

# The Impact of Social Media on Online Shopping Behavior of Gen Z Consumers In Time of Covid-19 Pandemic; The Moderating Role of Celebrity Endorsements

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*Abstract:* - The purpose of this study is to examine the impact of social media (live streaming, promotional tools, and online reviews) and celebrity endorsements on online shopping behaviors. In addition, we investigate the role of celebrity endorsements as a moderator between social media and online shopping behavior. This study examines Generation Z in Indonesia with 543 respondents. This investigation employs the Structural Equal Modeling (SEM) technique. According to the findings of this study, online reviews and celebrity endorsements have a significant positive impact on online shopping behavior. When we interact with celebrity endorsements through online reviews, they have a strikingly positive impact on our online shopping behavior. This indicates that celebrities add a competitive advantage to a brand and that the brand has very good online reviews that will encourage consumers to buy products online. This study has implications for marketers and e-commerce, which can encourage consumers to make online purchases during a crisis.

*Key-Words:* - Online Shopping Behavior, Social Media, Live Streaming, Promotional Tools, Online Reviews, Celebrity Endorsements, Covid-19.

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## 1 Introduction

Covid-19 has had a changing impact on people's consumption behavior. One that has experienced changes in consumption behavior due to lock-down policies and social distancing so that people are looking for alternatives to meet their needs, [1], [2], [3], [4]. [5], and, [6], stated various factors that influenced behavior change, but what was highlighted was the presence of technology, which had a significant impact during the COVID-19

period. Besides that, COVID-19 is also a condition that gives system changes to the entire banking sector, [7], [8], [9], [10], [11], non-financial companies, [12]. In Indonesia, discussions about COVID-19 have made economic conditions worse apart from other crises, [13], [14], [15], [16], [17]. However, online shopping experienced a very sharp increase during COVID-19; this is because online shopping is a solution for people to shop without leaving the house, [18]. In addition, [19] found that

the information and technology sector (e.g., online learning, remote health, teleconferencing, telework) experienced a very sharp increase in usage during the COVID period.

Several studies are interested in discussing online shopping during the COVID-19 period, [19], [20], [21], [22], [23], [24], [25], [26], [27], [28], [29]. According to, [20] found that ease of access, perceived benefits, trust, positive emotions, subjective norms, attitudes, and social influence are important factors influencing online shopping behavior. Then, [30], stated that COVID-19 had a significant impact on changing from traditional shopping behavior to online shopping behavior. However, traditional shopping behavior will return when the Covid-19 pandemic ends.

Recently, several studies have shown that social media plays an important role in online shopping. The study, [21], stated that the company's equity value can increase when companies actively use social media to interact with their customers. Live streaming interactions make the communication distance between companies and customers disappear, making consumers more comfortable shopping online, [31]. Likewise, promotional tools also play an important role in online shopping, [32]. Then, [18] stated that the presence of prominent role models associated with the brand thus increases brand equity. Celebrities who use social media to promote a product encourage consumers to buy the product. Furthermore, celebrity endorsements also have an important influence on online shopping behavior, [18], [33], [34], [35], [36], [37]. According to, [18], celebrity endorsements positively impact online shopping purchases. Similarly, [33], stated that celebrities can influence consumers' online shopping behavior when they promote a product. Followers tend to make celebrities follow their lifestyle, [38], [39].

This study aims to analyze the effect of social media and celebrity endorsements on online shopping behavior. The study focuses on examining the relationship between various variables in the context of Gen Z consumers in time of COVID-19 pandemic in Indonesia. This study found that online reviews have a significant positive effect on online shopping behavior. More and more positive reviews from consumers encourage potential consumers to try these products, [18], [31], [40]. Then, this study also found that celebrity endorsements have a significant positive effect on online shopping behavior. Celebrities are used as role models providing added value to brand equity more than other brands, [18], [35], [38], [41]. Interestingly, we also found that celebrity endorsement moderated

online reviews and significantly affected online shopping behavior. The more positive reviews from consumers that reflect the quality of the product, the more it is strengthened by celebrity branding which makes consumers more confident to buy the product [21], [31], [35].

This research contributes to the literature in several ways. First, taking Indonesia as a sample, Indonesia is sensitive to macro shocks, [3], [42], [43], [44], [45], [46], [47]. Moreover, generation Z habitually uses technology more frequently, especially in online shopping, than other generations, [47]. Second, this study complements previous studies, [18], [31], [34], which discuss social media and celebrity endorsements on online shopping behavior, but they have not explored the role of celebrity endorsement in moderating social media on online shopping behavior. Our important findings represent how online reviews and celebrities can improve brand quality to attract potential customers. Third, this research has important implications for online retailers to maintain reviews from consumers through good interactions and improve product quality. In addition, using a celebrity will further strengthen the brand formed through online reviews so potential consumers will buy the product. This is important for online retailers in facing pandemic challenges, which is the possibility of shopping behavior returning to normal, [30].

## 2 Literature Review

### 2.1 Online Shopping Behavior

The existence of COVID-19 pandemic has made quite significant changes, especially the shift from traditional business to online business. Online marketing is a solution for entrepreneurs conducting business with their partners during the Covid-19 pandemic, [47], [48], [49]. The study, [50], stated that online shopping is increasingly popular for retailers and customers. Several studies state that communication tools such as Facebook, Twitter, Instagram, and Snapchat influence customer ratings, [51], [52], [53], [54]. Similarly, [18], [53], documented customer ratings that stated online satisfaction would influence other consumers to buy the product. This is used by several business organizations to promote their business by increasing the number of their consumers, [55], [56]. The study, [55], stated that companies target consumers through online advertising based on the categories consumers like. Furthermore, [56], stated that businesspeople carry out online advertising

promotions to provide information on the products they sell to increase consumer purchase intentions. The attractiveness of celebrity figures can influence the product's image [18]. Recently, [57], stated that fashion trends, shopping convenience, economic orientation, and brand value significantly influence online shopping purchases of fashion products in Generation Y in Bangladesh. These results indicate that online businesses need to pay attention to communication with their potential customers by adjusting their product and service offerings.

## 2.2 Live Streaming

The Covid-19 pandemic has not only changed in terms of habits. Preferences and shopping behavior of customers. One of them intensified on social media is e-commerce, [18]. The study, [58], stated that there was a development of live streaming used by social traders to increase their company's sales during the COVID-19 pandemic. Likewise, in Indonesia, the development of live streaming is massive and has even become a new tool for product marketing. In line with, [59], stated that along with the development of modern times, the interaction between sellers and customers is very important. By doing live streaming can confirm customers to buy their products; consumers tend to prefer live shows that can ask for details about products in real-time compared to consumers who review through pictures and videos. In addition, sellers can provide direct feedback to influence purchasing decisions. Furthermore, several studies state that streaming shopping can provide answers for consumers who are confused about products, thereby increasing purchase opportunities, [60], [61], [62]. The existence of consumer interaction during product presentations will trigger consumers to buy products, [59]. Live broadcasting provides images and sound received in other locations, thereby increasing its presence. Purchase commitment influences online shopping, [63], [64], [65]. The study, [66], also found that streaming shopping can increase customer capacity by getting new things and asking related questions. Online retailers are innovating by providing information about products via streaming to interact with consumers in real-time, [31]. The study, [67], stated that recently consumers have become accustomed to making purchases online due to the COVID-19 pandemic. Consumers are starting to do product reviews online frequently; live presentations encourage motivation to buy. However, [18], found that live streaming has no significant effect on online purchasing decisions in Bangladesh. Based on the description, we hypothesize as follows:

Hypothesis 1 (H1): *Live streaming has a significant positive effect on online shopping behavior.*

## 2.3 Promotional Tools

The rapid development of technology encourages rapid changes in habits and behavior. Several studies have shown that online marketing is a form of new business opportunity that can be implemented by companies, [18]. Then, [68], stated that online marketing is also considered more effective than traditional marketing. Similarly, [51] stated that advertisers use social media to popularize their products. The study, [69], found that promotional prices are used to stimulate consumers to buy, this is because promotional prices are made to make consumers not think about whether the product is needed or not. Furthermore, [70], states that the millennial generation prefers to shop online rather than shop in person. Therefore, they use social media to dig up product information they want to buy. Online shopping must provide privacy, protection, and trust to consumers to feel more comfortable. Then, [32], stated that online advertisements must contain contextual advertisements in their marketing media such as multimedia advertisements, social networks, etc. to create a brand image. Based on the theory of, [71], states that online advertising is an advertising medium that encourages advertising efforts to develop. Content is the most important thing in online advertising. The adoption of online shopping is increasingly pushing entrepreneurs to pay attention to online advertising tools that influence their shopping behavior. Then, [18], found that promotional tools have a significant positive effect on online shopping behavior in Bangladesh. Based on the description, we hypothesize as follows:

Hypothesis 2 (H2): *Promotional Tools have a significant positive effect on online shopping behavior.*

## 2.4 Online Reviews

The development of modern times is growing, especially the function of social media which is increasingly being used as a forum for consumers to determine their intention to buy a product. Usually, when consumers have the intention to buy a product, they look for reviews from several people who have used the product through social media, [72]. In line with, [73], which shows that social media is a means for consumers to find in-depth information about these products. Then, [31], stated that online reviews are an important factor in influencing consumer behavior. The increased

availability of positive online reviews will encourage consumers to purchase the product. Social media users are also aware that many online reviews reflect the behavior of other consumers who use the product, [74]. Similarly, [75], found that the availability of online reviews can describe the quality that drives consumers' motivation to try for the first time. Many studies have found positive online reviews that increase sales of this product, [31], [40], [76], [77], [78], [79]. The existence of online availability, both in terms of quantity and positive reviews from other consumers, stimulates potential customers to try the product. In addition, [31], stated that online reviews are used by consumers to answer questions related to product choices. Recently, [18], found a significant positive effect on online shopping behavior in Bangladesh. Based on the description, we hypothesize as follows:

Hypothesis 3 (H3): *Online reviews have a significant positive effect on online shopping behavior.*

## 2.5 Celebrity Endorsements

The development of social media such as Facebook, Snapchat, Twitter, and Instagram is increasingly being used by various groups. Celebrities have also started using the platform to promote products to customers which can influence consumers' online behavior, [33]. In addition, celebrities also provide information to customers to use to select consumer needs for both potential goods and services [34]. The study, [70], [76], stated that celebrities also have good credibility in promoting products that will have a positive impact on consumer behavior. Some celebrities also create their brands to differentiate them from other brands to make it easier for consumers to choose the products they like, [35]. In line with that, [40], stated that any information provided to celebrities is considered by their followers as a guarantee of product safety, thereby influencing online purchases. Similarly, [36], [80], found that celebrities who share advertisements on social media will stimulate potential consumers to buy the product. Furthermore, [77], [78], stated that celebrities are used as a competitive advantage in company advertisements. Then, people make celebrity posts as their role models, thereby following the celebrity lifestyle, [37], [38]. Recently, [18], found that celebrity endorsement had a significant positive effect on online purchases. Based on the description, we hypothesize as follows:

Hypothesis 4 (H4): *Celebrity endorsements have a significant positive effect on online shopping behavior.*

## 2.6 The Role of Celebrity Endorsement in Mediating the Influence of Social Media on Online Shopping Behavior

Recently, we noticed a potential relationship between celebrity endorsements and social media in influencing online purchases. The study, [21], [41], stated that social media activity from various media content will have a positive impact on the company's equity value. Similarly, [31], stated that companies that interact in real-time with potential customers through live streaming or online reviews will increase interest in the informed product brand. Promotional tools such as advertisements and social media will create a brand image, [32]. In addition, [35], stated that celebrities are often used as lifestyle models for their followers. The presence of role models from celebrities associated with brands thereby increases brand equity. Celebrities who use social media to promote a product will stimulate consumers to buy the product, [18]. Based on the description, we hypothesize as follows:

Hypothesis 5 (H5): *Celebrity endorsement moderates live streaming of online shopping behavior.*

Hypothesis 6 (H6): *Celebrity endorsement moderates promotional tools on online shopping behavior.*

Hypothesis 7 (H7): *Celebrity Endorsement moderates online reviews of online shopping behavior.*

## 3 Method

The study focuses on examining the relationship between various variables in the context of Gen Z consumers in time of COVID-19 pandemic in Indonesia. The research framework of this study is presented in Figure 1. The key independent variables being studied include social media activities such as Live Streaming (LIV), promotional tools (PRT), and online reviews (OLR), while the dependent variable is online shopping behavior (OSB). Additionally, the study incorporates celebrity endorsements (CEN) as moderator variables. These variables were evaluated using scales developed by previous researchers based on existing literature, with necessary adjustments to fit the specific context of Gen Z consumers in Indonesia.

To assess the Online Shopping Behavior (OSB) variable, the study adapted questionnaire items from instruments created by various researchers, including references from, [18], [79], [81], [82]. For the Live Streaming (LIV), promotional tools (PRT), and online reviews (OLR) variables, a four-item scale designed by researchers, [18], [83], [84], was employed. Each variable was measured using a 5-point Likert scale, ranging from strongly disagree to strongly agree, as illustrated in Table 1.

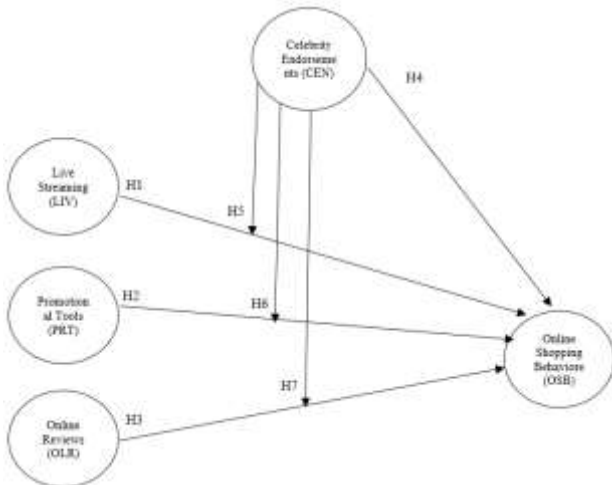


Fig. 1: Conceptual Framework

This study's participants were all Indonesian Gen Z consumers. Purposive sampling is used in this study, and participants should be familiar with social media and online shopping. There were 543 people in the sample group. A survey was created and distributed to Gen Z consumers in Indonesia from July to December 2021 to collect data for the study. Preliminary processing was carried out to ensure that respondent entries were accurate and sufficient. The survey was divided into two parts and distributed via Google Forms. The first section gathered profile data such as gender, age, education level, employment status, online shopper since, and frequency of online shopping. The values of all the variables under investigation were included in the second section.

The data were assessed utilizing a variance-based analytical approach known as Structure Equation Modeling (SEM), more especially employing Partial Least Squares (PLS). The Partial Least Squares (PLS) method is a robust analytical tool that circumvents limitations by minimizing the need for several assumptions in both the evaluation and theoretical framework, [85]. The data were subjected to analysis utilizing both the outer and inner models. The initial external model assesses the variables of reliability and validity. The evaluation

of this model encompasses many criteria, such as convergent and discriminant validity, with composite reliability. Subsequently, the inner or structural approach is employed to examine the interplay of the study's theoretical framework, its significance, and the R-square coefficient.

Table 1. Measurement items

Variables	Item	Ref.
Online Shopping Behavior (OSB)	I tend to buy products online rather than in physical stores (OSB1)	[18], [79], [81], [82]
	I feel confident with the payment and security system when making online purchases (OSB2)	
	I feel comfortable shopping online and will do it again in the future (OSB3)	
	I find it easy to find the products I am looking for when shopping online (OSB4)	
	I prefer to shop online because there are more product options (OSB5)	
Live Streaming (LIV)	Online purchases are encouraged by social networking sites (LIV1)	[18], [79], [81], [82]
	Shopping has become more popular as a result of hedonic consumption (LIV2)	
	Cognitive absorption influences online buying (LIV3)	
	Impulsive consumption has given way to online purchasing (LIV4)	
Promotional Tools (PRT)	Discounted prices encourage more internet sales (PRT1)	[18], [86], [87]
	Online buying intentions are generated by sales marketing (PRT2)	
	The buyer can be readily persuaded to purchase the product by employing the buy, one receives one strategy (PRT3)	
	When I feel like purchasing anything, I buy it online because of my social environment (PRT4)	
Online Reviews (OLR)	Online shoppers are positively impacted by reviewers' reputations (OLR1)	[18], [78], [79], [88]
	Online reviews are trustworthy and boost online sales (OLR2)	
	Positive customer reviews affect internet purchasing (OLR3)	
	Argument persuasiveness aids in persuading the buyer to make an online purchase (OLR4)	
Celebrity Endorsements (CEN)	The number of shared celebrity posts that encourage online buying (CEN1)	[18], [89], [90]
	Online purchases are increased by genuine celebrity posts (CEN2)	
	Positive sentiments towards internet purchasing are fostered by celebrity sponsorship (CEN3)	
	Prominent celebrities who promote products encourage me to buy them (CEN4)	

## 4 Result

Table 2 provides an insightful overview of the respondent characteristics, shedding light on the diverse makeup of the study's participant group, which exclusively consists of Indonesian Gen Z consumers. The table offers a breakdown of various key attributes, illustrating the distribution of respondents across different categories. Gender distribution reveals that 38.86% of the participants identify as male, while a majority, constituting 61.14%, identify as female. Regarding age, the respondents span a range of cohorts. The largest group falls within the 20 to under 24 age range, accounting for 59.85% of the total sample. Those aged 16 to under 20 constitute 26.52%, and individuals aged 24 to under 28 make up 13.63%. In terms of education, the majority of respondents hold bachelor's degrees from universities or colleges, making up 90.06% of the sample. A smaller proportion, 3.68%, are pursuing or have attained master's degrees, while 6.26% have completed senior high school.

Employment status diversifies the participant pool. Students form the largest segment at 67.40%, followed by self-employed individuals at 17.68%. Those currently employed constitute 12.89%, while a smaller percentage of 2.03% are unemployed. When examining the duration of participants' online shopping habits, the data shows a spread across various timeframes. Respondents who have been online shoppers for 1 to 2 years represent 23.20%.

Table 2. Characteristic Respondent

Characteristics	Group	Frequency	Percentage
Gender	Male	211	38.86
	Female	332	61.14
Age	16 - <20	144	26.52
	20 - <24	325	59.85
	24 - <28	74	13.63
Education	University/College (Master)	20	3.68
	University/College (Bachelor)	489	90.06
	Senior high school	34	6.26
Employment Status	Working	70	12.89
	Student	366	67.4
	Self-Employed	96	17.68
	Unemployed	11	2.03
Online shopper since	1 - 2 Year	126	23.2
	3 - 4 Year	133	24.49
	More than 5 years	284	52.3
Frequency of online shopping	Frequent	176	32.41
	Sometimes	226	41.62
	Occasionally	141	25.97
Monthly Expenditure (in million rupiah)	<3	114	20.99
	3 - <4	276	50.83
	4 - <5	88	16.21
	>5	65	11.97

Those with 3 to 4 years of online shopping experience comprise 24.49%, and the most substantial group, constituting 52.30%, have engaged in online shopping for over 5 years. The frequency of online shopping varies, with 32.41% of participants identifying as frequent shoppers, 41.62% as occasional shoppers, and 25.97% as sometimes shoppers. Turning to the financial aspect, the monthly expenditure on online shopping displays a range. 20.99% of respondents spend less than 3 million rupiah, while 50.83% spend between 3 and under 4 million rupiah. The group spending between 4 and under 5 million rupiah constitutes 16.21%, and 11.97% of participants spend over 5 million rupiah monthly.

Table 3. Validity and Reliability Result

Variables	Item	Item Loadings	Cronbach's Alpha	Comp. Reliability	AVE
Online Shopping Behavior (OSB)	OSB1	0.966	0.967	0.974	0.884
	OSB1	0.980			
	OSB1	0.899			
	OSB1	0.870			
	OSB1	0.980			
Live Streaming (LIV)	LIV1	0.933	0.938	0.956	0.845
	LIV2	0.938			
	LIV3	0.835			
	LIV4	0.967			
Promotional Tools (PRT)	PRT1	0.978	0.989	0.992	0.969
	PRT2	0.988			
	PRT3	0.989			
	PRT4	0.983			
Online Reviews (OLR)	OLR1	0.969	0.958	0.97	0.891
	OLR2	0.980			
	OLR3	0.852			
	OLR4	0.969			
Celebrity Endorsements (CEN)	CEN1	0.708	0.841	0.893	0.678
	CEN2	0.947			
	CEN3	0.845			
	CEN4	0.774			

Table 3 presents the data's authenticity and reliability. The outer model analysis assesses the relationship between latent variables and indicators, thereby evaluating the constructs' validity and reliability. Construct validity is determined through convergent and discriminant values, while reliability is gauged using composite reliability and Average Variance Extracted (AVE). In the reflective indicator measurement model, convergent validity investigates the connection between item and variable scores based on load factors. An indicator is deemed credible if its loading factor surpasses 0.70. This demonstrates that all indicators of the variables possess a strong level of convergent validity, each with a loading value exceeding 0.70.

Construct reliability was evaluated using Cronbach's alpha and composite reliability. The findings of this study reveal that the Online Shopping Behavior (OSB) construct possesses a Cronbach's alpha of 0.967 ( $> 0.70$ ), a composite reliability of 0.974, and an AVE of 0.884. For the

independent variables, the results are as follows: Live Streaming (LIV), Promotional Tools (PRT), and Online Reviews (OLR) exhibit Cronbach's alpha values of 0.938, 0.989, and 0.958 ( $> 0.70$ ), respectively, accompanied by composite reliability values of 0.956, 0.992, and 0.970.

Table 4. The Results of the R-square.

Dependent Variable	R Square
Online Shopping Behavior (OSB)	0.553

Table 5. Results of hypotheses testing

Hypothesis	Path coefficient	T Statistic	P-Value	Result
H1: LIV $\Rightarrow$ OSB	0.124	1.306	0.192	Not Supported
H2: PRT $\Rightarrow$ OSB	0.160	1.832	0.068	Not Supported
H3: OLR $\Rightarrow$ OSB	0.428	5.813	0.000	Supported
H4: CEN $\Rightarrow$ OSB	0.230	2.519	0.012	Supported
H5: LIV*CEN $\Rightarrow$ OSB	0.049	0.698	0.485	Not Supported
H6: PRT*CEN $\Rightarrow$ OSB	-0.074	1.057	0.291	Not Supported
H7: OLR*CEN $\Rightarrow$ OSB	0.182	2.766	0.006	Supported

Additionally, their respective AVE values stand at 0.845, 0.969, and 0.891, all surpassing 0.50. Moreover, the moderator variable Celebrity Endorsements (CEN) displays a Cronbach's alpha of 0.841 ( $> 0.70$ ), a composite reliability of 0.893, and an AVE of 0.678 ( $> 0.50$ ).

Table 4 presents the R-square results, which examine the relationships between constructs and their corresponding significance values. These estimations reveal that Online Shopping Behavior (OSB) exhibits an R-square value of 0.553 or 55.3%, while the remaining 44.7% is accounted for by other variables beyond the scope of the study model.

Moving to Table 5, we meticulously detail the impact of social media, encompassing celebrity endorsements, on online shopping behavior. Hypothesis 1 (H1) posited that live streaming positively impacts online shopping behavior. However, the analysis reveals that the path coefficient for H1 is 0.124, with a t-statistic of 1.306 and a p-value of 0.192 ( $> 0.05$ ). As a result, Hypothesis 1 is not supported. The study's findings do not provide substantial evidence to affirm that live streaming significantly and positively

influences online shopping behavior among Gen Z consumers during the specified time frame. Similarly, Hypothesis 2 (H2) suggested that promotional tools have a positive influence on online shopping behavior. Yet, the path coefficient for H2 is 0.160, with a t statistic of 1.832 and a p-value of 0.068 ( $> 0.05$ ). Consequently, Hypothesis 2 is not supported. The study's results do not strongly substantiate the claim that promotional tools significantly and positively impact online shopping behavior within the specified context.

On the other hand, Hypothesis 3 (H3) posited that online reviews positively impact online shopping behavior. The analysis demonstrates that the path coefficient for H3 is 0.428, with a t-statistic of 5.813 and a p-value of 0.000 ( $< 0.05$ ). As a result, Hypothesis 3 is supported. The study's findings strongly suggest that online reviews indeed have a significant and positive effect on online shopping behavior among Gen Z consumers in the context of the COVID-19 pandemic era in Indonesia. Likewise, Hypothesis 4 (H4) asserted that celebrity endorsements positively influence online shopping behavior. The path coefficient for H4 is 0.230, with a t statistic of 2.519 and a p-value of 0.012 ( $< 0.05$ ). Consequently, Hypothesis 4 is supported. The study's results provide compelling evidence that celebrity endorsements significantly and positively impact online shopping behavior among Gen Z consumers in the specified context.

Lastly, Hypotheses 5 (H5), 6 (H6), and 7 (H7) addressed the moderating effects of celebrity endorsements on various factors. Hypotheses 5 and 6 were not supported, indicating that celebrity endorsements do not significantly moderate the relationships between live streaming and promotional tools with online shopping behavior. In contrast, Hypothesis 7 is supported, demonstrating that celebrity endorsements moderate the relationship between online reviews and online shopping behavior, suggesting a substantial influence in altering the impact of online reviews within the context of Gen Z consumers' online shopping behavior.

Overall, this study examined the influence of various factors on the online shopping behavior of Gen Z consumers during the COVID-19 pandemic era in Indonesia. The analysis revealed that live streaming and promotional tools did not have a significant and robust impact on online shopping behavior, aligning with unsupported hypotheses 1 and 2. However, Hypothesis 3 indicated that online reviews had a significant and positive influence on online shopping behavior, while Hypothesis 4 strengthened the notion that celebrity endorsements

exerted a strong positive impact on online shopping behavior. Furthermore, the study found that celebrity endorsements had a significant moderating effect on the relationship between online reviews and online shopping behavior. In the specific context of Gen Z consumers during the pandemic in Indonesia, celebrity endorsements appear to wield substantial influence in altering how online reviews affect their online shopping behavior.

## 5 Discussion and Implications

This study aims to analyze the impact of social media and celebrity endorsements on online shopping behavior in Indonesia. The findings highlight the significant positive influence of online reviews on online shopping behavior. These outcomes underscore that prospective consumers are inclined to perceive online reviews as a means of assessing a product based on the firsthand experiences of other consumers who have utilized it. Consequently, when a product receives higher reviews, potential customers tend to gain more confidence in making the purchase decision. This research aligns with previous studies by, [31], [39], [72], [74], [75], [76], all of which concluded that an accumulation of positive online reviews prompts potential customers to engage in product purchases.

Furthermore, the study also reveals that both promotional tools and live streaming yield positive effects on online shopping behavior; however, these effects are not statistically significant. This suggests that within the context of this study, the Gen Z demographic places a higher degree of trust in online reviews compared to promotional tools and live streaming. The tangible experiences shared by fellow consumers hold a critical role in evaluating products for online shopping.

Our study also establishes that celebrity endorsements exert a substantial impact on online shopping behavior. These findings underscore those leveraging celebrities for advertising purposes confers a sense of brand assurance upon a product, elevating it above competitors. The endorsement by a celebrity, who will actively utilize the product, generates a compelling incentive for followers to make a purchase. This research aligns with the conclusions drawn by, [40], who posit that celebrities serve as an influential source of information for their followers, effectively endorsing products. The presence of celebrities endorsing products invariably prompts their followers to adopt these products, a trend supported by studies such as those conducted by, [36], [37], [78], [80].

Moreover, a noteworthy discovery in our investigation is the moderating effect of online reviews on celebrity endorsements and online shopping behavior. These findings reveal that the utilization of products endorsed by celebrities receives a reinforcing boost from positive reviews, thereby motivating consumers to make purchases. This study aligns with the insights of, [41], as well as the research by, [18], [31], [35]. These studies propose that companies actively engaged in social media activities and employing celebrities as brand ambassadors effectively cultivate brand equity, which, in turn, attracts potential consumers to embrace the promoted product.

Examining the implications of these findings, particularly in the context of Generation Z in Indonesia, yields insights for policy-making and marketing strategies targeted at this demographic. The results highlighted in Table 5 underscore the need for tailored approaches that align with the distinct characteristics and preferences of Gen Z.

Hypotheses 1 and 2 indicate that neither live streaming nor promotional tools significantly impact online shopping behavior among Gen Z consumers. Policymakers and businesses aiming to engage this demographic should carefully evaluate the effectiveness of these strategies in the Indonesian context. It may be beneficial to reassess the content, timing, and platforms used for live streaming and promotional activities to better resonate with Gen Z preferences and behaviors.

Conversely, Hypotheses 3 and 4 emphasize the substantial impact of online reviews and celebrity endorsements on Gen Z's online shopping behavior. These findings suggest that companies should prioritize garnering positive online reviews and leveraging celebrity endorsements as effective marketing tools. Policymakers could promote transparency in online reviews, ensuring the authenticity of feedback, while offering guidance to businesses on forming ethical and compelling celebrity endorsement collaborations that align with Gen Z values.

The moderating effect highlighted in Hypothesis 7 further underscores the significance of celebrity endorsements in shaping Gen Z consumers' decisions. This presents an opportunity for businesses and policymakers to strategically integrate celebrity endorsements with positive online reviews, recognizing that this combination can have a synergistic influence on Gen Z's online shopping behavior.



## 6 Conclusion

This study aims to look at the influence of social media (live streaming, promotional tools, and online reviews) and celebrity endorsements on online shopping behaviors. In addition, we also examine the role of celebrity endorsements in mediating the influence of social media on online shopping behavior. This research focuses on Generation Z in Indonesia as many as 543 respondents. This study uses the Structural Equal Modeling (SEM) method. The results of this study indicate that online reviews and celebrity endorsements have a significant positive effect on online shopping behavior. Interestingly, when we interact with celebrity endorsements with online reviews, they have a significant positive effect on online shopping behavior. This indicates that celebrities add a competitive advantage to a brand and that the brand has very good online reviews that will encourage consumers to buy products online.

The findings presented in this study offer several implications with significant relevance for marketers, society, and academics alike. For marketers, the insights underscore the pivotal role of genuine online reviews in shaping Gen Z consumers' purchasing decisions. Crafting strategies that encourage positive user-generated content and leveraging authentic feedback can foster a sense of trust and transparency, ultimately driving online shopping engagement. Additionally, recognizing the potent impact of celebrity endorsements on Gen Z's behavior, marketers can forge collaborations with influencers that resonate with this demographic to enhance brand credibility. These insights also resonate at a societal level, emphasizing the importance of fostering a culture of authenticity and credible online interactions. Encouraging ethical practices that prioritize honest reviews and transparent endorsements can bolster consumer trust and contribute to a healthier online commerce ecosystem. Academically, this study contributes to the body of knowledge by offering nuanced insights into the intricate dynamics between social media, celebrity endorsements, online reviews, and Gen Z's online shopping behavior. These implications prompt researchers to delve deeper into understanding the underlying mechanisms and exploring novel theoretical frameworks that capture the evolving nature of consumer behavior in the digital age.

Despite the valuable insights gained, this study has certain limitations that should be acknowledged. Firstly, the research focused solely on the Gen Z demographic in Indonesia, limiting the generalizability of the findings to other populations

or age groups. Moreover, the study concentrated on a specific time frame Covid-19 pandemic, potentially overlooking potential variations in behavior over time. Secondly, the research focused on a selected set of variables, excluding other potential influencing factors on online shopping behavior.

For future research, there are several areas to explore. Firstly, extending the study to encompass other demographics and regions would provide a more comprehensive understanding of the generalizability of these findings. Secondly, employing mixed methods approaches, such as incorporating qualitative interviews or observational studies, could enhance the depth and accuracy of the insights. Additionally, investigating the evolving nature of online shopping behavior beyond the specific pandemic timeframe could yield insights into dynamic shifts in consumer behavior. Exploring cultural nuances and their impacts on the relationships observed could also enrich the understanding of consumer behavior in various contexts.

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The author has no conflict of interest to declare that is relevant to the content of this article.

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