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ANALYSIS OF FACTORS INFLUENCING SKIN CARE BRAND SELECTION WITHIN TWO-STAGE CHOICE PROCESS FRAMEWORK

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ABSTRACT

Indonesian market for skin care products is undeniably competitive, pushing companies to have a better understanding of their consumer behaviours. According to research on two-stage choice process, different decision rules are used at consideration stage and choice stage. The primary goal of this study is to identify influencing factors at both consideration and choice stages, as well as the relationship between them. Primary data was collected through an online questionnaire using purposive sampling. Respondents were limited to women over the age of 15 who had purchased serum. The collected data was examined using Second-order Confirmatory Factor Analysis (CFA). This study confirmed that there are different set of factors influencing between two stages. Consideration stage is influenced by recommendation & review, advertisement, and quality & credibility of the brand; meanwhile choice stage is influenced by advertisement, price & promotion, and quality & credibility of the brand. Recommendation & review is the most influencing factor at consideration stage, whereas advertisement is the most influencing at choice stage. Study also found that there is high correlation between consideration and choice stage. For managerial contribution, this research gave insight to compose marketing strategy for skin care brand within two-stage choice process framework.

Keywords: two-stage choice process, skin care brand, consumer behavior, factor analysis

1. INTRODUCTION

Skin care is considered as unseparated part of a lifestyle of Indonesian women. In the time of economic slow-down, Indonesian women were still buying beauty products (Wibowo, 2021). Based on National Agency of Drug & Food Control (BPOM) data, there are 204,143 beauty products that registered. This numbers even pass food and beverages categories, enough to describe how much competition there is in the market.

In high-saturated market, company success depends on the understanding of consumer behavior. Makarewicz (2013) stated that consumer behavior is starting point for company strategies. One point regarding consumer behavior is that people have a limited capability for brand recollection. Therefore, not all of the brands available will be considered, instead only a few will (Hauser & Wernerfelt, 1990). For example, from 30 shampoo brands available, only 4 brands that were considered.

Two-stage choice process has been mentioned in several studies whereas they suggested that at first consumer choose some of the product available and set a consideration or choice set, and from the consideration set, one product is chosen to be bought (Bettman 1979; Gensch 1987; Shocker et al. 1991; Wright & Barbour 1977). Two-stage choice process is divided into 2 stages: (1) Consideration stage, where consumer choose only a few brands and create a consideration set; and (2) Choice stage, where consumer select one final brand that being taken from his/her consideration set. Moe (2006) suggested that decision rules used between stages were different. Choice stage used a more complex decision rules rather than consideration stage.

McKinsey (2009) found that some of skin care brand were very strong in initial consideration rather than in final evaluation stage. This indicates that the brand image was strong so it was being considered, but when consumer was doing a thorough evaluation, it no longer appealed. McKinsey also found that on average there are 1.5 skin care brands in initial consideration and the number is increased to 1.8 brands after consumer doing more research. This finding shows that brand can interrupt consumer buying decision process by entering consideration stage and be consumer final choice. What makes a brand being considered and what makes it is chosen among other brands in consideration set are questions to ask. According to McKinsey research, a brand that is initially being considered may not be picked, and vice versa, a brand may disrupt the consideration stage and become a final choice.

If we consider a two-stage decision-making process, presumably what happened is that there are different factors affect why some brands are considered and some that are picked. As skin care also is a high-involving purchase, consumer would carefully choose a brand by doing extensive research, thus, it is assumed that numerous factors may and would influence their decisions. Research and evaluation would require a lot of time. In other words, it means that companies have time and chances to make the most of their marketing initiatives in order to have their brand chosen. It would be preferable if those efforts were successful by acknowledging the variables that affected the stage of consideration and choice. This study aims to reveal what factors that influenced both stages – are they different – and how two stages are correlated. Confirmatory factor analysis (CFA) is method chosen to analyze the data as it able to confirm what factors have significant influence at each stage.

2. LITERATURE REVIEW

2.1 Two-stage Choice Process

According to Moe (2006), a two-stage choice process consists of the consideration stage and the choice stage. Consumers select some brands to include in their consideration set during the consideration stage, and then they choose one final brand from their consideration set during the choice stage. Gaskin et al (2007) proposed that consideration set was formed because it would be more convenience to consumer consider only some brands rather than evaluating all brands available. Average number of brands in consideration set is vary in every product category. In America, the average Fast-Moving Consumer Goods (FMCG) product consideration set consists about 1/10 of all items offered in a given category (Hauser, 2014). Each stage uses a different decision rule. Moe (2006) described decision rule as attributes used by consumer to evaluate a product to buy. A simplified decision rule is employed at consideration stage to speed up the choosing process and make it easier for consumers to choose due to the overwhelming quantity of brands available. In contrast, despite the fact that there are less options available (as now consumers only consider those in their consideration set, not all of the brands), it is more crucial for customers to make the right choices in choice stage. Therefore, more complex decision rules are applied.

2.2 Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) is a method of factor analysis used when researcher already have prior knowledge of latent factor structure, adopted from previous theoretical study of observed variable to latent variable (Laili & Totok, 2013). There are two techniques of CFA: First-order CFA and Second-order CFA. On First-order CFA, the latent variable is directly observable on the other hand, on Second-order latent variable must be observed through its observable indicator.

According to Afthanorhan et al (2014), there are several steps that should be notice when executing CFA. Those are (1) to obtain all the factor loadings of the item, (2) to delete factor loading less than 0,6 from the lowest factor first (0,6 is not a compulsory; this research used 0,5 as benchmark), (3) to delete one item at a time and respecify every time, (4) to obtain the fitness indexes, (5) if fitness index is not achieved, look at Modification Index (MI) and do modification to items with high value of MI (above 15 or 10). Wan Mohamad (2013) and Holmes-Smith (2006) recommended to use at least three fit indexes by including at least one index from each category of model fit. Three categories mentioned are absolute fit index, incremental fit index, and parsimonious fit index.

3. METHODS

This study was using quantitative approach, with primary data was collected through online questionnaire. Purposive sampling was used, implied to limit respondents to women over the age of 15 who had purchased serum. Serum is skin care product used as study case due to its advances and high indication risk which would make consumer more carefully to choose a brand before purchasing. Data collected from 398 respondents then was being analyzed with Second Order Confirmatory Factor Analysis (CFA) to confirm what factors influence the selection of skin care brands at both stages. Variables and indicators used are taken from various consumer behavior literatures as shown in Table 1. Adopting a 5-point Likert scale in the questionnaire, the options were divided into different categories of importance from “very agree” (5 points) to “very disagree” (1 point).

Fig 1 illustrates model used in this study. Variables & indicators used at both stages were the same, therefore any difference in each stage will be uncovered. At first, first-order CFA was applied in each variable. Goodness fit of indexes of each variable must be achieved. Indicator(s) with loading factor below 0.5 was eliminated. Modification of indices was done if it was necessary. Second-order CFA then used in each stage after every variable model has already fit. Variable with loading factor below 0.5 was eliminated. Overall model then being ran to find out the relationship between two stages.

Table 1. Variables and indicators

Variable	Indicator	References
Pricing & Promotion	Product price, discount, voucher, product bundle, gift (7 indicators)	Al- Salamin & Al Hassan (2016); Zap Clinic & Markplus (2020); Jakpat (2020)
Recommendation & Review	Recommendation from close circle and public figure, recommendation and review from internet (6 indicators)	Zap Clinic & Markplus (2020); Jakpat (2020); Sutanto & Aprianingsih (2016); Hermanda et al (2019); Zak & Hasprova (2020)
Advertisement	Awareness, presentation, brand ambassador (5 indicators)	Awan et al (2016); Anggoro & Purba (2020)
Brand Quality & Credibility	Trust, brand expertise, brand image & value, packaging & social media design, product quality, product information, origin country of the brand, availability (7 indicators)	Zap Clinic & Markplus (2020); Jakpat (2020); Erdem & Swait (2004); Chovanová et al (2015); Katawetawaraks & Wang (2011)

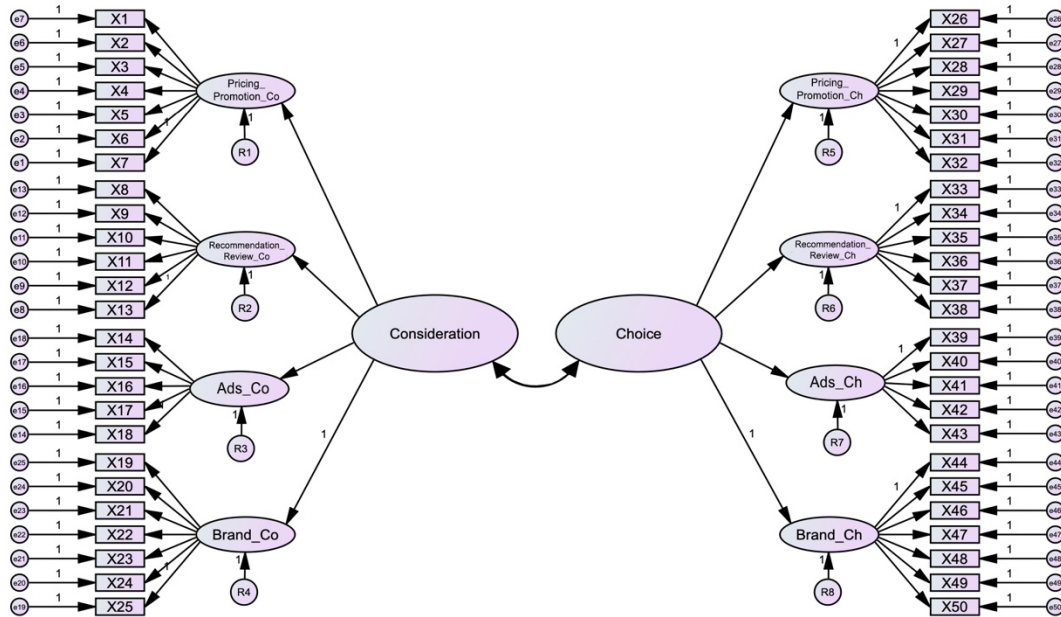


Figure 1. Model of the study

4. RESULTS

4.1 CFA at Consideration Stage

The analysis started with performing first-order CFA at each variable. Table 2 shows fitness indexes of each variable at consideration stage. **I** represents values for the original models, whereas **II** represents value after model modifications. Modifications are employed as some factor loadings are less than 0.5 and some items have high MI value. After goodness of fit of each variable is overall achieved, second-order CFA is performed to consideration model with only valid indicators. Fig 2 shows original model of consideration stage and after modifications. It can be seen that pricing & promotion has factor loading less than 0.5 so it be required to be removed. As results in the new model, it can be shown that factors influencing at consideration stage are review & recommendation, advertisement, and brand quality & credibility. Review & recommendation is the most influencing factors. Table 3 shows estimated parameter CFA of consideration stage model. There are 14 indicators out of 25 indicators evaluated, significantly affecting consideration stage. Five indicators with highest weight are shown in Table 4.

4.2 CFA at Choice Stage

In the same manner with consideration stage, first-order CFA is applied first at each variable. Table 5 shows fitness indexes of each variable at choice stage. Modifications are also employed to factor loadings less than 0.5 and items with high MI value. Second-order CFA is performed with remained valid indicators once overall goodness of fit of each variable is met. Fig 3 shows original model of choice stage and after modifications. Recommendation & review has factor loading less than 0.5 which means it be required to be removed. In the new model, it is confirmed that factors influencing at choice stage is pricing & promotion, advertisement, and brand quality & credibility. Advertisement is proven to have the highest impact. Table 6 shows estimated parameter CFA of choice stage model. There are 14 indicators out of 25 indicators evaluated, significantly affecting choice stage. Five indicators with highest weight are shown in Table 7.

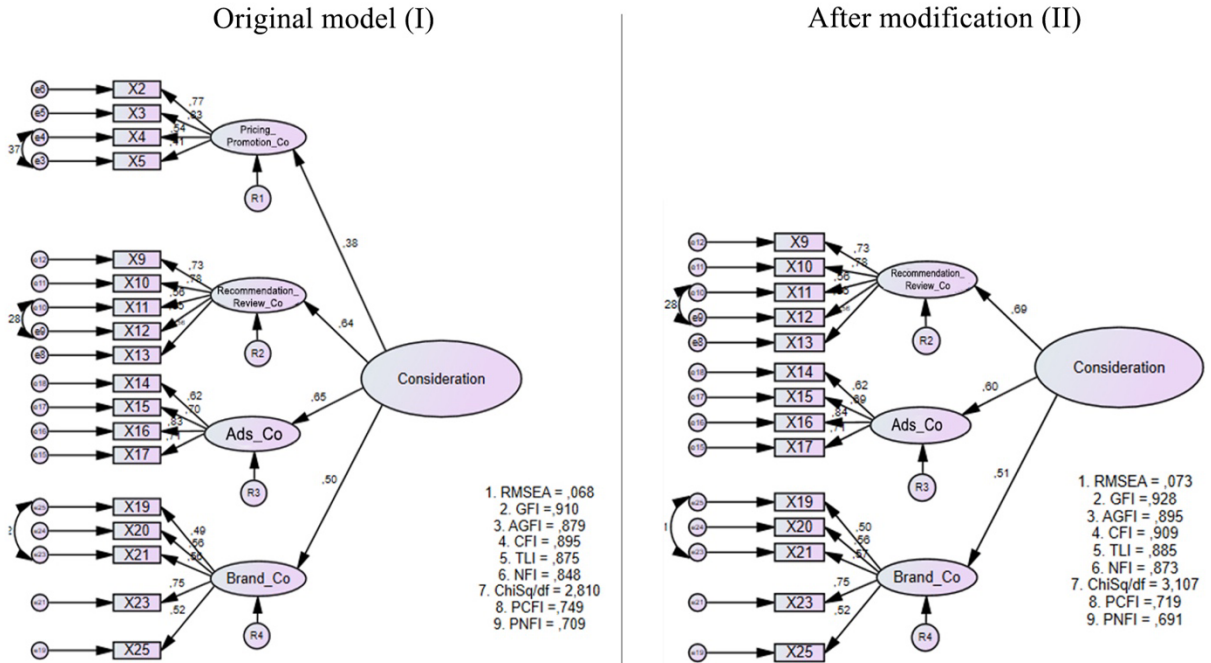


Figure 2. Original model of consideration stage and after modification

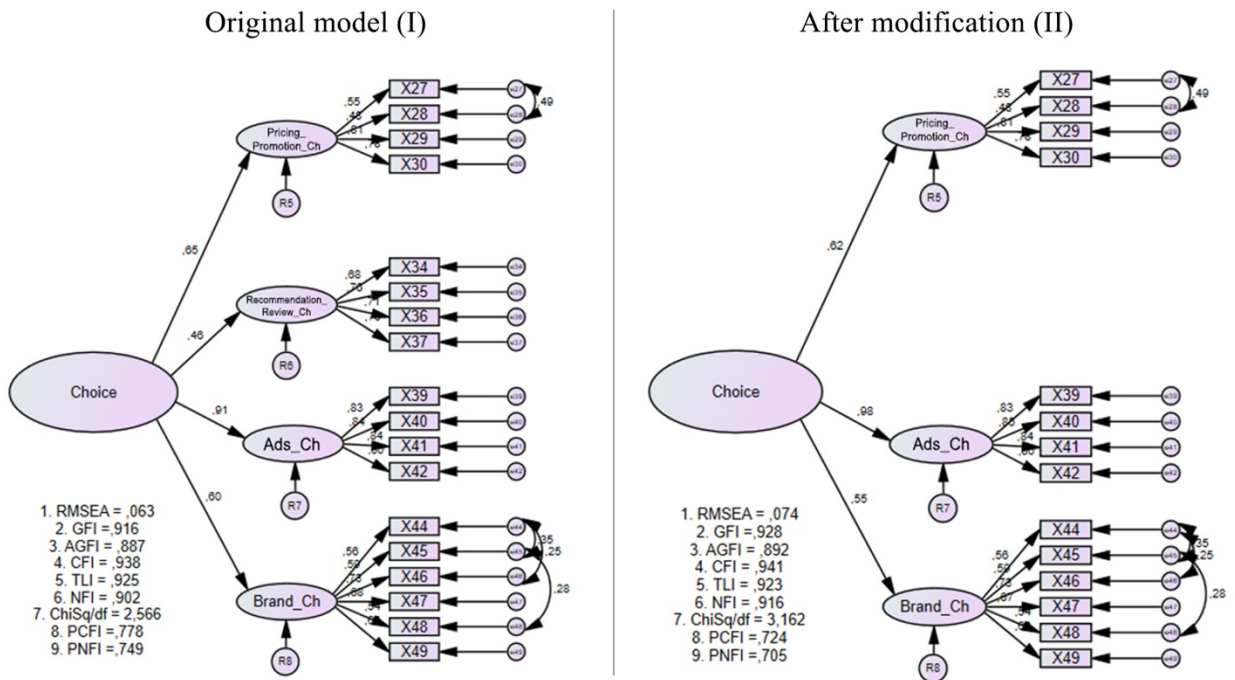


Figure 3. Original model of choice stage and after modification

Table 2. Fitness of indexes of each variable at consideration stage

Evaluation indexes	Suggested value	Pricing & Promotion		Recommendation & Review		Advertisement		Brand Quality & Credibility	
		I	II	I	II	I	II	I	II
Absolute Fit Index									
RMSEA	< 0.10	0.174	0.000	0.089	0.000	0.053	0.055	0.082	0.057
GFI	> 0.90	0.883	1.000	0.968	0.996	0.989	0.994	0.961	0.991
Incremental Fit Index									
AGFI	> 0.90	0.766	1.000	0.925	0.986	0.968	0.971	0.923	0.965
CFI	> 0.90	0.721	1.000	0.956	1.000	0.990	0.995	0.920	0.985
TLI	> 0.90	0.581	1.014	0.927	1.001	0.981	0.986	0.880	0.964
NFI	> 0.90	0.708	1.000	0.944	0.994	0.982	0.991	0.895	0.975
Parsimonious Fit Index									
Chi-sq/df	≤ 5	13.018	0.009	4.123	0.928	2.112	2.213	3.683	2.304
PCFI	> 0.50	0.480	0.167	0.574	0.400	0.495	0.332	0.613	0.394
PNFI	> 0.50	0.470	0.167	0.566	0.397	0.491	0.330	0.597	0.390

Note : I represents findings for the original model, whereas II represents outcomes after model modifications.

Table 3. Estimated parameter CFA of consideration stage model

Variable/Indicator	Factor Loading	P-value	Note
Consideration → Recommendation & Review	0.688	< 0.001	Significant
Consideration → Advertisement	0.598	< 0.001	Significant
Consideration → Brand Quality & Credibility	0.511	< 0.001	Significant
Recommendation & Review → X9	0.732	< 0.001	Significant
Recommendation & Review → X10	0.777	< 0.001	Significant
Recommendation & Review → X11	0.567	< 0.001	Significant
Recommendation & Review → X12	0.658	< 0.001	Significant
Recommendation & Review → X13	0.559	< 0.001	Significant
Advertisement → X14	0.623	< 0.001	Significant
Advertisement → X15	0.692	< 0.001	Significant
Advertisement → X16	0.836	< 0.001	Significant
Advertisement → X17	0.713	< 0.001	Significant
Brand Quality & Credibility → X19	0.500	< 0.001	Significant
Brand Quality & Credibility → X20	0.557	< 0.001	Significant
Brand Quality & Credibility → X21	0.566	< 0.001	Significant
Brand Quality & Credibility → X23	0.751	< 0.001	Significant
Brand Quality & Credibility → X25	0.516	< 0.001	Significant

Table 4. Indicators with highest impact at consideration stage

Indicator	Factor Loading	Description
X16	0.836	I'm considering those brands because its compelling and convincing advertisement.
X10	0.777	I'm considering those brands because recommendation & review on social media.
X23	0.751	I'm considering those brands because detail and accessible product information.
X9	0.732	I'm considering those brands because recommendation & review from beauty influencer/expert/famous people.
X17	0.713	I'm considering those brands because its advertisement make me curious and feel fear-of-missing-out.

Table 5. Fitness of indexes of each variable at consideration stage

Evaluation indexes	Suggested value	Pricing & Promotion		Recommendation & Review		Advertisement		Brand Quality & Credibility	
		I	II	I	II	I	II	I	II
Absolute Fit Index									
RMSEA	< 0.10	0.162	0.000	0.060	0.109	0.117	0.060	0.127	0.063
GFI	> 0.90	0.888	1.000	0.981	0.985	0.967	0.994	0.929	0.987
Incremental Fit Index									
AGFI	> 0.90	0.777	0.998	0.956	0.925	0.900	0.969	0.859	0.956
CFI	> 0.90	0.773	1.000	0.982	0.982	0.975	0.997	0.896	0.987
TLI	> 0.90	0.660	1.010	0.969	0.947	0.950	0.991	0.844	0.968
NFI	> 0.90	0.759	1.000	0.969	0.979	0.970	0.995	0.883	0.980
Parsimonious Fit Index									
Chi-sq/df	≤ 5	11.418	0.144	2.412	5.728	6.438	2.406	7.370	2.584
PCFI	> 0.50	0.516	0.167	0.589	0.327	0.487	0.332	0.597	0.394
PNFI	> 0.50	0.506	0.167	0.581	0.326	0.485	0.332	0.558	0.392

Note: I represents findings for the original model, whereas II represents outcomes after model modifications.

Table 6. Estimated parameter CFA of choice stage model

Variable/Indicator	Factor Loading	P-value	Note
Choice → Pricing & Promotion	0.620	< 0.001	Significant
Choice → Advertisement	0.976	< 0.001	Significant
Choice → Brand Quality & Credibility	0.548	< 0.001	Significant
Pricing & Promotion → X27	0.552	< 0.001	Significant
Pricing & Promotion → X29	0.807	< 0.001	Significant
Pricing & Promotion → X30	0.782	< 0.001	Significant
Advertisement → X39	0.832	< 0.001	Significant
Advertisement → X40	0.848	< 0.001	Significant
Advertisement → X41	0.844	< 0.001	Significant
Advertisement → X42	0.802	< 0.001	Significant
Brand Quality & Credibility → X44	0.562	< 0.001	Significant
Brand Quality & Credibility → X45	0.594	< 0.001	Significant
Brand Quality & Credibility → X46	0.731	< 0.001	Significant
Brand Quality & Credibility → X47	0.673	< 0.001	Significant
Brand Quality & Credibility → X48	0.537	< 0.001	Significant
Brand Quality & Credibility → X49	0.627	< 0.001	Significant

Table 7. Indicators with highest impact at choice stage

Indicator	Factor Loading	Description
X40	0.848	I choose that brand because I love its brand ambassador the most.
X41	0.844	I choose that brand because its advertisement is the most compelling and convincing.
X39	0.832	I choose that brand because its advertisement I see more often than others.
X29	0.807	I choose that brand because there is product bundling when I'm about to purchase.
X42	0.802	I choose that brand because its advertisement make me curious and feel fear-of-missing-out the most.

4.3 CFA on Overall Models

After CFA is applied to both stages, analysis is continued by running CFA on overall research model. The model has already been modified as result of CFA applied before. Overall model shows by Fig 4. The model has achieved most of fitness of indexes. With a correlation value of 0.85, it may be said that both stages have a high correlation.

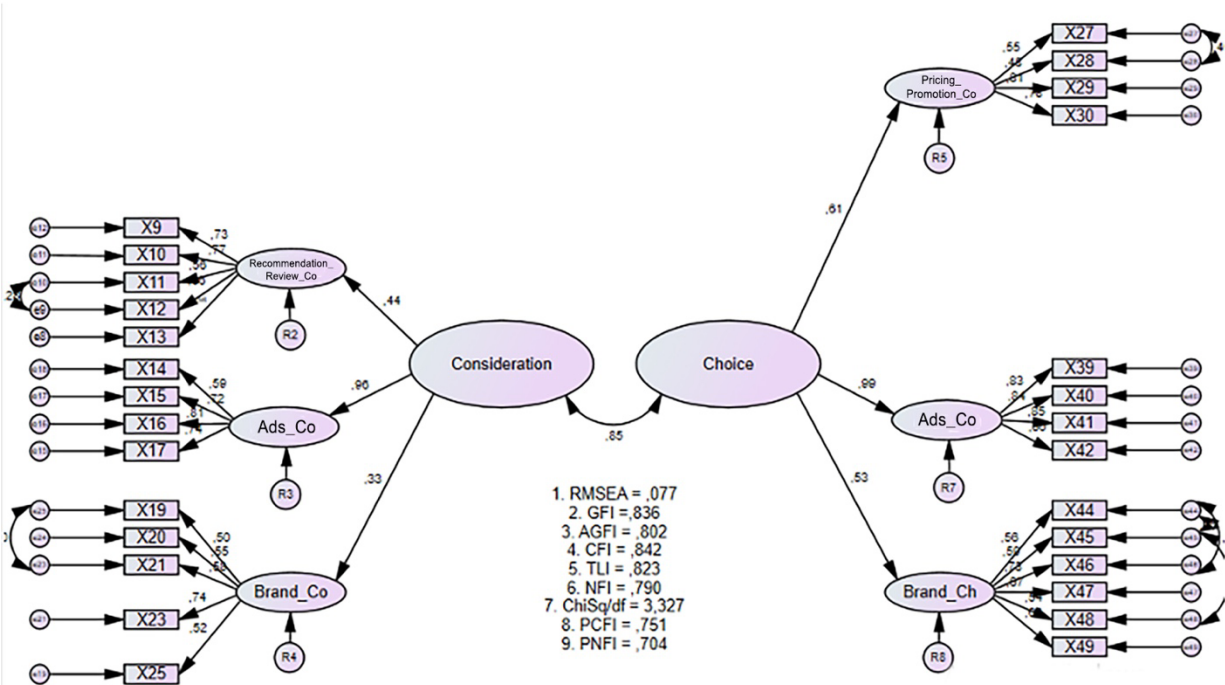


Figure 4. Final model of the study model

4.4 Results analysis

According to analyzed data above, it can be concluded that consideration stage is influenced by recommendation & review, advertisement, and brand quality & credibility. Meanwhile, choice stage is influenced by advertisement, pricing & promotion, and brand quality & credibility. At the consideration stage, recommendations & reviews have the most influence. Highest weight is given to social media and beauty influencer/expert recommendations & reviews. It has been noted that recommendations & reviews are only taken into account during the consideration stage. Meanwhile at choice stage, advertisement has the biggest influence. Advertisement features having the most significance is known incorporate brand ambassadors and compelling presentations.

Additionally, pricing & promotion are also only taken account during the choice stage. Gifting and product bundling was shown to have the highest impact. Other than that, though brand quality & credibility has impact at both stages, it is the detail of product information which has highest weigh at consideration stage, while brand image and value is noted as most important at choice stage. It is also recognized that brand quality & credibility has much bigger impact at choice stage. Among all of above, this study also found that there is high correlation between consideration and choice stage. This should encourage company to make their brand into consumer consideration set.

6. CONCLUSIONS

The fundamental purpose of this research is to discover influencing factors at both the consideration and choice stage, as well as their relationships. In order to confirm the factors, data analysis using second-order CFA is employed. This study supported the notion that there are different factors affecting both stages. Consideration stage is influenced by recommendation & review, advertisement, and brand quality & credibility. Meanwhile, choice stage is influenced by advertisement, pricing & promotion, and brand quality & credibility. This study also found that there is high correlation between consideration and choice stage.

As managerial implications, it is recommended to invest more on endorsement of beauty influencers or expert to do reviews to give more exposure to the brand. Provide consumer a detail information of the products and make them easily accessible, as it is one of key factors that make brand considered. Given that advertising has a significant impact on all stages, it is also advised to invest in both the quality and quantity of the advertising. Product bundling and gifting are two strategies that may be used to gain value from other brands in consideration set. It is advised to provide mini product packaging in order to promote purchasing as it more affordable. Utilizing a loveable brand ambassador is also necessary for increasing brand attractiveness.

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