Journal of
Information Systems Engineering
and Business Intelligence

Vol.10, No.3, October 2024
Available online at: http://e-journal.unair.ac.id/index.php/JISEBI

# Changes in Customer Behavior Towards Video Advertising Post-Pandemic

**Surjandy [1)*], Cadelina Cassandra [2)]**

[1)2)] *School of Information Systems, Information Systems Department, Bina Nusantara University, Jakarta, Indonesia*
[1)] surjandy@binus.ac.id, [2)] ccassandra@binus.edu

***Abstract***

**Background:** Video Advertising (VI) is a powerful media tool used by several companies as a marketing strategy. During COVID-19 pandemic, there was a wide adoption of digital media, particularly VI, to promote company products. However, some changes occurred post-pandemic, which influenced customer behavior.
**Objective:** This research aimed to explore changes in customer behavior towards VI post-pandemic. The exploration focused on understanding changes in four major factors which included Sensory Appeal (SEN), Informativeness (INF), Entertainment (ENT), and Telepresence (PRE).
**Methods:** Data were collected using snowball sampling method, resulting in 744 responses. After deleting outliers and non-shopping customer, there were 584 analyzable data. Covariance-Based Structural Equation Model (CB SEM) method facilitated by Lisrel Application was used for data analysis.
**Results:** The result showed that significant changes have occurred in customer behavior to VI post-pandemic. Among the 13 tested hypotheses, 11 showed significant influences, while 2 did not, indicating shifts in customer behavior.
**Conclusion:** COVID-19 pandemic led to significant changes and imparted customer with a new understanding of VI, which became a major marketing tool. These changes were due to experiences during the pandemic, which affected SEN (72%), INF (77%), ENT (76%), and PRE (70%). Further analysis showed that ENT affected Customer Trust (CT) and Actual Purchase (APU) by 20% and 27%, while PRE caused 34% and 20% respectively, indicating a decrease in customer response from VI to CT and APU. Based on these results, further exploration should build on the identified factors and investigate additional variables that had not been considered.

***Keywords:*** Post-Pandemic, COVID-19, Customer Behavior, Video Advertising

***Article history:*** Received 10 June 2024, first decision 2 August 2024, accepted 19 September 2024, available online 28 October 2024

## I. INTRODUCTION

Advertising is a major strategy for companies that allows the introduction of products to customer and potential interested parties. Recently, digital media has become a marketing tool widely used in various industries, including social media and e-commerce, comprising online advertising, short, and streaming videos [1]. In this context, Video Advertising (VI) is expected to grow significantly, with an estimated spending budget of $704.10 million in 2023, increasing to $648.10 million on mobile platforms by 2027. The cost of mobile VI per user is also expected to rise from $1.7 in 2021 to $1.84 and $2.01 in 2022 and 2023 respectively [2]. However, there has been a significant decline in digital advertising expenses, which appears inconsistent with current trends and proposes a shift in customer behavior. For example, customer engagement dropped from 59.3% in 2020 during the initial stages of COVID-19, to 39.9% in 2021, and further to 13.6% in 2022 as the world transitioned into post-pandemic era. During the pandemic crisis in 2020, there was a significant rise in internet usage, with APJII (Association of Indonesian Internet Service Providers) reporting an impressive increase of 78.19%, equivalent to 215.626.156 users in 2023 [3]. COVID-19 pandemic which officially started in Indonesia on March 2, 2020, and ended on June 21, 2023, led to many restrictions on social activities including activities for shopping. Consequently, online VI became a crucial marketing tool used by the industry, persuading customer to shop online, including those who had not shopped before pandemic. These changes in customer behavior are expected to have lasting influences post-pandemic, which forms the basis of research.

In the context of this research, a question arises concerning how online VI influences Customer Trust (CT) and actual purchase (APU) behavior during the transition to the new normal era (post-pandemic) based on the Online

* Corresponding author

ISSN 2443-2555 (online) 2598-6333 (print) 
doi: http://dx.doi.org/10.20473/jisebi.10.3.368-377

Customer Experience (OCE) model [2], [4]. Relating to the question, several explorations showed the significance of high-quality web-based advertising as a major factor contributing to increased sales with a focus on the behavior of the advertisers and the use of the optimal strategy model [5]. Other research conducted before pandemic showed that along with customer experience and perceived values, digital video promotion positively influences satisfaction, loyalty, and repurchase intention [6]. Features such as content creation advertising, and clarity played a role in influencing product sales [7]. As a persuasive system, online VI also shapes APU behavior and attitudes [8]. An analysis using Strength Weaknesses Opportunity Threat (SWOT) framework [9], proposed that short VI is a valuable tool for marketing education and learning, [10], engaging users with interesting content, providing a scene-based experience, and opportunities for participation. Advertising is widely used for entertainment purposes [11], and the quality of services is critical in effectively delivering marketing information [12]. Following this discussion, variables such as social interaction, informativeness, perceived usefulness, ease of use, playfulness, and CT have all been investigated [13]. Some explorations have discussed the negative influences of digital advertising on customer decision-making [14], [15]. However, the specific effect on customer experience models, CT, and APU factors remains largely unexplored.

Relating to the previous discussion, this research aimed to examine the influence of VI on CT and APU using the OCE model [16], [17]. The model uses factors such as Sensory Appeal (SEN), Informativeness (INF), Entertainment (ENT), and Telepresence (PRE) to explore changes in customer shopping behavior post-pandemic. As opposed to previous investigations conducted before and during pandemic [6], [7], [8], [9], [11], [12], this research used data collected during the transition to post-pandemic era. The result is based on the Self-Determination Theory (SDT), explaining the motivation of individuals in adapting to external circumstances that require change, such as COVID-19 pandemic and the aftermath [18], [19]. Pandemic forced customer to adapt and modify self-behavior, including how users interact with VI. This is due to the circumstances that prevent engagement in physical or face-to-face interactions. Post-pandemic environment includes additional modifications following pandemic, by which in-person interactions have commenced. Therefore, this research aimed to investigate post-pandemic shifts in customer behavior towards VI and provide an understanding of the original causes.

Quantitative analysis was conducted using Covariance-Based Structural Equation Model (CB SEM) method with data processing through Lisrel [20], [21]. Among the 774 respondents, 15 data sources were removed due to being outliers, while 175 (18.15%) did not make purchases after viewing online VI. This action left 584 respondents for the final analysis, including 147 males (25.17%) and 437 females (78.83%). The research showed that customer behavior significantly changed post-pandemic, influencing both CT and APU decisions. VI strongly influenced the OCE model, and the effect on APU was minimal, showing a shift in customer behavior. A major result was that the reduced budget for VI may be due to minimal influence on CT and APU, contributing to a perceived lack of effect on sales in the sector. Generally, a shift was identified in customer attitudes towards online VI as well as the influence on CT and product purchases post-pandemic. These results have significant implications for the advancement of digital advertising industry and the development of theoretical models. A shift was observed in the behavior of customer who buy products after watching VI post-pandemic.

This research typically follows a standard structure, starting with an abstract that reviews the main points of the exploration. The next section is the introduction, which provides the background information, reviews the problems, explains the importance of research, describes the methods used, and gives a brief overview of the results. The subsequent section covers a literature review that explores relevant theories, followed by a methodology explaining the methods used. The results and discussion section shows data analysis outcomes and includes a comparison with previous explorations. Finally, the conclusion reviews the important words, followed by a list of references used in research.

## II. Literature Review

The section provides explanations of some of the major terms and definitions used.

### *A. Video Advertising*

Digital marketing through VI has revolutionized the scope of businesses in promoting products and services in the modern era. In a highly competitive market, companies are compelled to adopt digital marketing strategies to be outstanding among competitors and achieve good objectives. Through digital platforms such as Facebook, YouTube, TikTok, and Instagram, customer has easy access to information about desired products and services at any moment. Digital marketing is not only about using new technologies but also effective application to achieve set objectives. The strategy specifically includes using the technologies in online or internet-based marketing efforts [22], [23]. The use of video as an advertising tool is widely acknowledged for the effectiveness in influencing APU behavior. Relating to the discussion, VI is incorporated into digital marketing strategies to engage both current and prospective customer

[5], [7], [24]. This research introduces a theoretical framework to explain how short VI affects purchasing behavior, with a specific focus on interactivity and vividness. The exploration also signifies the importance of video content creators, including influencers, sellers, and customer, in shaping the effectiveness of VI [7].

### *B. Influence of Self-determination Theory (SDT) During and Post-pandemic Concerning Video Advertising*

SDT has a significant influence on VI during and after COVID-19 pandemic. This theory is a psychological framework that explains how individuals are motivated to change in response to the environment [18], [19]. SDT supports the changes caused by government regulations during pandemic, which forced people to adjust behavior. For example, watching VI about products that were previously rare became a common activity during pandemic. Similarly, online shopping became more widespread due to the changes, explained by the OCE model. According to SDT, these behaviors might reoccur as pandemic subsides. Habits formed due to government regulations may also shift more in post-pandemic era including changes in shopping habits and how customer interact with VI.

Customer behavior towards VI changed during pandemic when direct interaction was limited. Initially, customer was exposed to VI, but as pandemic ended and face-to-face interactions became more common, further changes occurred. Despite the minimal research on the influences of the changes, the phenomenon of VI remains significant. SDT is relevant in the situation because it supports post-pandemic shift from pre-pandemic to during pandemic when physical meetings were restricted by government regulations. Following this discussion, the transition was evident during the data collection phase.

### *C. Online Customer Experience (OCE) Model*

OCE model is commonly used to examine the influence of online environments, such as VI and websites, on customer behavior. This model identifies four major factors that shape the perception of customer which include SEN, INF, ENT, and PRE. According to previous research [25], [26], [27], these factors play a crucial role in building CT, which positively influences decision-making processes and the probability of APU products online. OCE refers to a psychological state reflecting the subjective reactions of individuals to web-based advertising [25], [26], [27]. Moreover, there is a strong relationship between VI and the OCE model, as internet-based advertising has significantly influenced the APU experience of customer [16], [17].

### *D. Stimulus-Organism-Response (SOR) Framework*

SOR framework, derived from psychology theory, serves as the foundation for model development by showing how individuals respond to environmental stimuli [12], [28], [29]. In this model, the environment acts as a stimulus (S) comprising signals that trigger an internal evaluation in a person (O), eventually leading to a response (R). According to this framework, customer emotions play a crucial role in shaping the response to the presented environmental stimulus, which is represented by online VI. This advertising influences factors in the OCE model, including SEN, INF, ENT, and PRE, leading to responses such as CT and APU [27], [29]. In this research, VI is considered the stimulus, while the organism aspect corresponds to OCE which are SEN, INF, ENT, and APU factors. The response is customer behavior, specifically in terms of CT and APU decisions.

## III. METHODS

### *A. Research Methodology*

This research started by identifying a phenomenon or problem, followed by reviewing existing literature. The review assisted in recognizing gaps that needed to be addressed. In line with these gaps, particularly those related to factors such as VI, SEN, INF, ENT, and PRE, a new model and indicators were developed. Data were collected and analyzed using SmartPls application to evaluate the validity of the indicators, factors, as well as reliability. In addition, quantitative methodology was used to carry out factor analysis by applying CB SEM [30].

Figure 1 shows that the research started with the definition stage, where a literature review was conducted to identify the gaps in previous investigations such as variables and relationships. In the second stage, a model was developed, followed by hypothesis development. The third stage included creating indicators in the form of questionnaires and collecting data from respondents. In the fourth stage, the validity and reliability of the model were examined. When the model proved to be fit, the last step was to interpret the results of the analysis [31].

This research is important and useful for the industry as well as the development of theories specifically about VI and customer behavior post-pandemic. The results show the changes that occur in customer behaviour towards VI offering insights into the implementation strategy.

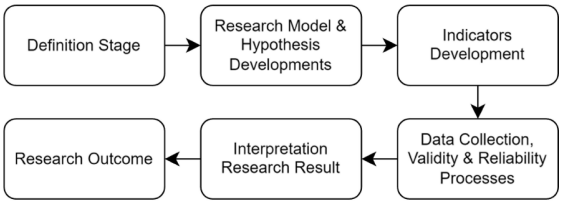


Fig. 1 Research Methodology

### *B. Survey Methodology*

Data were collected using the snowball sampling method due to the convenience of reaching respondents from various cities. In addition, Google Form with a 6-point Likert scale was used for the questionnaire [32], [33]. All respondents provided informed consent through the form after being fully informed about the purpose and key aspects of this research.

### *C. Research Model Development Methodology*

Research model was constructed based on a comprehensive review of existing literature. Gaps were identified in previous works indicating the need for a better understanding of how different factors were connected. Consequently, a new model was developed and applied. Data were collected from customer who made purchases after watching VI during post-pandemic period, aiming to detect any shifts in behavior. In this context, the quantitative method was used with SEM assisted by Lisrel application.

### *D. Research Model and Hypothesis Development*

Research model was constructed based on a comprehensive literature review, focusing on OCE model to meet the objectives. SOR method was used to guide the formation of the model and in the context of this research, the stimulus was denoted as VI, organism represented the OCE model, while customer response corresponded to CT and APU behavior as shown in Fig. 2.

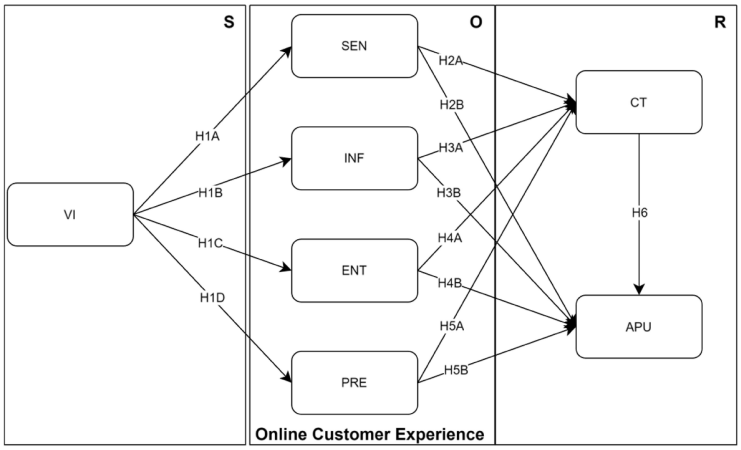


Fig. 2 Research Model Development

After constructing the model, the subsequent stage included hypothesis development which established the direct relationships between VI and all factors. SEN factor was related to "the level of richness in representing a mediated environment," and stimulating the senses. The online VI environment had limitations in providing a wide range of sensory experiences, the use of imagery could evoke sensations. SEN played a crucial role in shaping the perception of product performance as well as purchase intentions [25], hence, the following hypothesis was proposed:

$H_{1A}$ VI had a significant influence on SEN Factor.

Another major factor in the OCE model is INF, defined as the degree to which VI aids customer in making informed purchase decisions. This requires thoughtful and conscious cognitive processing often including problem-solving. In this research, INF captured the functional dimension and value of OCE, typically characterized by an impersonal, outcome-oriented, and objective nature [25], [26], [27]. Therefore, the following hypothesis was proposed:

$H_{1B}$ VI had a significant influence on INF Factor.

ENT was another crucial factor in OCE, irrespective of the direct contribution to a specific shopping task. The factor represented the satisfaction obtained from the advertising experience, including the fun associated with online shopping, which was beyond the mere act of making a purchase but a sense of fulfillment [30]. Consequently, the following hypothesis was proposed concerning ENT as an important factor in OCE.

$H_{1C}$ VI significantly affected ENT Factor.

PRE refers to the degree of sociability and human connection facilitated by online VI. Previous research showed that PRE improved perceived tangibility and promoted a sense of psychological closeness to a product. This factor also had the potential to heighten pleasure and arousal during online shopping, thereby influencing purchase intent and improving customer loyalty [25], [26], [27]. Therefore, social presence as a major factor induced the hypothesis:

$H_{1C}$ VI significantly influenced PRE Factor

OCE model is frequently used to explore the influence of internet environments, including online VI and websites. This model contains four major factors that shape the experience of existing and potential customer, namely SEN, INF, ENT, and PRE. Previous research stated that these factors improved CT in products and influenced the purchase decisions of customer in the internet environment [25], [26], [27]. Therefore, the following hypotheses were proposed:

$H_{2A}$ SEN influenced CT.
$H_{2B}$ SEN influenced APU Factor.
$H_{3A}$ INF influenced CT.
$H_{3B}$ INF influenced APU Factor.
$H_{4A}$ ENT influenced CT.
$H_{4B}$ ENT influenced APU Factor.
$H_{5A}$ PRE influenced CT.
$H_{5B}$ PRE influenced APU Factor.
$H_6$ CT influenced APU.

## IV. Results

Data were collected during the transitional period, indicating the continuous influence of pandemic and government regulations, such as social distancing. However, social activities were permitted providing that the people followed health protocols. The timeline of COVID-19 pandemic started with Indonesian presidential decree issued on March 2, 2020, [34] and concluded with the decree marking the final stage on June 21, 2023, [35]. In this research, respondents were users who made purchases after viewing advertising on social and e-commerce. The snowball sampling method was used for data collection [32], ensuring a diverse respondent pool from various cities.

Figure 3 shows the survey data, which included responses from a total of 774 respondents. However, 15 data were excluded due to being outliers, and 175 respondents did not purchase after viewing VI, leading to exclusion from the analysis. This exclusion was necessary because the research focused on respondents who made purchases immediately after watching VI. These adjustments produced the final dataset consisting of 584 respondents which included 147 males (25%) and 437 females (75%) [33]. Respondents who did not purchase the product after viewing VI provided various reasons. Among the causes included 81 respondents who had no intention to purchase, 35 found the product unattractive, 22 considered the price too high, 20 felt the product did not meet personal expectations, and 17 found the explanation of the presenter uninteresting.

Respondents were distributed across different locations, with 88 each from Jakarta and various cities in Sumatra. These cities included places in Sumatra (Aceh, Riau, Lampung, Jambi, Bangka, Belitung), 158 from West Java (Bekasi, Bogor, Banten, Bandung, Tangerang, Serang), 103 from Central Java (Semarang, Yogyakarta, Wonosobo), 95 from East Java (Surabaya and Malang), as well as 52 from Sulawesi and Kalimantan. The validity calculation of the indicators and factors was assessed using Lisrel application.

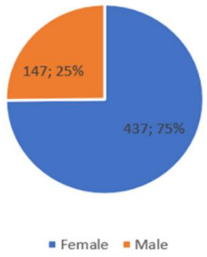


Fig. 3 Response based on Gender

Table 1 shows the calculation results, implying that all indicators and factors used were considered valid. This validity was evident from Average Variance Extracted (AVE) value, which exceeded the threshold of 0.50. The reliability of the factors was observed through the value Cronbach Alpha, which surpassed 0.70. Therefore, it was concluded that all the factors used were both valid and reliable [36], [37], [38]. Figure 4 shows an overview of the results following the completion of the calculations. Figure 4 shows the results from the analysis conducted using Lisrel application. Following these results, detailed results are shown in Table 2.

TABLE 1
VALIDITY AND RELIABILITY OF FACTORS

| Variable | Indicators | Standardized Loading Factors (SLF) | e | Construct Reliability (CR) | AVE | Status |
|---|---|---|---|---|---|---|
| VI | VI1 (Video Ads provide a detailed product overview) | 0.57 | 0.26 | 0.800 | 0.572 | Reliable |
| | VI2 (Video Ads make product attributes visible) | 0.51 | 0.19 | | | |
| | VI3 (Video Ads informing how to use the product) | 0.52 | 0.19 | | | |
| SEN | SEN1 (Video Ads increase product appeal) | 0.74 | 0.42 | 0.839 | 0.637 | Reliable |
| | SEN2 (Video Ads increase seller appeal) | 0.90 | 0.23 | | | |
| | SEN3 (Video Ads increase attraction to buy a product) | 0.77 | 0.46 | | | |
| INF | INF1 (Video Ads provide product information) | 0.76 | 0.46 | 0.829 | 0.618 | Reliable |
| | INF2 (Video Ads provide product feature information) | 0.81 | 0.31 | | | |
| | INF3 (Video Ads provide detailed product information) | 0.86 | 0.45 | | | |
| ENT | ENT1 (Video Ads as entertainment) | 0.91 | 0.40 | 0.875 | 0.700 | Reliable |
| | ENT2 (Video Ads as entertainment when explaining products) | 0.91 | 0.34 | | | |
| | ENT3 (Video Ads where the seller explains the product, as entertainment) | 0.91 | 0.32 | | | |
| PRE | PRE1 (Video Ads feel real) | 0.86 | 0.30 | 0.790 | 0.653 | Reliable |
| | PRE2 (Video Ads make your presence felt) | 0.82 | 0.45 | | | |
| CT | CT1 (Video Ads increase trust in a product) | 0.83 | 0.54 | 0.837 | 0.631 | Reliable |
| | CT2 (Video Ads increase trust in a seller) | 0.94 | 0.49 | | | |
| | CT3 (Video Ads increase trust in a store) | 0.87 | 0.33 | | | |
| APU | APU1 (I bought the product after seeing the Video Ads) | 0.98 | 0.68 | 0.847 | 0.650 | Reliable |
| | APU2 (I watch Video Ads before I buy a product) | 0.96 | 0.37 | | | |
| | APU3 (I bought a product after seeing the product features on Video Ads) | 0.85 | 0.35 | | | |

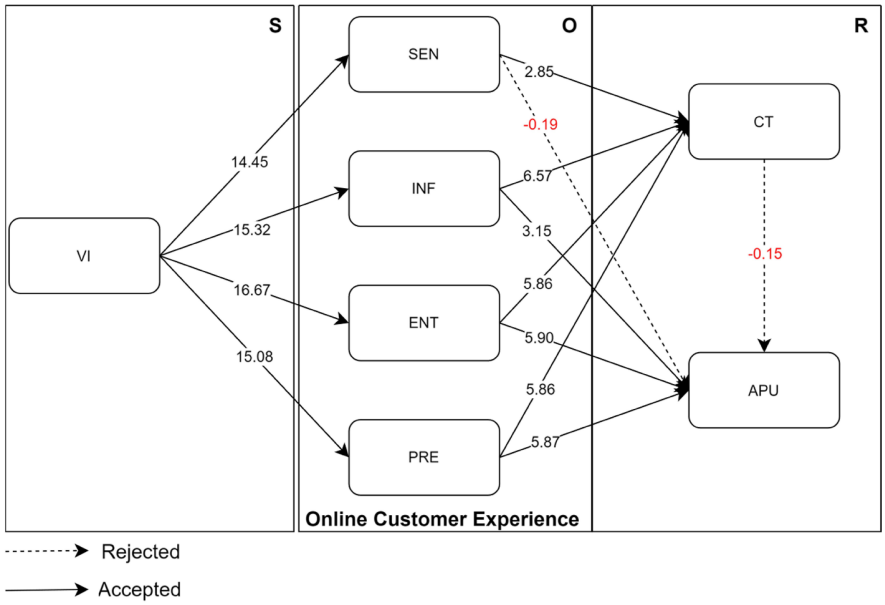


Fig. 4 Calculation Result of Model

TABLE 2
CALCULATION RESULT

| Hypothesis | Description | | | | t-value | Result |
|---|---|---|---|---|---|---|
| $H_{1A}$ | vi | → | sen | 0.72 | 14.45 | Significant |
| $H_{1B}$ | vi | → | inf | 0.77 | 15.32 | Significant |
| $H_{1C}$ | vi | → | ent | 0.76 | 16.67 | Significant |
| $H_{1D}$ | vi | → | pre | 0.70 | 15.08 | Significant |
| $H_{2A}$ | sen | → | ct | 0.13 | 2.85 | Significant |
| $H_{2B}$ | sen | → | apu | -0.01 | -0.19 | Not Significant |
| $H_{3A}$ | inf | → | ct | 0.70 | 6.57 | Significant |
| $H_{3B}$ | inf | → | apu | 0.20 | 3.15 | Significant |
| $H_{4A}$ | ent | → | ct | 0.27 | 5.86 | Significant |
| $H_{4B}$ | ent | → | apu | 0.34 | 5.90 | Significant |
| $H_{5A}$ | pre | → | ct | 0.20 | 5.86 | Significant |
| $H_{5B}$ | pre | → | apu | 0.37 | 5.87 | Significant |
| $H_6$ | ct | → | apu | -0.01 | -0.15 | Not Significant |

Online VI had a significant effect of 72% on SEN, 77% on INF, 76% on ENT, and 70% on PRE. SEN had an important influence of 13% on CT but did not affect APU. INF significantly influenced 70% of CT as well as 20% of APU. ENT had a significant effect of 27% on CT and 34% on APU, while PRE had a substantial influence of 20% on CT as well as 37% on APU. However, in this research, CT did not influence APU. Table 3 shows detailed calculations of the model fit, another outcome of CB SEM.

TABLE 3
MODEL FIT CALCULATION RESULTS

| Description | | Cut off value | Result | Description |
|---|---|---|---|---|
| Absolut | RMSEA | < 0.05 | 0.042 | Good |
| | RMR | < 0.05 | 0.025 | Good |
| Incremental | AGFI | 0.9 ≥ | 0.93 | Good |
| | NNFI | 0.9 ≥ | 0.99 | Good |
| | NFI | 0.9 ≥ | 0.99 | Good |
| | RFI | 0.9 ≥ | 0.98 | Good |
| | IFI | 0.9 ≥ | 0.99 | Good |
| | CFI | 0.9 ≥ | 0.99 | Good |
| Parsimony | PNFI | 0.6-0.9 | 0.67 | Good |
| | PGFI | 0.6-0.9 | 0.59 | Fair |
| | GFI | min 0.9 | 0.96 | Good |

Based on the calculation, the model fit obtained was considered favorable. In the context of SEM method, an important element is the measurement of model fit [39]. The measurement results showed that Absolute Fit Indices, explaining how well the model fit the data, were satisfactory. The major indicators used for this assessment were RMSEA (Root Mean Square Error Approximation) and RMR (Root Mean Residual), both of which met the required cut-off value. In addition, other indicators describing Incremental Fit Indices such as AGFI (Adjusted Goodness-of-Fit Index), NNFI (Non-Normed Fit Index), NFI (Normed Fit Index), RFI (Relative Fit Index), IFI (Incremental Fit Index), CFI (Comparative Fit Index), also met the required cut off value. For Parsimony Fit Indices which included PNFI (Parsimonious Normed Fit Index), PGFI (Parsimony Goodness-of-Fit Index), and GFI (Goodness of Fit Index), the measurement showed that PNFI and GFI values were satisfactory, while PGFI value was considered quite good [39].

## V. DISCUSSION

Previous research showed that VI affected various aspects of the OCE model, including SEN, INF, ENT, and PRE factors [6]. Similarly, this research found that VI significantly influenced all aspects of the OCE model. There was a deviation from previous research, as the results showed that CT had no significant influence on APU [6]. This position was highly plausible, considering that other explorations stated the prevalence of fraud in digital advertising [14], [15]. Therefore, it was concluded that the decision to purchase a product did not solely depend on CT in online VI. Other factors, such as the experience during COVID-19 pandemic and the specific products preferred by customer

also played a significant role in the decision-making process. Previous research stated that earlier shopping experiences influenced CT, as the absence of such encounters led to the lack of influence on APU factors [14]. This result was attributed to the high number of first-time users engaging in online shopping, specifically during pandemic.

SEN factor did not influence APU, which was attributed to the discrepancy between the described and the real products [33]. Research has shown the need for online VI content improvement, particularly in product explanations and visual representation, to minimize customer doubts and support the actual commodity. This improvement is important because customer is less influenced by sensory factors in purchasing decisions of customer due to the acquired experience and familiarity with the products to be purchased.

VI had a significant effect on the level of INF, with a staggering 77% influence as shown in Table 2. The results showed that CT in VI increased significantly, influencing the decision to purchase the product. Informative content greatly influenced CT, with a 70% effect but the influence of INF on APU was relatively small, at only 20%. VI also significantly affected ENT industry, with a 76% influence. There was a significant shift in customer behavior where the discomfort caused by advertising fraud as reported in previous research [14] had diminished. In relation to this discussion, CT in VI had risen considerably post-pandemic.

The influence of ENT on CT was relatively low reaching only 27%, while a modest effect of 34% was observed on APU. However, VI had a significant influence on 70% of the PRE factor, which had only a 20% effect on CT and a 37% influence on APU. These results showed that the increase in new users due to pandemic had reduced the influence of CT on APU concerning online VI [40]. VI significantly affected the OCE model, with an impressive average value of 73.75%. The model influence on CT was relatively low, at 32.5%, and even less effect on APU, at 22.75%. Customer appeared to have become more cautious about VI, possibly due to increased awareness of fake advertising and digital risks as reflected in the minimal effect on CT and APU. This research identified challenges with VI content, including failure to persuade customer, particularly those without previous purchase experience [6], and the descriptions that did not accurately represent the real products [41], hence, SEN factor did not influence APU.

This research showed important shifts in customer behavior and CT factors post-pandemic, which had directly affected APU decisions. VI significantly influenced 72% of SEN, but this factor did not affect purchase decisions. Previous research during pandemic showed that SEN affected purchases [42] but the results indicated a difference in customer behavior post-pandemic. Customer might have become more familiar with VI, leading to a shift in purchasing decisions where SEN was no longer a primary factor. In addition, SEN had only a minimal influence on CT, with a modest effect of 13%. This influence might be due to customer developing a better understanding of VI and becoming more aware of the positive and negative effects. Following COVID-19 pandemic, many users had experienced decreased CT in VI [43]. This research found that the reduction in budgets for VI was due to the minimal influence on CT and APU, affecting sales in the sector.

## VI. Conclusions

In conclusion, this research showed that online VI significantly influenced the transition period from COVID-19 pandemic to post-pandemic period. Specifically, the shifting of customer habits in purchasing online was influenced by VI during COVID-19 pandemic. Based on the results, SEN did not affect APU, potentially due to lingering doubts concerning the advertised products. CT had no direct influence on APU, which was attributed to limited prior OCE, particularly among new users who surfaced during COVID-19 period, as well as skepticism towards advertised products. Moreover, there was a shift in behavior relating to VI, propelled by customer becoming more aware of the potential risks associated with digital advertising. These results showed the need for the industry to improve the content of online VI, particularly by providing accurate product explanations to instill customer confidence. The information provided is very useful in the application of VI as well as the theoretical development of customer behavior.

Further research should build on the identified factors and explore additional variables not considered. This research theoretically examined the shifts in customer behavior towards VI before, during, and post-pandemic. During pandemic, VI became the primary method of communication due to the absence of face-to-face meetings. Therefore, there was a heightened awareness of the risks associated with VI. The results showed that customer would exercise greater caution towards VI post-pandemic, as evidenced by low levels of CT (20%) and APU (37%). A practical understanding of the current declining budgets for VI was provided. The industry should recognize this trend and adjust VI budgets accordingly.

**Author Contributions:** *Surjandy*: Conceptualization, Methodology, Writing - Original Draft, Writing - Review & Editing, Supervision. *Cadelina Cassandra* Writing, Review & Editing.

All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no specific grant from any funding agency.

**Conflicts of Interest:** The authors declare no conflict of interest.

**Data Availability:** The data that support the findings of this study are openly available in https://data.mendeley.com/datasets/y9vf6nh637/1 , reference number [33].

**Institutional Review Board Statement:** Not applicable.

**Informed Consent:** Informed Consent was obtained, and a detailed explanation was presented in the Methods section.

**Animal Subjects:** There were no animal subjects.

**ORCID**:
Surjandy: https://orcid.org/0000-0002-6375-5668
Cadelina Cassandra: https://orcid.org/0000-0002-2673-6142

## REFERENCES

[1] G. Dash and D. Chakraborty, "Digital transformation of marketing strategies during a pandemic: Evidence from an emerging economy during COVID-19," Sustainability, vol. 13, no. 12, p. 6735, Jun. 2021, doi: 10.3390/su13126735.
[2] Statista, "Video advertising - Indonesia | statista market forecast," statista.com. Accessed: May 31, 2023. [Online]. Available: https://www.statista.com/outlook/dmo/digital-advertising/video-advertising/indonesia
[3] APJII, "Survei APJII pengguna internet di Indonesia tembus 215 juta orang," apjii.or.id. Accessed: Jun. 01, 2023. [Online]. Available: https://apjii.or.id/berita/d/survei-apjii-pengguna-internet-di-indonesia-tembus-215-juta-orang
[4] IPSOS, "Uncovering the growth of short video in Indonesia," ipsos.com. Accessed: Jan. 17, 2024. [Online]. Available: https://www.ipsos.com/en-id/uncovering-growth-short-video-indonesia
[5] W. Li, M. Jiang, and W. Zhan, "Why advertise on short video platforms? Optimizing online advertising using advertisement quality," J. Theor. Appl. Electron. Commer. Res., vol. 17, no. 3, pp. 1057–1074, Jul. 2022, doi: 10.3390/jtaer17030054.
[6] B. Lin, Y. Chen, and L. Zhang, "Research on the factors influencing the re-purchase intention on short video platforms: A case of China," PLoS One, vol. 17, no. 3, p. e0265090, Mar. 2022, doi: 10.1371/journal.pone.0265090.
[7] J. Ge, Y. Sui, X. Zhou, and G. Li, "Effect of short video ads on sales through social media: The role of advertisement content generators," Int. J. Advert., vol. 40, no. 6, pp. 870–896, Aug. 2021, doi: 10.1080/02650487.2020.1848986.
[8] R. Wang, "Does short-form video application shape your life?: An empirical study of tiktok usage and persuasive behavior change in China," 2022.
[9] R. Zhou, "Analysis of short video marketing strategy and industry trend and suggestions to uploaders," 2021. doi: 10.2991/assehr.k.211209.315.
[10] Y. Zhang, M. Lucas, and L. Pedro, "A Decade of short videos for foreign language teaching and learning: A review," Educ. Sci., vol. 12, no. 11, p. 786, Nov. 2022, doi: 10.3390/educsci12110786.
[11] G. Zhaoying, "The influence of short video platform on audience use and reflections—take TikTok as an example," Acad. J. Humanit. Soc. Sci., vol. 4, no. 4, 2021, doi: 10.25236/AJHSS.2021.040415.
[12] R. Shi, M. Wang, C. Liu, and N. Gull, "The influence of short video platform characteristics on users' willingness to share marketing information: Based on the SOR Model," Sustainability, vol. 15, no. 3, p. 2448, Jan. 2023, doi: 10.3390/su15032448.
[13] X. Wang, Y. Yu, Z. Zhu, and J. Zheng, "Visiting intentions toward theme parks: Do short video content and tourists' perceived playfulness on TikTok matter?," Sustainability, vol. 14, no. 19, p. 12206, Sep. 2022, doi: 10.3390/su141912206.
[14] B. R. Gordon, K. Jerath, Z. Katona, S. Narayanan, J. Shin, and K. C. Wilbur, "Inefficiencies in digital advertising markets," J. Mark., vol. 85, no. 1, pp. 7–25, Jan. 2021, doi: 10.1177/0022242920913236.
[15] H. Shaari and N. Ahmed, "An extensive study on online and mobile ad fraud," in The International Conference for Engineering Sciences and Technology (CEST-2020), Libya, 2020.
[16] D. Firat, "YouTube advertising value and its effects on purchase intention," J. Glob. Bus. Insights, vol. 4, no. 2, pp. 141–155, 2019, doi: 10.5038/2640-6489.4.2.1097.
[17] S. W. P. Paramitha, M. R. K. N. Yatigammana, and K. L. N. K. Gunathunge, "The impact of YouTube advertisement value on purchase intention of YouTube users in Western Province, Sri Lanka," J. Bus. Technol., pp. 69–85, Dec. 2021, doi: 10.4038/jbt.v5i0.54.
[18] L. Legault, "Self-determination theory," in Encyclopedia of Personality and Individual Differences, Cham: Springer International Publishing, 2017, pp. 1–9. doi: 10.1007/978-3-319-28099-8_1162-1.
[19] R. M. Ryan and E. L. Deci, Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness. Guilford Publications, 2017. [Online]. Available: www.guilford.com/p/ryan
[20] J.-B. E. M. Steenkamp and H. C. M. van Trijp, "The use of lisrel in validating marketing constructs," Int. J. Res. Mark., vol. 8, no. 4, pp. 283–299, Nov. 1991, doi: 10.1016/0167-8116(91)90027-5.
[21] A. Purwanto, M. Asbari, T. I. Santoso, and M. G. Haque, "Marketing research quantitative analysis for large sample: Comparing of Lisrel, Tetrad, GSCA, Amos, SmartPLS, WarpPLS, and SPSS," J. Ilm. Ilmu Adm. Publik, vol. 9, no. 2, pp. 355–372, 2019, doi: 10.26858/jiap.v9i2.22803.

[22] K. N. Putri and D. Hermawan, "Digital marketing strategy of creative consultant during COVID-19 pandemic: A qualitative approach," Int. J. Entrep. Bus. Creat. Econ., vol. 1, no. 1, pp. 39–56, Jan. 2021, doi: 10.31098/ijebce.v1i1.443.
[23] M. Nofal, A. S. Al-Adwan, H. Yaseen, and G. A. A. Alsheikh, "Digital marketing effect to intention to domestic tourism during COVID-19 in Jordan," Period. Eng. Nat. Sci., vol. 8, pp. 2471–2483, 2020, [Online]. Available: https://api.semanticscholar.org/CorpusID:230595989
[24] P. C. Addo, S. K. Akpatsa, P. Nukpe, A. A. Ohemeng, and N. B. Kulbo, "Digital analytics approach to understanding short video advertising in digital marketing," *J. Mark. Theory Pract.*, vol. 30, no. 3, pp. 405–420, Jul. 2022, doi: 10.1080/10696679.2022.2056487.
[25] A. Bleier, C. M. Harmeling, and R. W. Palmatier, "Creating effective online customer experiences," *J. Mark.*, vol. 83, no. 2, pp. 98–119, Mar. 2019, doi: 10.1177/0022242918809930.
[26] M. A. A. Mustafi and M. S. Hosain, "The role of online advertising on purchase intention of smartphones: Mediating effects of flow experience and advertising value," *J. Contemp. Mark. Sci.*, vol. 3, no. 3, pp. 385–410, Oct. 2020, doi: 10.1108/JCMARS-05-2020-0024.
[27] S. Rose, M. Clark, P. Samouel, and N. Hair, "Online customer experience in e-retailing: An empirical model of antecedents and outcomes," *J. Retail.*, vol. 88, no. 2, pp. 308–322, Jun. 2012, doi: 10.1016/j.jretai.2012.03.001.
[28] U. Segson and C. C. Tan, "Application of stimulus-organism-response (S-O-R) theory to study consumer behavior of upscale restaurants in northern Thailand," *ASEAN/Asian Acad. Soc. Int. Conf. Proceeding Ser.*, pp. 701–708, 2018.
[29] J. A. Hetharie, Surachman, A. S. Hussein, and A. Puspaningrum, "SOR (stimulus-organism-response) model application in observing the influence of impulsive buying on consumer"s post-purchase regret," *Int. J. Sci. Technol. Res.*, vol. 8, no. 11, pp. 2829–2841, 2019.
[30] M. F. Zhang, J. F. Dawson, and R. B. Kline, "Evaluating the use of covariance-based structural equation modelling with reflective measurement in organizational and management research: A review and recommendations for best practice," *Br. J. Manag.*, vol. 32, no. 2, pp. 257–272, Apr. 2021, doi: 10.1111/1467-8551.12415.
[31] D. Dragan and D. Topolšek, "Introduction to structural equation modeling: Review, methodology and practical applications," in *The International Conference on Logistics & Sustainable Transport*, 2014, pp. 19–21. [Online]. Available: http://iclst.fl.uni-mb.si/
[32] M. Naderifar, H. Goli, and F. Ghaljaie, "Snowball sampling : A purposeful method of sampling in qualitative research snowball sampling," *Strides Dev. Med. Educ.*, vol. 14, no. 3, Sep. 2017, doi: 10.5812/sdme.67670.
[33] S. Surjandy and M. Carolina, "Implication of video advertising on shifting customer behavior post pandemic Covid," *Mendeley Data*, vol. 1, 2024, doi: 10.17632/Y9VF6NH637.1.
[34] Office of Assistant to Deputy Cabinet Secretary for State Documents & Translation, "President issues decree on declaration of Covid-19 as public health emergency," Cabinet Secretariat of the Republic of Indonesia. Accessed: Jul. 09, 2023. [Online]. Available: https://setkab.go.id/en/president-issues-decree-on-declaration-of-covid-19-as-public-health-emergency/
[35] Office of Assistant to Deputy Cabinet Secretary for State Documents & Translation, "Gov't issues presidential decree on end of Covid-19 pandemic status," Cabinet Secretariat of the Republic of Indonesia. Accessed: Jul. 09, 2023. [Online]. Available: available: https://setkab.go.id/en/govt-issues-presidential-decree-on-end-of-covid-19-pandemic-status/
[36] T. Cleff, "Univariate Data Analysis," in *Exploratory Data Analysis in Business and Economics*, Cham: Springer International Publishing, 2014, pp. 23–60. doi: 10.1007/978-3-319-01517-0_3.
[37] R. Bougie and U. Sekaran, *Research method in business*. Chichester: John Wiley & Sons, 2014.
[38] R. Sunardi, U. Suhud, D. Purwana, and H. Hamidah, "Examining the factors contributing to fintech peer-to-peer lending adoption," *J. Inf. Syst. Eng. Bus. Intell.*, vol. 7, no. 2, pp. 91–101, Oct. 2021, doi: 10.20473/jisebi.7.2.91-101.
[39] D. Hooper, J. Coughlan, and M. R. Mullen, "Structural equation modelling: Guidelines for determining model fit," *Electron. J. Bus. Res. Methods*, vol. 6, no. 1, pp. 53–60, 2008, [Online]. Available: http://www.ejbrm.com/
[40] T. Marceda Bach, W. V. da Silva, A. Mendonça Souza, C. Kudlawicz-Franco, and C. P. da Veiga, "Online customer behavior: perceptions regarding the types of risks incurred through online purchases," *Palgrave Commun.*, vol. 6, no. 1, pp. 1–12, Jan. 2020, doi: 10.1057/s41599-020-0389-4.
[41] K. Hamacher and R. Buchkremer, "Measuring online sensory consumer experience: Introducing the online sensory marketing index (OSMI) as a structural modeling approach," *J. Theor. Appl. Electron. Commer. Res.*, vol. 17, no. 2, pp. 751–772, Jun. 2022, doi: 10.3390/jtaer17020039.
[42] N. F. Gumay and N. Sobari, "The effects of consumer involvement, price sensitivity, and sensory appeal of organic food purchase intention during the Covid-19 pandemic," in *Proceedings of the 7th Global Conference on Business, Management, and Entrepreneurship (GCBME 2022)*, 2023, pp. 619–624. doi: 10.2991/978-94-6463-234-7_64.
[43] D. Tauro, U. Panniello, and R. Pellegrino, "Risk management in digital advertising: An analysis from the advertisers' media management perspective,"," *Int. J. Media Manag.*, vol. 23, no. 1–2, pp. 29–57, Apr. 2021, doi: 10.1080/14241277.2021.1960532.