin texture.

Male skincare products are varied, and include facial cleansers, smoothing toners, astringents, lotion, intense moisturizing cream, day cream, night cream, sun block, massage cream, facial masks, eye masks, eye cream, nutrition cream, and essence. There are also special skincare products that contain medicinal ingredients and are applied for anti-wrinkling, antiaging, whitening, anti-blemishing, pore refining, oil control, acne treatment, exfoliation, and sun protection effects.

Perceived risk

Bauer (1960) first proposed the concept of perceived risk by viewing consumer behavior as an instance of risk taking in which any purchasing actions of a consumer that produce consequences that he or she cannot anticipate are likely to be unpleasant. Cox (1967) conceptualized perceived risk and assumed that consumers set targets for their purchase actions, and that perceived risk occurs when they fail to achieve their targets. Taylor (1974) suggested that purchase decision-making can be affected by the level of perceived risk. Baird and Thomas (1985) conceived of perceived risk as an individual assessment of situation risk,

namely, the probability and controllability of an uncertain situation as assessed by a person. Easingwood and Beard (1989) argued that product-related uncertainty factors often delay purchase decisions. Stone and Gronhaug (1993) deemed perceived risk to be a subjective anticipation of loss.

Despite the various propositions about perceived risk, numerous scholars have shared the view that perceived risk comprises multiple dimensions, include financial risk, performance risk, physical risk, social risk, psychological risk, time risk, privacy, and source risk (Chang & Tseng, 2013; Yang, Pang, Liu, Yen, & Tarn, 2015; Tseng & Wang, 2016; Wu & Ke, 2016).

The theoretical framework of this study was based on the five-perceived risk dimensions proposed by Jacoby and Kaplan (1972) and they are including the following functional risks (Chang & Tseng, 2013; Hsieh & Tsao, 2014):

- Financial risk: the risk of a mismatch between the appraised and monetary costs of a given product (that is, when the consumer finds the product too expensive).
- Physical risk: the risk that a defective or unsatisfactory product that has been purchased may undermine the physical safety or health of the consumer when it is used.
- Performance risk: The risk that a product's performance may not meet the consumer's expectation.
- Social risk: The risk that a purchased product may not suit the consumer's personality. Such risk occurs frequently in purchases that involve high psychological benefits.
- Psychological risk: The risk that a purchased product may lead to disapproval from other people or mainstream society

Analytic hierarchy process

Thomas L. Saaty proposed Analytic hierarchy process (AHP) in 1971 (Saaty, 1980). AHP is a multi-objective decision-making tool. It helps decision makers, regarding complicated decisions, successfully analyze the complexity and solve the problems.

The analytic hierarchy process (AHP) mainly applied to decision-making and has been used to solve problems in different fields such as political, semiconductor fabrication, water resources management, agriculture, economic, nuclear power, presidential elections, information technology, bibliometric survey and so on (Gdoura, Anane, & Jellali, 2015; Kang, & Lee, 2007; Abdollahzadeh, Damalas, Sharifzadeh, & Ahmadi-Gorgi, 2016; Lee, Chen, & Chang, 2008; Zyoud & Daniela, 2017).

The steps of AHP proposed for dealing with complicated problems are shown as follows (Aşchilean, Badea, Giurca, Naghiu, & Iloaie, 2017; Bian, Hu & Deng, 2017):

1. Analyze the problem and define the scope.
2. Construct hierarchical framework.
Hierarchical evaluation framework is the main part. By list in details, hierarchical framework is shown from abstract indicators from the top to the more specific indicators on the bottom.
3. Construct pair comparison matrix, calculate the maximum eigenvalue and obtain maximum eigenvector.

4. Obtain relative weights of criteria.
By standardized process, it obtains relative weights of criteria.
5. Test consistency of pair comparison matrix.

Since importance of different levels is different, we should test consistency of pair comparison matrix. At the same level, Consistence Ratio is Consistence Index (C.I.).When $C.I.=0$, it means the consistency. Consistence Ratio (C.R.) is adopted to measure overall consistency of comparison matrix.

Random Index (R.I.) can be checked by scale Table 1. Saaty (1980) suggested that Consistence Ratio must be lower than 0.1; otherwise, the evaluators should re-assess the level.

Table 1
Random indexes (R.I.)

<i>N</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>	<i>13</i>	<i>14</i>
R.I	0	0	0.58	0.9	1.12	1.24	1.32	1.41	1.45	1.49	1.51	1.53	1.56	1.57

3. METHOD

This study conducted a literature review of the five dimensions of perceived risk (Jacoby & Kaplan, 1972), and then used the Delphi method to establish the principles underlying them. The AHP was subsequently performed to determine the relative weights of these dimensions and of their underlying principles. Crucial factors affecting the purchase decisions of male skincare products were identified based on the relative weights of all the aforementioned items. The findings can be applied in the development of skincare marketing.

Financial risk

This is a risk of consumers perceiving certain products to be too expensive and not worth the monetary costs or of consumers not receiving the products after making payments. Specifically, the male skincare products may cost more than those bought by other people or the consumers may not receive refunds or replacement permissions if they make inappropriate purchase choices or want to replace their purchases.

Physical risk

This is a risk of male skincare products that have expired or that contain limited ingredient information harming the skin of consumers. The skincare products may contain chemicals detrimental to consumers' skin; use of the products may cause complications in other organs of the body; or the products might not have passed any safety tests and may accordingly be harmful.

Performance risk

This is a risk of purchased male skincare products failing to function in accordance with consumer expectations. For example, skincare products may not be as effective as their manufacturers claim; products may be defective or expired and produce no skincare effect; or purchases may not function as expected when used together with other skincare products.

Social risk

This is a risk of purchased male skincare products leading to disapproval from mainstream society. Purchasing these skincare products may affect consumers' public image in different ways: for example, by being ridiculed during purchase, receiving negative opinions after use, or being too different from friends who have not purchased similar products.

Psychological risk

This is a risk of purchased male skincare products failing to match consumers' expectations and therefore causing distrust of the purchases and psychological harm. The consumers may worry about defects in the packaging of the skincare products, regret buying these products out of vanity, or feel agitated over the poorer than expected performance of these products.

Table 2
Dimension and criteria of perceived risk

<i>Dimension</i>	<i>Definition</i>	<i>Criteria</i>
Financial risk	The risk of a mismatch between the appraised and monetary costs of a given product	A1: The male skincare products may cost more than those bought by other people A2: Worry that after they have purchased male skincare products, the manufacturers may launch price promotions or new products A3: The consumers may not receive refunds or replacement permissions if they make inappropriate purchase choices or want to replace their purchases
Performance risk	The risk that a product's performance may not meet the consumer's expectation.	B1: Skincare products may not be as effective as their manufacturers claim B2: Products may be defective or expired and produce no skincare effect. B3: Purchases may not function as expected when used together with other skincare products
Physical risk	The risk that a defective or unsatisfactory product that has been purchased may undermine the physical safety or health of the consumer when it is used.	C1: Worry that the skincare products may contain chemicals detrimental to consumers' skin C2: Worry that use of the products may cause complications in other organs of the body C3: Worry that the products might not have passed any safety tests and may accordingly be harmful

4. RESULTS AND ANALYSIS

A total of 10 questionnaires were distributed to experienced cosmetologists and cosmetics specialists. All these distributed questionnaires were returned.

The AHP was conducted on an Excel spreadsheet to examine the questionnaire responses and estimate the relative weights of the five perceived risk dimensions, as well as their underlying principles in Table 3.

Table 2

<i>Dimension</i>	<i>Definition</i>	<i>Criteria</i>
Social risk	The risk that a purchased product may not suit the consumer's personality.	D1: By being ridiculed during purchase D2: Receiving negative opinions after use D3: Worry about being too different from friends who have not purchased similar products
Psychological risk	The risk that a purchased product may lead to disapproval from other people or mainstream society.	E1: The consumers may worry about defects in the packaging of the skincare products E2: Regret buying these products out of vanity E3: Feel agitated over the poorer than expected performance of these products

Table 3
The relative weights of perceived risk dimensions

<i>Goal</i>	<i>Dimension</i>	<i>Weights (%)</i>	<i>Rank</i>
Identifying crucial factors of the purchase intention of male skincare products	Financial risk	0.2857982	2
	Performance risk	0.0789078	4
	Physical risk	0.348496	1
	Social risk	0.0636107	5
	Psychological risk	0.22318728	3

Table 4 presents the relative weights of the underlying principles of all the dimensions of perceived risk of purchasing male skincare products. The principle that “Consumers are concerned that the male skincare products they want to purchase may contain ingredients harmful to their skin or other organs” (Psychological Risk II) was given the highest relative weight (approximately 0.2), indicating that consumers’ biggest concern is that the ingredients of male skincare products might harm their physical health. This concern is probably caused by the scandals of tainted oil and contaminated food that have been prevalent in Taiwan in recent years. Thus, skincare product information should be sufficiently provided on the label to reassure consumers. Contrarily, not having such information may discourage purchase intention. Furthermore, consumer trust may be lost if use of certain products burdens consumers’ body organs or causes illnesses. In sum, the ingredients of male skin care products should be specified to reduce consumers’ perceived risks.

The principle that “Consumers are anxious that the male skincare products they want to purchase may fail to function as they expect” was given the second-highest relative weight (greater than 0.15), indicating that, before purchase, consumers have limited confidence in the claimed effects of skincare products. Skincare companies should attempt to allay such consumer anxiety.

Three principles that differed in relative weight from each other by less than 1% and were therefore considered of equal priority were as follows: “Consumers are concerned that, after they have purchased male skincare products, the manufacturers may launch price promotions or new products” (Financial risk II, with a relative weight of 0.110199); “Consumers are concerned that male skincare products may contain chemicals harmful to skin” (Physical Risk I, with a relative weight of 0.106664); and “Consumers may regret having bought male skincare products to satisfy their vanity” (Psychological Risk II, with a relative

weight of 0.101446). Thus, skincare companies should avoid conducting hasty price promotions and product launches; ensure their products pass national quality standards; specify the product ingredients in instructions or labels to reassure consumers about skin safety; and foster positive perceptions of the purchase of skincare products (that, for example, everyone aspires to be good-looking, and to love yourself means to make yourself look younger and care for your skin) to allay consumers' anxiety over their vanity-oriented purchases.

Table 4
The relative weights of perceived risk dimensions and the criteria

<i>Dimension</i>	<i>Criteria</i>	<i>Weights (%)</i>	<i>Rank</i>
Financial risk (0.2857982)	A1: The male skincare products may cost more than those bought by other people	0.06745	6
	A2: Worry that after they have purchased male skincare products, the manufacturers may launch price promotions or new products	0.110199	3
	A3: The consumers may not receive refunds or replacement permissions if they make inappropriate purchase choices or want to replace their purchases	0.045539	7
Performance risk (0.0789078)	B1: Skincare products may not be as effective as their manufacturers claim.	0.022842	12
	B2: Products may be defective or expired and produce no skincare effect	0.01449	14
	B3: Purchases may not function as expected when used together with other skincare products	0.026278	11
Physical risk (0.348496)	C1: Worry that the skincare products may contain chemicals detrimental to consumers' skin	0.106664	4
	C2: Worry that use of the products may cause complications in other organs of the body	0.197844	1
	C3: Worry that the products might not have passed any safety tests and may accordingly be harmful	0.043988	8
Social risk (0.0636107)	D1: By being ridiculed during purchase	0.01044	15
	D2: Receiving negative opinions after use	0.034051	10
	D3: Worry about being too different from friends who have not purchased similar products	0.034417	9
Psychological risk (0.22318728)	E1: The consumers may worry about defects in the packaging of the skincare products	0.019484	13
	E2: Regret buying these products out of vanity	0.101446	5
	E3: Feel agitated over the poorer than expected performance of these products	0.164868	2

Moreover, the principle that “Consumers are concerned that the male skincare products they are going to buy may cost more than those bought by other people (Financial Risk I)” had a relative weight of 0.06745, indicating that consumers prefer to buy the same products at lower costs. Among the remaining principles with a relative weight of less than 5%, five had a relative weight of 3%: “Consumers are concerned about being ridiculed for their purchased male skincare products” (Social Risk I, with a relative weight of 0.01044); “Consumers are concerned about defects in the packaging of male skincare products” (Psychological Risk I, with a relative weight of 0.019484); “Consumers are concerned about buying defective or expired male skincare products” (Performance Risk II, with a relative weight of 0.01449); “Consumers are concerned that their purchased male skincare products may not function as well as skincare companies claim” (Performance Risk I, with a relative weight of 0.022842); and “Consumers are concerned that their purchased male skincare products may not function as expected when used together with other skincare products” (Performance Risk III, with a relative weight of 0.026278). These five principles are relatively less influential elements of perceived risks affecting the consumption of male skincare products; more influential ones should be the focus of marketing strategies.

5. CONCLUSION

With social progression, the public view of physical health maintenance has extended from illness prevention to skincare, and skincare has extended beyond being the exclusive concern of women. Men are increasingly investing in their facial complexion and purchasing skincare products to transform their coarse, slovenly, conventional stereotype. Male skincare products are an emergent segment of the skincare market that is expanding annually. To capture a share in this growing market, skincare companies should strive to understand consumers’ perceived risks of purchasing skincare products, thereby improving consumer assurance during marketing and enhancing sales performance.

Regarding the relative weights of all the dimensions of perceived risk and their underlying principles, which were assessed using the AHP, the physical dimension of perceived risk was given the highest relative weight of all risk dimensions, and one of its underlying principles (“Consumers are concerned that the male skincare products they want to purchase may contain ingredients harmful to their skin or other organs”) outweighed any other principle. This indicated that consumers have a strong risk awareness of the potential harm of male skincare products to the body. Skincare companies should specifically state ingredients in their product labels or communicate the toxin-free quality of their products during marketing campaigns, thereby encouraging consumer confidence and increasing sales.

The psychological dimension of perceived risk was given the second-highest relative weight, and two of its principles were respectively ranked second (“Consumers are anxious that the male skincare products they want to purchase may fail to function as they expect”) and fifth (“Consumers may regret buying male skincare products to satisfy their vanity”) among other underlying principles of risk dimensions. To encourage favorable responses to the performance of male skincare products from consumers who have never used any such products and doubt their performance, skincare companies should prove the likelihood of the desired results by offering product testing, distributing samples, or soliciting feedback from previous users. The companies can also communicate positive attitudes about skincare products by, for example, marketing the use of these products as a means of making a person look younger and more confident, rather than satisfying his vanity.

To reduce the perceived financial risk, skincare companies should offer price promotions at appropriate times to ensure consumers do not perceive the missed possibility of purchasing the products at cheaper prices. Another strategy for alleviating this risk is to launch skincare products at proper time intervals relative to each other, to avoid consumers from perceiving any sense of financial losses by having purchased old rather than new products.

In sum, this study identified and examined the crucial factors of the perceived risks of purchasing male skincare products. These findings are expected to enable skincare companies to develop marketing strategies aimed at reducing consumers' perceived risks and enhancing their purchase intentions, which in turn can contribute toward the companies' sales performances and overall revenues.

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