

Available online at https://e-journal.unair.ac.id/TIJAB

TIJAB (The International Journal of Applied Business)

e-ISSN: 2599-0705

Vol. 7 No. 2, November 2023, pp. 152-161

Model of Rational and Emotional Decision Making in The First Purchase of Cosmetics

Elly Yuliandari ^{a 1}, Gugus Wijanarko ^b, Amaliyah ^c, Mazzlida Mat Deli ^d

^a Faculty of Psychology, University of Surabaya, Surabaya, Indonesia
^b Business Administration Study Program, College of Administration and Port Management (STIAMAK), Surabaya, Indonesia

c Business Department, Faculty of Vocational Studies, Universitas Airlangga, Surabaya, Indonesia d Graduate School of Business, Universiti Kebangsaan Malaysia, Malaysia

APA Citation:

Yuliandari, E., Wijanarko, G., Amaliyah., & Deli, M.M. (2023). Model of Rational and Emotional Decision Making in The First Purchase of Cosmetics. *TIJAB (The International Journal of Applied Business)*, 7(2), 152-161.

Submission Date: 09/02/2023 Revision Date: 17/07/2023 Acceptance Date: 25/08/2023 Published Date: 20/10/2023

Abstract

Background: Consumers face both positive and negative impacts when buying a product for the first time. Existing studies emphasize the rational aspects in making decisions to buy cosmetics. Buying cosmetics will include liking the product (emotional aspect) and the good effects obtained from buying the product, in addition to rational considerations such as product safety (rational aspect). This study aims to determine the effect of cognitive and emotional orientation models in making decisions to buy cosmetics for the first time.

Objective: This study examines the rational and emotional aspects of buying a cosmetic product for the first time. **Method**: This research involved 131 consumers who either bought cosmetics for the first time or a new product. Consumer age ranges were from 18 to 22 years. Respondents have used cosmetics for up to 3 years. Respondents were selected using accidental sampling.

Results: showed that rational and emotional considerations significantly contribute to purchasing decisions. Consumers not only consider the benefits of these cosmetics, but also pay attention to their feelings towards these products.

Conclusion: Consideration of emotional and rational aspects will influence purchasing decisions. The preferences and positive expectations consumers feel will be a more dominant factor than fear of risk. Producers need to communicate information that can make consumers happy in addition to product functions.

Keywords: Ratio Considerations, Emotional Considerations, Purchasing Decision-making.

This is an open access article under the CC BY-NC-SA license.



E-mail address: ellyyuliandari@staff.ubaya.ac.id

¹ Corresponding author.

1. **Introduction.**

Cosmetics is a market that is always growing and developing. This industry is a market that is quite reliable when a recession occurs. Buying cosmetics is a form of caring and self-care. Based on Mohiuddin (2019), the use of cosmetics is considered part of the natural human instinct to treat and decorate oneself with color (coloring). This opinion shows that the need for cosmetics will cross the boundaries of age, race, or education. Cosmetics that are widely purchased worldwide are related to skincare, hair care, decorative cosmetics, and body care. To buy a new product involves a decision-making process. Buying cosmetic products is a complex situation because consumers are faced with uncertain situations. Uncertain situations occur because consumers must weigh the product's benefits and risks. Purchasing decision-making is selecting actions from several alternatives to achieve the desired result. In an uncertain situation, everything is in a state of flux. Some random judgment and power will arise because the situation is the least predictable (Fonseca-Santos et al., 2015; Sobradel et al., 2015). Existing research must fully pay attention to the combination of emotional and rational considerations in decision-making. There is little research that has explored the combination of rational and emotional aspects.

This study aims to determine the consumer decision-making model for buying new products. Due to bad side effects, consumers will face two possibilities: gain or loss. In this case, consumers will face the possibility of a choice. The probability occurs because the opportunity to benefit from the product and the possible side effects are the same in an uncertain situation. The results of the research by Catalin & Andreea (2014), Lerner et al., Kassam (2014), and Kumar (2016) suggest that people tend to make decisions based on their feelings about the product. That is, they tend to prioritize aspects of feeling rather than logic. On the contrary, research conducted by Osman & Magda (2013) shows that someone prioritizes quantitative calculative rather than qualitative considerations. Calculative calculations occur because consumers make decisions that pose health risks. This research aligns with the results of Kahn et al. (2014), which states that rational considerations are used as a reference in decision-making. Several existing studies look at emotional and rational aspects of cosmetic product purchasing decisions. (2014) states that rational considerations are used as a reference in decision-making. Several existing studies look at emotional and rational aspects of cosmetic product purchasing decisions. (2014) states that rational considerations are used as a reference in decision-making. Several existing studies look at the emotional and rational aspects of cosmetic product purchasing decisions.

This study aims to find a decision-making model by combining both rational and emotional aspects that contribute to decision-making for first-time makeup buyers. This study hypothesizes that both rational and emotional aspects influence buying cosmetic products for the first time.

2. Literature review

2.1 Decision-Making in Buying Products

Middleton's statement (2019) states that rational purchasing motives are used when consumers act rationally by carefully considering all available alternatives and choosing the alternative that provides the greatest benefits. Rational motives also concern issues such as price, cost in use, durability, length of useful usage, reliability, and servicing. Middleton (2019) defines a decision as choosing an action from two or more choices. A consumer who wants to choose must have a choice. A decision without a choice is called a "Hobson choice." Consumer decision-making includes all the processes that consumers go through to recognize problems, find solutions, evaluate alternatives, and make choices. Rational motives can have a positive and a significant effect on purchasing decisions.

Emotional motives are motives that are influenced by feelings. Consumers must consider long-term possibilities (Rai et al., 2017; Kotler & Armstrong, 2018). This definition emphasizes that emotions have three interrelated physiological, behavioral, and cognitive components. Consumer decision-making is the integration that combines knowledge to evaluate two or more alternative behaviors and choose one of them. Research by Middleton (2019) explains that the influence of emotional motivation variables has both a positive and significant effect on purchasing decisions.

Various factors are taken into account whilst making judgments on purchases. Typically, decisions on what to buy are made to satisfy or fulfill newly arising wants. According to Han (2021), the decision to buy cosmetics has five stages: the existence of a need, seeking information, weighing the various possibilities, buying, and following up after purchase. Making a choice will take this step into account. Additionally, users will attempt to complete steps or processes with great caution because this is a health product. When purchasing cosmetics, consumers must choose between several brands and offers that vary in terms of the product's attributes. The choice to acquire cosmetics goes through several stages, beginning with the need, followed by the pursuit of product information, evaluation of the information obtained, selection of the product, and evaluation of the decision. Consumers will go through this step-by-step whilst in the decision-making process (Kotler & Keller, 2016).

Various considerations that consumers will take will appear in calculating the profits and losses that may be experienced. This can be explained through prospect theory. In this theory, people make judgments based on the gains and losses they will experience. Prospect theory explains attitudes or decisions when making a decision in a risky situation (Chadee et al., 2022; Panpatte et al., VV, 2019). In other words, consumers will partake in a series of stages before deciding. These stages are recognizing the situation, making choices, weighing possible risks, and then finally deciding. Prospect theory explains how a person is more inclined to avoid risk than seeing profit as the main consideration. In other words, consideration of buying cosmetics is based on two reasons, namely consideration of rational aspects or cognitive aspects and considerations of affective or emotional aspects.

Ghorbanzadeh & Rahehagh (2020) and Umar, HA (2016) said that cosmetics cannot be separated from the hopes and goals to be achieved, namely health and attractive appearance. Buying cosmetics can be based on rational considerations explained through utility theory. On the other hand, buying cosmetics can also be based on affective considerations (Mirabella, G., 2018; Prime & Budiman, 2020). Rational choices in utility theory explain cognitive judgments, whilst affective considerations are explained using affective decision-making theory. This theory states that individuals tend to avoid major risks in uncertain and risky situations where the probability of success is questionable in effective decision-making (Sahu et al., 2020). Emotions are powerful, pervasive, predictable, sometimes harmful, and sometimes beneficial drivers of decision-making. Across different domains, important regularities emerge in the mechanisms of emotions influencing judgments and choices (Savioni et al., 2023).

According to Alma (2011), purchasing decisions are the process of formulating various alternatives to choose one particular alternative to make a purchase. Meanwhile, according to Kotler & Armstrong (2008), the buying decision is the stage in the buyer's decision-making process where consumers buy. Decision-making is an individual activity directly involved in obtaining and using the goods offered. Furthermore, according to Assauri (2011), buying decisions are a series of decisions regarding the product type, product form, brand, seller, quality, time of purchase, and payment method. Meanwhile, Angipora (2010) states that the purchase decision is a decision that can only be made after the evaluation stage of various brands and characteristics that have been arranged according to ratings which will form purchase intentions for the most preferred brand. According to Nugroho (2013), consumer decision-making is an integration process that combines knowledge to evaluate two or more alternative behaviors and choose one of them.

The consumer's purchase decision is to buy the most preferred brand, but two factors can occur between purchase intention and purchase decision. The first factor is the attitude of others (Iskamto, 2017; SCG Trading Services Co. Ltd et al. 2011). If cost is an important factor to someone, then their chances of buying a more expensive car will decrease. The second factor is an unexpected situational factor. Consumers may form purchase intentions based on income, price, and expected product benefits for people who consume or use the purchased product or service (Iskamto et al., 2021; Iskamto et al., 2020).

2.2 New Cosmetics Purchasing Decision Making

In buying cosmetics, consumers will be faced with various situations. Research conducted by Adofo (2014) shows that the packaging for a product will significantly affect a person's interest in the cosmetics they buy. Consumers will also like packaging that makes consumers feel safe and also protect the products. Packaging will make consumers interested in either buying the product or staying away.

Packaging is not only related to attractiveness, but also related to product protection. The results of this study indicate that rational and emotional considerations jointly contribute to purchasing decisions and that some related information will be considered when choosing (Anees & Thyagaraj, 2014; Han, 2021; Pluta-Olearnik & Szulga, 2022).

Purchasing cosmetic items causes people to consider not just their appearance, but also their health. Using cosmetics in everyday life may be viewed as a luxury and a desire to care for and protect oneself. On the other hand, consumers will seek information to guarantee that their products are safe. Jia et al. (2021) found that information comes from the closest people. In addition, information via social media will significantly influence purchasing decisions.

2.3 Rational Considerations in Decision-Making

Rational decision-making is the opposite of intuitive decision-making. It is a strict procedure utilizing objective knowledge and logic. It involves identifying the problem to solve, gather facts, identify options and outcomes, analyze them, consider all the relationships, and finally selecting the decision (Adam et al., 2022). Rational decision-making requires support methods and software tools. Identifying the problem to solve requires methods to measure and evaluate the current situation. Identifying and evaluating options and analyzing the available possibilities involve analysis and optimization methods. Incorporating intuition into rational decision-making requires adequate methods to translate ideas or observed behaviors into hard data. With adequate software, communication, observation, and opinion recording are only possible today. Information and data that form the input, intermediate variables, and output must be stored, managed, and made accessible and user-friendly (Adam et al., 2022).

This rational consideration appears in the efforts of consumers to see the benefits and possible impacts of losses. Several studies, such as those conducted by Bhatt and Shankila (2017), Arianna et al. (2021), Bavolar J. (2015), Mulyono, Purba, Hadian, Syamsuri, & Hasibuan (2020), show consumers' efforts to see and pay attention to taking into account the adverse effects of a product before deciding to buy. This rational consideration is also supported by the research of Stegemann et al. (2022), Tajjedini and Nikdavoodi (2014), Kumar et al. (2014), and Stankevich (2017). A number of these studies explain the rational considerations that are used to make decisions.

Cosmetic decision-making by consumers seeks to strike a balance between risk and a strong desire to buy. This emotional process involves (1) affective motivation and (2) risk calculation (perceived accuracy). Other research shows that the choice of cosmetics will be closely related to one's perception of the product (Amalia, Andani, & Guterres 2023), the feelings that appear on the product (Anees & Thyagaraj, 2014; Lerner et al., 2014). The selection of cosmetics will also be represented by the consumer's impression of the products offered. Likewise, research conducted by Thyagaraj 2014; Kahnet. Al, 2014 Amalia, Andani, and Guteres, 2023 (Mirabella et al., 2017), and Fischer et al. (2015) emphasize the emotional aspect of cosmetic purchasing decisions.

3. **Methodology**

3.1 *Participant*

This research involved 131 cosmetic users who intended to buy new products. The research sample was selected based on accidental sampling. The research sample was taken based on the specified characteristics: 1. Age 18 to 20 years. 2. Have used cosmetics for more than a year. 3.

High school education and above. 4. Made a first-time purchase of a product. Products (first-time makeup buyers) skincare (day and night skincare). 5. Lives in Surabaya

3.2 *Instrument*

The measuring instrument used is the Emotion-Based Decision Making Scale Letter et al. (2014) and Fischer's Decision Style Scale et al. (2015), concerning dimensions and purchasing decisions. The

measurement of rational decision-making uses Rational and Intuitive Decision Making Style (Hamilton et al., 2016). This survey also revealed demographic information such as age and education, cosmetics utilized, factors to consider, and references. The purchase choices are evaluated by assigning a value from one to ten on a scale of one to ten. The greater the number selected, the greater the customer purchasing choice.

Similarly, the amount of worry and good referrals received is assessed by asking respondents to rate themselves on a scale of one to ten. The greater the score awarded, the higher the testimonials concerning these cosmetics obtained. Skincare cosmetic specifications, such as night cream and day cream, are employed in this scenario.

3.3 Data Retrieval Process

The data collection process was carried out by accidental sampling. Respondents were selected based on the specified characteristics. Retrieval of data was done by using a questionnaire. Out of the 170 questionnaires collected, 131 questionnaires were obtained that met the requirements. Out of the 147 questionnaires that met the requirements, only 131 can be used. Sixteen studies did not use the data because some were double entries, and some needed to be filled in completely.

3.4 Data analysis

Regression analysis was applied in data analysis to determine the decision-making process for buying skin care. The cosmetic purchase was made for the first time (by a first-time cosmetics customer). Respondents who purchase new items are meant to be first-time product purchasers.

4. **Results**

The results of data analysis using multiple linear tests obtained results as in Table 1.

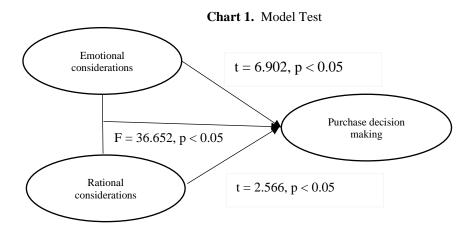
Model Sum of Squares Df Mean Square F Sig. Regression 77,236 36,652 .000b 141,377 2 Remainder 29,523 129 1,421 Total 170,900 131

Table 1. Data Analysis

Based on the regression analysis, it was stated that emotional considerations and ratio considerations together contributed significantly to purchasing decisions. The results obtained show that there is a significant correlation in the proposed model. Testing the proposed model can be illustrated in Chart 1 below:

A. Dependent Variable: Purchasing decision making

B. Predictors: (Constant), Emotional, Rational



The partial correlation test shows that the emotional consideration and ratio variables simultaneously influence the purchase decision (F = 36.945, p < 0.05). Partial analysis shows that the correlation of rational considerations influences purchasing decisions. Likewise, emotional considerations significantly contribute to buying behavior (t = 6.902, p < 0.05). This model shows that consumers use rational and emotional considerations to purchase. Rational considerations and emotional considerations contribute 66% to purchasing decisions. At the same time, 34% is determined by other factors. Partial correlation analysis results are shown in Table 2 below:

Table 2. Partial Analysis

		Nonstandar	d coefficients	Standard Coefficient		
Model		В	St. Error	Betas	Q	Sig.
1	(Constant)	8.206	1657		2050	.050
	Ratio	.282	.132	.223	2,566	.017
	Emotion	.663	0.065	.654	6,902	.000

A. Dependent Variable: Purchase

Table 2 shows that ratio considerations significantly contribute to purchasing decisions (t = 2.566, p <0.05). Likewise, emotional considerations significantly contribute to purchase decisions (t = 6.902, p <0.05). Both of these variables individually contribute significantly to purchasing decisions.

This study also analyzed how much consumer awareness of the product and the positive references it receives will influence purchasing decisions. The results obtained are shown in the following table:

Table 3. Contribution of Concern and Positive Directions

		Nonstandard	d coefficients	Standard Coefficient		
Mode	el	В	St. Error	Betas	Q	Sig.
1	(Constant)	13,098	1867		6,390	.000
	Worries	.023	.362	003	022	.967
	Reference	.976	.381	.435	2,656	012

A. Dependent Variable: Purchasing Decision Making

Table 3 shows that anxiety makes a non-significant contribution to purchase decisions (t=0.022, p <0.05). On the other hand, positive references to products positively and significantly contribute to purchasing decisions (t=2.656, p<0.05).

5. **Discussion**

The research results show that decision-making is not only a matter of logic, but also that how consumers feel about the product purchased will influence the decision to buy. Consumers need to consider the functions and benefits of the cosmetics they buy. Emotional considerations will also affect the various rational information they receive (Lerner, et.al, 2014). These results align with the opinion of Ghorbanzadeh and Rahehagh (2020), who state that cosmetic buying behavior has a certain complexity. Stegemann et al. (2022) stated that internal and external factors influence this behavior. When buying a new product, a person faces a complex of worries and hopes. In this case, consumers try to consider whether the product to be purchased is safe. Various considerations will play a role in the decision-making process. When buying a product, a person will consider the risk that he or she will accept or perceive (Kotler & Keller, 2016).

This research is in line with the probability calculation theory of the product purchased. The calculation of profits to be obtained aligns with calculations of losses or side effects (Yu, 2022). In this study, consumers consider the positive aspects they can get, rather than the negative possibilities that they might face (Mirabella et al., 2017). Various considerations will play a role in the decision-making process. When buying a product, a person will consider the risk he or she will accept or perceive (Kotler & Keller, 2016). This research is in line with the probability calculation theory of the product purchased. Calculating profits to be obtained aligns with calculating losses or side effects (Yu, 2022). In this study, consumers consider the positive aspects they can get rather than the negative sides they might face (Mirabella et al., 2017). Various considerations will play a role in the decision-making process. When buying a product, a person will consider the risk he or she will accept or perceive (Kotler & Keller, 2016). This research is in line with the probability calculation theory of the product purchased. The calculation of profits to be obtained aligns with calculations of losses or side effects (Yu, 2022). In this study, consumers consider the positive aspects that they can get, rather than the negative effects they might face (Mirabella et al., 2017).

They are referring to the statement (Schiffman & Kanuk, 2014) that rational purchasing motives are used when consumers act rationally by carefully considering all available alternatives and choosing the alternative that provides the greatest benefits. Rational motives also concern issues such as price, cost in use, durability, length of useful usage, reliability, and servicing. Schiffman and Kanuk (2012) define a decision as choosing an action from two or more choices. A consumer who wants to choose must have a choice. A decision without a choice is called a "Hobson choice." According to Peter and Olson (in Sangadji and Sopiah 2013), consumer decision-making is a problem-solving process directed at the target. More fully, Peter and Olson (2013) state that the core of consumer decision-making is an integration process that combines knowledge to evaluate two or more alternative behaviors and choose one of them. Consumer decision-making includes all the processes consumers go through to identify problems, find solutions, evaluate alternatives, and choose among options.

According to Tjiptono (2014), the emotional factor is the awareness of several behavioral psychological events, which are followed by behavioral responses along with their judgments. This definition emphasizes that emotion consists of three interrelated physiological, behavioral, and cognitive components. Consumer decision-making is integration, which combines knowledge to evaluate two or more alternative behaviors and choose one of them. Research by Wahyu and Iranita (2010) explained that the influence of emotional motivation variables has a positive and significant effect on purchasing decisions.

When surveying the field, it is useful to identify distinct types of emotion. We start with emotions arising from judgment or choice (i.e., integral emotion), which strongly and routinely shapes decision-making (Damasio, 1994; Greene & Haidt, 2002). For example, a person who feels anxious about the potential outcome of a risky choice may choose a safer option rather than a potentially more lucrative option. A person who feels grateful to a school s/he attended, may donate a large sum of money to that school even though it limits the decision-maker's spending. Such effects of integral emotions operate at conscious and non-conscious levels.

Although a negative view of emotion's role in reason has dominated much of Western thought (for discussion, see Keltner & Lerner 2010), a few philosophers pioneered the idea that integral emotion

could be a beneficial guide. David Hume (1978 [1738], p. 415), for example, argued that the dominant predisposition towards viewing emotion as secondary to reason is entirely backward: "Reason is, and ought only to be, the slave of the passions, and can never pretend to any other office than to serve and obey them." Following this view, anger, for example, motivates one to respond to injustice (Solomon, 1993), and anticipation of regret provides a reason to avoid excessive risk-taking (Loomes & Sugden, 1982).

Compelling scientific evidence for this view comes from emotionally impaired patients who have sustained injuries to the ventromedial prefrontal cortex (vmPFC), a key brain area for integrating emotion and cognition. Studies find that such neurological impairments reduce both (a) patients' ability to feel emotion and (b) the optimality of their decisions, reductions that cannot be explained by simple cognitive changes (Bechara et al., 1999; Damasio, 1994). Participants with vmPFC injuries repeatedly select a riskier financial option over a safer one, even to the point of bankruptcy in a game with real money, despite their cognitive understanding of the suboptimality of their choices. Physiological measures of galvanic skin response suggest that these participants behave this way because they do not experience the emotional signals—somatic markers—that lead normal decision-makers to have a reasonable fear of high risks.

Nurhayati (2017) explains that if a person pays attention to control and rationally realistic opportunities, including relevant information or knowledge, time, money, skills, and the ability to carry out his behavior in a controlled manner, then it is easier for someone to know whether the action will be easy or difficult to do. For example, suppose someone has high control or rational control - in that case, someone tries actively to use opportunities and existing sources, such as product information, to realize their intention to buy the product. From the above opinion, a consumer's behavior in this case is related to his interest in consuming or repurchasing a product or service driven by rational control, where a consumer will consider carefully in making decisions. Based on the description of the theory above and referring to the research results, rational motives influence the intention to purchase cosmetic products.

Nurhayati (2017) suggests that the factors influencing buying interest are feelings and emotions; if someone feels happy and satisfied in buying goods or services, it strengthens buying interest, and dissatisfaction usually eliminates interest. Based on the description of the theory above, consumer buying behavior is influenced by emotional aspects, where consumers are compelled to buy what they feel. This theory aligns with the research results that emotional motives influence the intention to purchase cosmetic products.

6. Conclusion

This study shows that rational and emotional considerations are two things that play an important role in decision-making. Buying cosmetic products for the first time places one in an uncertain situation. Consumers will use all their abilities to assess and make purchasing decisions, both cognitive and emotional. Consumers need to weigh the benefits and risks they will face. In this case, consumers weigh more positive benefits (positive gain) obtained than the negative risks that will be faced (perceived risk). The results will be useful to provide an overview of persuasive strategies that can be applied to attract consumer interest. Offering new cosmetics requires a profit campaign strategy and an emotional touch that makes customers feel good.

Reference

- Adofo, A. (2014). The Effect of beauty product packaging on consumer buying decisions. The Business management & Review, 5(3), 14-21.
- Amalia, FA, Andani, AR, & Guterres, AD (2023). The Perception of Young Women towards Beauty Value in Beauty Advertisements. Journal of Marketing Innovation, 1(1), 1-12.
- Anees, A., & Thyagaraj, KS (2014). Understanding the influence of brand personality on consumers. Journal of Department of Management Studies, Indian School of Mines, Dhanbad, India, 1-6.

- Ariananda, SE, Manganta, W., & Tumewu, FJ (2021). The Influence of product attributes and digital marketing. EMBA, 9(3), 769-778.
- Bavolar, J. (2015). Decision-making styles and their associations with decision-making competencies and mental health. Judgment and Decision Making, 10(1), 115-122.
- Bhatt, K., & Shankila, P. (2017). A Study on consumer buying behavior towards cosmetic products. International Journal of Engineering Technology Science and Research IJETSR, 4(2), 2394-3386.
- Cătălin, MC, & Andreea, P. (2014). Brands as a Mean of Consumer Self-Expression and Desired Personal. Procedia Social and Behavioral Sciences, 10(9), 103-107.
- Chadee, AA, Chadee, XT, Chadee, C., & Otuloge, F. (2022). Violations at the Reference Point of Discontinuity: Limitations of Prospect Theory and an Alternative Model of Risk Choices. Emerging Science Journal, 6(1), 37-52.
- Fischer, S., Soyez, K., & Gurtner, S. (2015). Adapting Scott and Druce's general decision-making style Inventory to patient decision making in provider choice. Medical decision making, 35(4), 525-535.
- Fonseca-Santos, B., Corrêa, MA, & Chorilli, M. (2015). Sustainability, natural and organic cosmetics: consumer, product, efficacy, toxicological and regulatory considerations. Brazilian Journal of Pharmaceutical Science, 51(1), 17-26.
- Ghorbanzadeh, D., & Rahehagh, A. (2020). Emotional brand attachment and Brand Love: the Emotional Bridges in the Process of Transition from Satisfaction to Loyalty. Rajagiri Management Journal, 15(1), 16-38.
- Hamilton, K., Shih, S.-I., & Mohammed, S. (2016). The Development and validation of the rational and intuitive decision styles scale. Journal of Personality Assessment, 98(5), 523–535.
- Han, W. (2021). Purchasing decision-making process of online consumers based on the five-stage model of the consumer buying process Advances in Social Science. Education and Humanities Research, 586, 545-548.
- Jia, X., Pang, Y., & Liu, LS (2021). Online Health Information Seeking Behavior: A Systematic Review. Review Healthcare, 9(1), 1-15.
- Kotler, P., & Keller, KL (2016). Marketing Management 15 Edition: Global Edition. England: Pearson Education Limited.
- Kumar, HA (2016). Factors influencing customers buying behavior. Journal of Marketing and Consumer Research, 26, 30-34.
- Mirabella, G. (2018). The Weight of emotions in decision-making: how fearful and happy facial stimuli modulate action Readiness of Goal-Directed Actions. Frontier Psychology, 9, 1-8.
- Mirabella, G., & Lebedev, MA (2017). Interfacing to the brain's motor decisions. Journal of Neurophysio, 117(3), 1305-1319.
- Mohiuddin, AK (2019). An Extensive Review of Cosmetics in Use. OSP Journal of Clinical Trials, 1(1), 1-20.
- Mulyono, H., Purba, N., Hadian, A., Syamsuri, AR, & Hasibuan, ZM (2020). Decision-Making Culture in Organizations. Proceedings of the First International Conference on Science, Technology, Engineering and Industrial Revolution, 5(3), 227-231.
- Osman, & Magda. (2013). A Case study: dual-process theories of higher cognition—commentary on Evans & Stanovich. Perspectives on Psychological Science, 8(3), 249-252.
- Panpatte, S., & Takale, VV (2019). To Study the decision making process in an organization. The International Journal of Business Management and Technology, 10(1), 2581-3889.

- Prime, A., & Budiman, A. (2020). Analysis of Multi-attribute Utility Theory for College Ranking Decision Making. Synchronization: Informatics Engineering Journal and Research, 4(2), 19-26.
- Pluta-Olearnik, M., & Szulga, P. (2022). The Importance of Emotions in Consumer Purchase Decisions A Neuromarketing Approach. Marketing of Scientific and Research Organizations, 44(2), 87-14.
- Rameshwari, P., Mathiyanan, R., & Jeganathan, M. (2016). A Study on consumer buying behavior of cosmetic products in Thanjavur, Tamilnadu, India. Indo-Asian Journal of Multidisciplinary Research, 2(3), 598-602.
- Sahu, AK, Padhy, RK, & Dhir, A. (2020). Envisioning the Future of Behavioral Decision-making: A Systematic Literature Review of Behavioral Reasoning Theory. Australasian Marketing Journal, 10(10), 1-16.
- Savioni, L., Tribert, S., Durosini, I., & Pravettoni, G. (2023). How to Make Big Decisions: A Cross-sectional Study on the Decision Making Process in Life Choices. Current Psychology, 4(2), 15223-15236.
- Sobradelo, R., Martí, J., Kilburn, C., & Lopez, C. (2015). Probabilistic approach to decision-making under uncertainty during volcanic crises: retrospective application to the El Hierro (Spain) 2011 volcanic crisis. Natural Hazards, 76(2), 979-998.
- Stankevich, A. (2017). Explaining the consumer decision-making process: critical literature review. Journal of International Business Research and, 2(6), 7-14.
- Stegemann, S., Sheehan, L., Rossi, A., Barrett, A., Paudel, A., Crean, A., . . . Pense-Lheritier, A. -M. (2022). Rational and Practical Considerations to Guide a Target Product Profile for Patient-Centric Drug Product Development with Measurable Patient Outcomes A Proposed Roadmap. European Journal of Pharmaceutics and Biopharmaceutics, 17(7), 81-88.
- Tajjedini, K., Nahaleh, & Nikdayoody, JN (2014). Cosmetic buying behavior examines the effective factor. Journal of Global Scholars of Marketing Science, 24(4), 122-129.
- Yu, H. (2022). Application Strategy of Probability Theory and Mathematical Statistics in Big Data Analysis. Proceedings of the 2022 7th International Conference on Social Sciences and Economic Development, 2(15), 2100-2103.