

The Effect of Product Recommendation in Youtube To Consumer Impulsive Buying Of Smartphone Product

Dimas Indiarito Sumiko, Anna Amalyah Agus
Faculty of Economics and Business
University of Indonesia
 Depok, Indonesia
 dimas.indiarito@ui.ac.id, anna@ui.ac.id

Abstract—The use of Youtube as source of information is increasing specially in a context when consumers want to buy something. This study aims to understand the effect of product recommendation content on Youtube to increase the intention to buy impulsively the smartphone products in Indonesia. This study uses a quantitative approach. The questionnaire is used as an instrument for data collection. Respondent who were included in this study are 338 Youtube users in Indonesia who watched ‘GadgetIn’ Youtube channel at least in last year. Data is processed using the Structural Equation Modeling (SEM) method and using Lisrel 8.0 software. The result of the study concluded that certain signals characteristics have an effect on trust in recommender and product affection in order to create an impulsive buying behaviour of customers.

Keywords— *product recommendation, signaling theory, impulsive buying, cognitive trust, affective trust, product affection*

I. INTRODUCTION

The role of social media nowadays can replace traditional information sources to gain information [1]. Specially when it comes to purchase decision, Youtube is a platform for users to look for sources of information [2]. Youtube is one of social media in the form of media sharing networks, where users can share content on image or video media [3]. Youtube offers more diverse functionality than uploading and watching video content, but also features comments, likes or dislikes, subscribes that can encourage active and passive engagement for users and developing new business opportunities [4]. In Youtube, source of information facilitated by users that become an active content creators in creating content that contains personal experiences, ideas, reviews, opinions, feelings and emotions aimed to their audiences [5]. Users who are active in creating content on the YouTube platform can be associated as influencers [6]. These users can be an opinion leaders in influencing potential customers [7]. Influencers bring a new form of marketing called influencer marketing, which is in collaboration with brand owners in promoting a product [8]. According to [9] value of the influencer marketing industry in 2019 is worth 8 trillion USD and predicted to be worth 15 trillion USD in 2022. Also, a large number of social media users in Indonesia, which is has an active users of social media reached 150 million in early 2019 [10]. Youtube becomes the most active social media in Indonesia with 88% of total social media users in 2019 or 132 million active users in Indonesia [10].

This study aims to analyze the effect of recommendation products on consumers impulsive buying behaviour in Indonesia, specially on smartphone product category. There are only few researches that link signaling theory and trust in recommender with impulsive buying behavior in Indonesia, especially those focused on smartphone or gadget product category. One of the most similar studies is research by [11] which examined the influence of signaling theory and trust in recommender with impulsive buying on the popular social media platform in China named WeChat. WeChat is the most popular social media platform and social commerce in China approximately 80% of its users follow official accounts. In addition, [11] focus examining on impulse driven categories in WeChat such as apparel and personal care.

The study follows two theories, Signaling Theory and Trust in Recommender. Signaling Theory is a theory for identifying and understanding a signal that can be used by consumers in assessing product quality in an asymmetric state of information [12]. This theory can be explained further based on two approaches of signals, which are Recommender-related signals and Product-related signals. In other hand, Trust in Recommender can be explained further on Cognitive based trust and Affective based trust. This paper has five subchapters begins with discussion of the literature used, discussion of the proposed conceptual model, research methodology, analysis as well as discussions of results, and conclusions.

II. LITERATURE STUDY & CONCEPTUAL MODEL

A. Signaling Theory

[13]proposed the concept of signaling theory is a framework for understanding how to deliver quality information by one party to another party when delivering limited or hidden information in order to facilitate a transaction or purchase. Also, signaling theory has been used in identifying and understanding a signal that can be used by consumers in assessing product quality in an asymmetric state of information [11]. Further, [14] the majority of the experiences and views shared through a post that conveying signals in the form of non-product related and product related. Non-product related post or recommender-related signal can increase consumer confidence in dealing with other parties which incidentally promotes buying behavior [15]. In other hand, product related signal is a direct information from the

recommended products which incidentally focus on conveying the positive attributes of the product [16].

B. Trust in Recommender

[17] explaining there are two dimensions of trust, that are credibility and benevolence. [18] labeled credibility as cognitive trust and benevolence as affective trust. Further, [15] explained cognitive trust as a cognitive evaluation rooted from individual beliefs about peer reliability, dependability, and competency. While, affective trust is trust that is based on person emotional and it is characterized from an affective attachment from a base of actions of caring and virtue [18]. It is rooted in mutual interpersonal caring and emotional bonding [15]. This kind of trust is essential as the deeper a connection is, the trust of a partner can exceed justification from the available knowledge [18].

C. Product Affection

Defined as the level of product recommendations can affect consumer's positive affection [19]. The affective quality of a product is explained by the intensity of the affective response when examining the product before the purchasing process [20]. Affective responses include feelings, moods, and emotions [21]. Further, [22] emotions can be a very strong factor to influence person to do irrational things with impulsive impulses.

D. Impulse Buying

Proposed by [23] a moment when consumers experience a sudden, powerful, and persistent urge to buy something as soon as possible. The process of an impulse buying is characterized as high emotional activation and behavior that often arises when individuals experience strong positive emotions [24]. During the process of impulse buying, consumers often experience positive affective reactions and reduce the reaction when processing cognitive information [24].

This study adopted the research model used by [11]. This model uses eight variables, 27 indicators, and eight hypothesis (Fig.1).

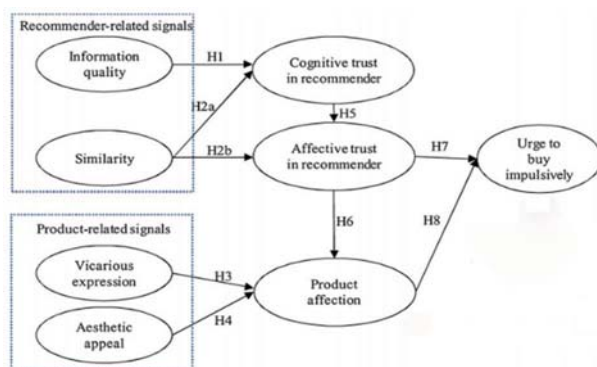


Fig. 1. Conceptual Framework Proposed by [11]

Information quality refers to up-to-date, accurate, relevant and original information provided by information providers in this context [25]. Then, cognitive trust arises from the accumulation of knowledge and based on performance-relevant attributes. When individuals provide high quality information can build cognitive trust to the listener or reader [26]. Based on the proposed hypothesis:

H1: Information quality has a positive influence on cognitive trust in recommender

Similarity arises from a shared attribute such as the characteristics of demography, background, experience and interest [27]. An individual tends to trust others who are similar to them [28]. Further, similarity among individuals influenced the development of trust. Based on the proposed hypothesis:

H2a: Similarity has a positive influence on cognitive trust in recommender

Similarity can affect a person's psychological distance [21]. [27] showed people who have a shared topic and similarities in interest with others can cause feelings of closer bond. Hence, similarity will lead to an increase in affective trust [29]. Based on the proposed hypothesis:

H2b: Similarity has a positive influence on affective trust in recommender

The use of stories has the ability to generate empathy for readers who incidentally create a vicarious expression [30]. With the increasing of high vicarious expression will make the recipient of information to imagine when using a product that has a positive emotional effect [31]. Based on the proposed hypothesis:

H3: Vicarious expression has a positive influence on product affection

Aesthetic appeal is defined as the delivery of product information through several visual elements and hedonic features [32]. Further, the delivery of this information forms a clear and attractive presentation that enhances the affective response to the product [33]. Based on the proposed hypothesis:

H4: Aesthetic appeal has a positive influence on product affection

Cognitive trust can be the foundation of affective trust because it based on interaction when partners look reliable [18]. Further, as cognitive trust increase of individuals who recommend a product will reduce uncertainty and encourage recipients of information to get emotional attachments which incidentally leads to affective trust. Based on the proposed hypothesis:

H5: Cognitive trust has a positive influence on affective trust

Signaling theory explains that the trust of a recommender can have a considerable influence on consumer behavior [34]. When individuals read a recommendation from an recommender, which is an official account, making the recommendation is an act of virtue and seeing the recommended product is important and relevant. In the end it will form a positive affective response to the product recommendations [35]. Based on the proposed hypothesis:

H6: Affective trust in recommender has a positive influence on product affection

Affective trust includes subjective affective such as interpersonal concern and caring. That form of positive emotions that can create emotional bonds. So that, affective trust of a recommender can stimulate consumers'

willingness to buy impulsively. Based on the proposed hypothesis:

H7: Affective trust in recommender has a positive influence on impulsive buying

[19] proposed positive emotional states of consumers can lead to a faster and more efficient purchasing decision process, which incidentally leads to impulse buying. This is supported by when consumers experience a positive emotional response to a product, they will tend to buy the product impulsively. Based on the proposed hypothesis:

H8: Product affection has positive influence on impulsive buying

III. RESEARCH METHODOLOGY

The conceptual framework of this research was taken from previous study [11] about WeChat platform in China, specifically on impulse driven categories such as apparel and personal care. 338 respondents answered the items of the question that was measured using a 7-points Likert scale. Table I shows the construct items that were used in questionnaire.

Kaiser-Mayer-Olkin (KMO), Bartlett's Test of Sphericity and factor loading component matrix was used to test the validity of the variables with acceptable criteria for values that can be declared valid if KMO > 0.5; Bartlett's Test of Sphericity < 0.05; and factor loading of component matrix > 0.5. Reliability tests were also accepted if the value of Cronbach's Alpha criteria 0.6. The pre-test data of 510 respondents was processed using IBM SPSS Statistics 22 software.

Respondent's criteria of this research are respondents who have been watching 'GadgetIn' Youtube account in past 1 years, and domiciled in Indonesia. In the main test, 338 respondents' data were collected and processed using LISREL 8.80. Structural Equation Modeling (SEM) method was used to process the main data collected.

Online questionnaire shared to respondents using construct items as questions on the Table 1. below. Each items using constructs proposed by [25], [27], [30], [32], [23], [22], [19], [20] and [23] respectively.

TABLE. 1. CONSTRUCT ITEMS OF MAIN TEST QUESTIONNAIRE & THE REFERENCES

Construct Items
Information Quality [25] <ol style="list-style-type: none"> 1. The information provided by this channel is accurate 2. The information provided by this channel is relevant to my needs 3. The information provided by this channel follows or matches the trend 4. The information provided by this channel is original and honest
Similarity[27] <ol style="list-style-type: none"> 1. This YouTube channel review products and recommendations are similar to my needs 2. Values brought by this Youtube channel according to my taste 3. The experience of this Youtube channel in providing reviews and recommendations of this Youtube channel is often similar to my experience
Vicarious Expression [30] <ol style="list-style-type: none"> 1. By looking at the contents of this Youtube channel, I can feel what is conveyed by this channel about its experience in reviewing and

Construct Items
<ol style="list-style-type: none"> recommending products. 2. By looking at the contents of this Youtube channel, I can imagine what is conveyed by this channel about its experience in reviewing and recommending products 3. By looking at the contents of this Youtube channel, I can understand what is conveyed by this channel about its experience in reviewing and recommending products
Aesthetic Appeal [32] <ol style="list-style-type: none"> 1. The content of recommendations and product reviews have an attractive aesthetic graphics 2. The content of recommendations and product reviews are visually pleasing 3. The content of recommendations and product reviews are visually appealing 4. The content of recommendations and product reviews in this channel are good to look at visually
Affective Trust [23] <ol style="list-style-type: none"> 1. I enjoy watching the video content of recommendations and product reviews on this channel 2. I feel comfortable watching the video of content recommendations and product reviews on this channel 3. I feel that the recommendations and product review content on this channel are honest
Cognitive Trust [22] <ol style="list-style-type: none"> 1. I feel this Youtube channel is reliable 2. I feel this channel is very knowledgeable about gadget topics 3. In general, I feel confident about figure in this Youtube channel
Product Affection [19,20] <ol style="list-style-type: none"> 1. I feel enthusiastic about the recommended products in this channel's content 2. I feel inspired by the recommended products in this channel's content 3. I feel happy for the recommended products in this channel's content 4. I feel interested in the recommended products in this channel's content
Impulsive Buying [23] <ol style="list-style-type: none"> 1. After enjoying the content on this channel, I feel compelled to urge to buy certain products 2. After enjoying the content on this channel, I feel like buying a certain product 3. After enjoying the content on this channel, I feel inclined to buy certain products

IV. RESULT & DISCUSSION

A. Measurement Model

This research used Confirmatory Factor Analysis (CFA) as testing the validity and reliability of the construct of the measurement model. Indicators used by researchers to evaluate validity is standardized loading factor (SLF), and reliability using composite reliability (CR). The output of the SLF has to be reached ≥ 0.4 , and CR has to be reached ≥ 0.6 . From each of the indicators in this research, every SLF and CR have been reaching ≥ 0.4 and ≥ 0.6 shown as in Table II, so the construct can be declared as valid and reliable.

TABLE. II. VALIDITY & RELIABILITY OUTPUT OF MEASUREMENT MODEL

Variable	Item	SLF	CR
Information Quality	IQ1	0.78	0.75
	IQ2	0.64	
	IQ3	0.59	
	IQ4	0.64	
Similarity	SI1	0.68	0.75
	SI2	0.75	
	SI3	0.69	
Vicarious Expression	VE1	0.79	0.82
	VE2	0.81	
	VE3	0.75	
Aesthetic Appeal	AA1	0.84	0.92
	AA2	0.91	
	AA3	0.93	
	AA4	0.91	
Affective Trust	AT1	0.89	0.86
	AT2	0.91	
	AT3	0.65	
Cognitive Trust	CT1	0.79	0.83
	CT2	0.76	
	CT3	0.82	
Product Affection	PA1	0.85	0.89
	PA2	0.87	
	PA3	0.73	
	PA4	0.85	
Impulsive Buying	UB1	0.93	0.94
	UB2	0.96	
	UB3	0.9	

B. Structural Model

Fig. 2 shows the paths and t-values that result from the relationship of each variable calculated using LISREL. Positive relationships are said to occur if t-values are ≥ 1.96 and negative relationships are stated to occur if t-values are ≤ -1.96 and stated in red. The goodness of fit structural model output from the 338 data collected were summarized in Table III, indicated the level of compatibility that can be concluded as acceptable because of the compatibility of the overall model.

C. Discussion

The output of the processed data from the proposed model shows different results from the previous research as showing in Table IV because different focus of industry and targeted respondent's characteristics.

1) Information Quality on Youtube

The results of the hypothesis test showed that Information Quality of content of recommender in Youtube have positive effect on audience's cognitive trust. According to [26] when Youtube channels provide high quality information to their viewers, they also build cognitive trust. Specially when they have a big numbers of subscribers can arise the cognitive trust among its audience based on performance-relevant attributes [25].

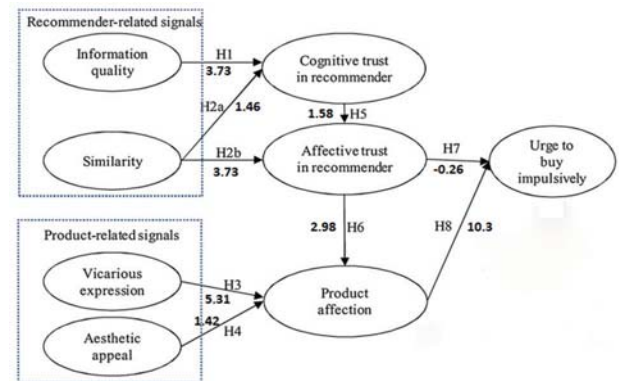


Fig. 2. Conceptual Framework & T- Value Structural Model

TABLE. III. GOODNESS OF FIT OUTPUT OF STRUCTURAL MODE

Goodness of Fit	Value	Level
Absolute Fit Measure		
GFI	0.84	Moderate Fit
SRMR	0.065	Good Fit
RMSEA	0.072	Good Fit
AGFI	0.80	Moderate Fit
Incremental Fit Measures		
NFI	0.96	Good Fit
NNFI	0.97	Good Fit
CFI	0.97	Good Fit
Parsimonious Fit Measures		
PGFI	0.69	Poor Fit

People more believe on Youtube channel with its capability on sharing the high quality information than the mediocre one. The researcher suspects that because when they have so many subscribers (in millions) probably they are the trusted and reliable to the subscriber or the audiences on their topic category. People tend to look information in Youtube based on the popularity of the channel itself.

2) Similarity and Consumer Trust

The results of the hypothesis test showed that Similarity have different result on trust. Based on that, the Similarity affects the Affective Trust but not the Cognitive Trust.

When individuals seek information in Youtube and the found content which the creator or the recommender has same problems, issues, or situations, it can create the affective trust because they feel the same way. Becoming the different situation of its result on Cognitive Trust because when audience know the Youtube channel is similar with them, but they know the details of the problems they faced is different, the researcher suspect it is the reason.

3) *Vicarious Expression and Product Affection*

The content creator of product recommendation content can affect the Product Affection by using good stories and narrative. It generates vivid experience about the product recommendation and empathy for viewers, also let them to imagine when they using the product that has a positive emotional affection [30].

Especially when the recommender acts on viewers point of view or acts in similar situation that their viewers feel and face. Example to elaborate this situation when individuals seek information in Youtube before purchasing a specific product, the recommender recommend and review the product as they became the consumer of the product itself it can be more effective than they became the brand ambassador or paid promote content.

4) *Aesthetic Appeal and and Product Affection*

When the recommender or the content creator on Youtube create a video, which is an media that has interesting visual elements on its content, they can create clear and attractive presentation of the information to their viewers. According to [33] it will enhances the affective response to the recommended product itself.

A channel of Youtube that already has big numbers of subscribers usually maintain the originality, uniqueness, and quality of the video to maintain its subscriber or viewers to watch again and again on its channel. The researcher suspect this hypothesis is rejected because the quality of the visual on the content can not afford the audience to interest or buy the recommended product, but they just being attracted to its channel content not always the product that being recommended or discussed..

5) *Cognitive Trust and Affective Trust*

According to [18] the Cognitive Trust of recommender who recommend the product to viewers will reduce uncertainty and encourage them to get emotional attachment which is lead to affective trust. This happens because Affective Trust is higher level of trust, which is based on Cognitive Trust.

TABLE IV. STRUCTURAL MODEL OUTPUT

H	Path	SLF	T-Value	Conclusion
1	Information Quality →Cognitive Trust	0.65	3.73	Significant Positive. Hypothesis is accepted
2a	Similarity→Cognitive Trust	0.25	1.46	Not Significant. Hypothesis is rejected
2b	Similarity→Affective Trust	0.65	3.73	Significant Positive. Hypothesis is accepted

H	Path	SLF	T-Value	Conclusion
3	Vicarious Expression→Product Affection	0.44	5.31	Significant Positive. Hypothesis is accepted
4	Aesthetic Appeal→Product Affection	0.08	1.42	Not Significant. Hypothesis is rejected
5	Cognitive Trust→Affective Trust	0.17	1.58	Not Significant. Hypothesis is rejected
6	Affective Trust→Product Affection	0.25	2.98	Significant Positive. Hypothesis is accepted
7	Affective Trust→ Impulsive Buying	-0.02	-0.26	Not Significant. Hypothesis is rejected
8	Product Affection→ Impulsive Buying	0.71	10.30	Significant Positive. Hypothesis is accepted

The hypothesis is rejected on this research because the interaction between viewers or audiences with the content creator or the recommender not so deep so they can not gain the higher level of trust or the interaction just limited as the content creator and the Youtube viewers, not more.

6) *Affective Trust and Product Affection*

According to [35] recommender in Youtube can influence viewers on their consuming behavior and create positive affective response on the product recommendation itself. When viewers trust on the recommender, they tend to believe about the recommended product.

Based on that the hypothesis is accepted. Specially when the recommender is popular channel in Youtube, which makes the recommendation content become more effective. Viewers tend to more trust to popular Youtube channel than the not so popular channel because they have more reliability.

7) *Affective Trust and Impulsive Buying*

When the recommender gaining trust by its viewers, they create form of positive emotions that leads to emotional bonds. But the hypothesis is rejected because it not always to stimulate the viewers on willingness to buy impulsively. Trust on Youtube channel that recommend a specific product does not meaning they always willing to buy it impulsively. The research suspect this because it depends on the product categories of the recommended product. Especially for this study, a smartphone product category is category of product that need many considerations on many factors.

8) *Product Affection and Impulsive Buying*

According to [19] positive emotional states of viewers can affect them to gain more efficient and faster purchasing decision or they tend to buy impulsively. This positive emotional states is related to emotional positive response to a product. When individuals have a good feeling or interest on a similar product they can easily to buy the product impulsively. Unlike the previous hypothesis about Trust in Recommender, emotional states on product is a

way more efficient to influence viewers than on its recommender itself.

V. CONCLUSIONS

People today using Youtube not just for entertainment, but also for information, on this study context is about information before purchasing on specific products. One of the most popular video category in Youtube relevant with this needs is product recommendation that usually in a form of product review content. Content creator who make this kind of content can influence their viewers or the consumers of the brand itself about behaviour on purchasing products. Especially when they positioned themselves as user or consumer of the product not just the brand ambassador kind or paid promote content. The popular term on this marketing approach is soft selling content when the brand create collaboration with Youtube channel influencer on its product recommendation video to promote indirectly by sharing their experience about the products. For many circumstances, especially when the product is just released on market, or when the viewers never try the product the content creator can be the first person that share the product review and recommend it to them.

Further research can further analyze more deeply based on different product category for different consumer buying behaviour.

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