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Unveiling the Effect of TechTubers' Unboxing Videos on Consumer Buying Behavior

Md Imran HOSSAIN[1], Md Mahiuddin SABBIR[2], Hyung Jun KIM[3]

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Abstract

Purpose: The study examines the effect of TechTubers' unboxing videos on consumer buying behavior by highlighting the role of product touch, visual and verbal sensory cues. The study integrates the vicarious touch and the dual coding theory to analyze the Smartphone purchase behavior of Generation Z. **Research design, data and methodology:** The study collected data from 349 respondents who were viewers of YouTube unboxing videos. A structured questionnaire using a 5-point Likert scale was employed as a survey instrument. Convenience sampling technique was utilized to select the samples. The data were analyzed using structural equation modeling (SEM). **Results:** Results reveal that vicarious touch and verbal description have a statistically significant positive effect on Generation Z's purchase intention of Smartphone. Moreover, purchase intention positively affects Generation Z's actual purchase behavior of Smartphone. However, the visual images did not significantly affect purchase intention. **Conclusions:** The study offers significant theoretical and practical implications. The study adds new knowledge to the extant literary field by highlighting the impact of digital product presentation in the form of Unboxing videos on purchase intention for technology products. Moreover, the study suggests content sponsorship and advertising opportunities for marketers in collaboration with the TechTubers on YouTube unboxing video platform.

Keywords: Unboxing videos, TechTubers, Vicarious Touch, Dual Coding Theory, Generation Z

JEL Classification Code: M3, M30, M31, M37

1. Introduction

Bangladesh has a total population of 167.1 million. Nearly 20% of the total population, aged between 15 and 24, is young (UNFPA, 2022). These young groups, commonly known as Generation Z or Gen Z, were born in or after 1995 (Oster, 2014). Gen Z is Smartphone mavens and loves using social media apps (e.g., YouTube, Facebook, Twitter) (Habib, 2021). YouTube, as a video-watching platform, is immensely popular. As of 2022, it has 34.50 million active users in Bangladesh, and nearly 28 percent of them fall in the age category of Gen Z (KEMP, 2022). These young people mostly watch entertaining videos like movies, songs, and vlogs on YouTube. Watching Unboxing product videos

1 First Author. PhD Candidate, Department of Business Administration, College of Economics and Management, Chungnam National University, Republic of Korea, Email: mihimranmkt@gmail.com
2 Second Author. Assistant Professor, Department of Marketing, University of Barishal, Bangladesh, Email: mmsabbir@bu.ac.bd
3 Corresponding Author. Professor, Department of Business Administration, College of Economics and Management, Chungnam National University, Republic of Korea, Email: bizguru@cnu.ac.kr

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on YouTube has recently become a trend for these youth (Geyser, 2022). Forbes (2021) found that over 90,000 people search for Unboxing videos on YouTube monthly. These Unboxing video genres include product review videos of luxury and fashion items, such as Smartphone, computers, electronic accessories, kid's toys, cosmetics, and mystery boxes.

Smartphone Unboxing has become one of the most popular topics for Unboxing videos (Mowlabocus, 2020). Blythe and Cairns (2009) reported that the unpacking of a new phone was present within more than twenty percent of most viewed hundred videos on the YouTube platform. Gen Z buyers spend substantial time on YouTube watching Unboxing videos made by the TechTubers before buying related products (e.g., Smartphone). TechTubers are digital influencers who help consumers make purchase decisions by reviewing and sharing information about the products they promote on YouTube (Garcia, 2019). Liu et al. (2018) found that observation of product touch by Techtubers influences viewers' product liking, intention to purchase, willingness to pay, and actual buying behavior. When viewers see YouTubers touching the product, they feel the hand is theirs. This touch is theoretically known as the vicarious touch, which is the first focus of this study. Previous studies (Luangrath et al., 2022; Peck et al., 2013; Pino et al., 2020) found that online retailers utilize the vicarious touch techniques most where the vicarious touch is a surrogate to convey tactile sensation.

This study further explores the importance of the dual coding theory (DCT) (Paivio, 1971) in explaining the consumer purchase intention of Smartphone. The DCT indicates that consumers can acquire more product information by combining textual and image information (Li et al., 2021). In Unboxing videos, the reviewers add visual images (visual stimuli), such as the box containing the Smartphone, charger, and headphones, for product demonstration. Moreover, the Unboxers give a narrative description (verbal stimuli) of the product and its features, which are not visible to the viewers (Vaudrey, 2022).

Extant Unboxing studies mostly focus on toy Unboxing or beauty product Unboxing. For instance, Craig and Cunningham (2017) studied Unboxing videos targeting children and discussed the role of promotion, review, and interactive components of Unboxing videos on children's brand involvement. Berg (2018) discussed how children make money by making toys' Unboxing videos. Jaakkola (2020) investigated the forms and functions of toy reviews concerning the political economy, branding, marketing, and regulation of YouTube. Lee and Lee (2022) described parasocial interactions between YouTubers and viewers for beauty YouTube channels. However, extant literature lacks an understanding of how Smartphone Unboxing videos influence consumer purchase intention toward Smartphone by Generation Z. While extant studies (Yang et al., 2017; Kim, 2019; Walma van der Molen & Van der Voort, 2000; Hartland et al., 2008; Jensen et al., 2015; Huang & Chen, 2014) applied DCT in diverse contexts they disregarded the integrated role of DCT and vicarious touch in influencing consumer behavior. The current study, therefore, makes a novel attempt by integrating the DCT and vicarious touch to analyze how Smartphone unboxing videos on YouTube influence Generation Z's Smartphone purchase intention.

The current study is undertaken for the following reasons. First, compared to other video genres, unboxing videos relating to product reviews are top-watched content on YouTube by Generation Z (McCarthy, 2017). Second, Smartphone unboxing videos made by TechTubers have become an integral part of YouTube as it gives a kick-start to a newly released phone. Third, unboxing content creators are key influencers in generating consumer interest and desire for the products showcased on YouTube (Kim, 2020). Unboxing videos can transform inactive consumers into active consumers by creating awareness and disseminating knowledge about unboxing products (Marsh, 2016). Finally, unboxing videos on YouTube are a shared investment between TechTubers and viewers. TechTubers allow channel viewers to look closely at the items before making a purchase. This study's research contribution also lies in exploring and expanding knowledge on how the TechTubers' touch effect combined with verbal words and visual images influence viewers' purchase intention for electronic goods like Smartphone for Gen Z.

2. Theoretical Framework and Hypotheses

2.1. Unboxing Videos on YouTube

Unboxing videos on YouTube involves with unpacking, demonstrating, and reviewing items such as games, toys, audiovisual technologies, beauty products, and new Smartphone (Mowlabocus, 2020). Chaithra (2019) stated that in unboxing videos, the TechTubers open the product, review it, and share their thoughts about the unboxed objects with channel viewers. Vaudrey (2022) found that in the unboxing process, the unboxers engage in multiple activities, including putting a box on the table, cutting the box, removing the packaging, touching the items, and showing them to the viewers. The whole process creates interest and happy moments to the viewers, who may later search for unboxed products. In fact, unboxing videos help consumers experience a vicarious product experience (Vaudrey, 2022). Chen et al. (2017) suggested that Unboxing videos can transform the buying decision-making process of viewers. Smith et al. (2012) revealed that unboxing videos can feature the brands prominently.

Furthermore, it enables consumers to partake in a shared sense of enjoyment in consumption (McAvoy, 2017).

2.2. Vicarious Touch

Verbran (2022) stated that people feel a sense of vicarious ownership when they observe another person's hands holding a product. Seeing people having and using the desired product enhances the desire to buy and willingness to pay. While users interact with and use products like Smartphone, touch is essential. In the context of unboxing videos, TechTubers engage in a tactile evaluation of the featured products, which serves as a means of both appreciation and comprehension (Chaithra, 2019). Peck et al. (2013) found that observing something vicariously enhances both the viewer's physical control as well as psychological ownership, potentially impacting their intention to purchase. Liu et al. (2018) stated that the vicarious experience of a product might help gather sensory features, which may translate into generating purchasing intention. When consumers view and virtually interact with a product, it can create a feeling of psychological ownership, increasing their willingness to buy the item (Brasel & Gips, 2014). Moreover, touching a product accelerates consumers' mental interaction, possibly enhancing customer choice (Shen et al., 2016). Thus, the study postulates the following hypothesis:

H1: Vicarious touch positively affects Generation Z's purchase intention toward Smartphone.

2.3. Dual Coding Theory (DCT)

The dual coding theory developed by Paivio (Paivio, 1971) postulates that the cognition of subjects becomes positive when texts and images are presented together. Extant studies (Glenberg & Langston, 1992; Reid & Beveridge, 1986; Waddill et al., 1988) support the assumption of Paivio. The DCT encompasses two distinct cognitive subsystems: the verbal system processing verbal events and the imagery system processing non-verbal events. Both of the subsystems represent interrelated human cognition components. Filieri et al. (2021) reported that consumers could better comprehend an object or a subject when presented with verbal and image (visual) information. Pictures facilitate the process for consumers to obtain a more significant amount of information and gain an understanding of the elements and features of the product (Larkin & Simon, 1987). Besides, when the visual presentation of products is offered, they can reduce uncertainty, enhance confidence in product valuations, and facilitate decision-making (Jiang & Benbasat, 2004; Papathanassis & Knolle, 2011; Peck & Childers, 2003).

In Smartphone unboxing videos, the unboxers use different pictures, including the phone's box, the charger, other accessories, and photographs captured by the unboxed phone. Moreover, throughoutthe video, they describe the phone's features, functionality, and pros and cons. These phenomena can be grouped into visual images and verbal descriptions. The DCT suggests that people process verbal stimuli and pictures via two independent cognitive subsystems, which enhance the viewers' memory (Sadoski & Paivio, 2007). Thus, it can be presumed that manipulating the visual images and verbal description can impact viewers' product experiences, which might increase/decrease their purchase intention in the future.

2.4. Visual Images

Paivio (1971) stated that pictures are direct predictors of imagery and can increase the decoding of presented information. Viewers can better remember the contents of the unboxing video if pictures are included. Human imagery is evoked better with pictures or images (Childers & Houston, 1984). Extant studies in neuroscience postulate that visual representations, such as product demonstrations, can elicit people's mental imagery about their engagement with the product (Tucker & Ellis, 1998). Xu et al. (2015) found that visual information can capture viewers' attention because of its trustworthiness, persuasiveness, and functionality in evaluating the product. In addition, visual presentation forms corroborate textual contexts and reduce confusion about service performance (Lightner & Eastman, 2002). According to Walters et al. (2007), vivid pictures are an imagery stimulus that can positively affect purchasing intention. Compared to existing social media avenues, YouTube platforms offer visual information or cues focused on a specific topic, enabling users to easily engage with the visual content and share it with other interested people (Friesen, 2004). In addition, the visual content of YouTube videos might impact future behavioral plans and digital product usage (John & De'Villiers, 2020). Regarding visual presentation, Sokolova and Kefi (2020) found that visual content is easier to understand than textual content on YouTube. Besides, the peripheral characteristics can also be tailored to YouTube viewers. Hence, the study posits that:

H2: Visual images used in the YouTube unboxing video positively affect Generation Z's purchase intention toward Smartphone.

2.5. Verbal Description

Smartphone Unboxing videos typically employ a narrative of the Smartphone's details, usage experience, and pros and cons. Kim and Lennon (2000) stated that when

consumers make purchase decisions, they rely on product information. The amount of verbal information used to describe product features and functions affects shoppers' responses. More information gained through verbal description can lead to more positive affective and cognitive responses from viewers. These positive affective responses can create higher purchase intention among viewers for displayed products (Kim & Lennon, 2008). According to Vaudrey (2022), while the unboxing video depicts the product, the presenter communicates the product details that may not be visually evident to viewers. Liu and Park (2015) found that the reviewer's level of detail and the quantity of information provided significantly affect users' behavioral intention. Tsao and Hsieh (2015) found that compared to marketer-generated information, the information about the product by the unboxers in unboxing videos enhance the credibility and appeal of the product. Thus, the study draws the following hypothesis:

H3: Verbal description used in the YouTube unboxing video positively affects Generation Z's purchase intention toward Smartphone.

2.6. Intention to Purchase and Actual Purchase Behavior

The theory of planned behavior (TPB) denotes that an individual's behavioral intention is the primary determinant of their actual engagement in a given behavior (Ajzen, 1991). According to Yadav and Pathak (2017), the intention is a person's predisposition or readiness to undertake a particular action. Purchase intention related to a specific product can result in actual usage or buying. However, purchase intentions do not always result in actual purchases. Therefore, it is crucial to study the impacts of purchase intentions on actual usage behavior (Dou et al., 2017). Ki and Hon (2007) reported that behavioral intentions can substantially envisage actual behaviors. Regarding technology adoption, Sabbir et al. (2021) also showed that purchase intention significantly influences consumers' actual buying behavior. Hence,

H4: Purchase intention of Smartphone positively affects Generation Z's actual purchase behavior of Smartphone.

The following figure illustrates this study's proposed research model.

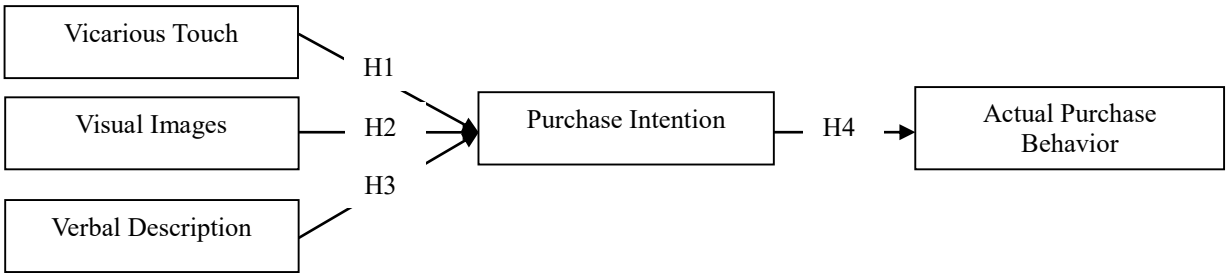

Figure 1: Proposed Research Model

3. Research Design and Methods

3.1. Measures

The authors adopted previously validated measures and modified them slightly according to this study context to assure content validity. The study employed a five-point Likert scale (ranging from 1=strongly disagree to 5=strongly agree) for the measurement items. Two academic marketing specialists further analyzed these measures to prevent ambiguity and assure precision. The authors conducted a pilot survey by conveniently selecting 25 University of Barishal, Bangladesh students. Some question phrasings were changed following the feedback from the pilot survey. The appendix presents the list of all measurement items and their sources.

3.2. Target Population

The target population was Generation Z, belonging to the young generation. The young generation is more likely to adopt and exploit the benefits of technological changes (Aref & Okasha, 2020). Moreover, young adults are defined as "the intellectual vanguard of the future and reference points for other consumers" (Izagirre-Olaizola et al., 2015, pp. 1-2).

3.3. Sampling and Data Collection

The current study followed a convenience sampling technique, and potential participants were chosen mainly from this study's researchers' social media network (i.e., Facebook). Potential participants (400) were contacted online by four trained undergraduates. After explaining the current study's objectives, participants were asked whether they would participate and were familiar with YouTube unboxing videos. Participants were also told about the freedom to withdraw survey participation at any stage. As a result, 378 respondents gave their consent to participate. A survey link was then sent online to these respondents. The data collection period was from January 1 to January 31, 2023. The incomplete responses were discarded, and 349 were finalized for further analysis.

4. Analysis and Findings

We conducted structural equation modeling (SEM) with AMOS (v26). SEM was preferred for its applicability for theory testing (Hu & Bentler, 1999) and its usefulness in capturing associated measurement errors in the observed variables (Hair et al., 2014).

4.1. Demographic Information

As shown in Table 1, 57% of the respondents participating in the survey are male, and the remainders are female. Nearly all the respondents were between 21-28 years (95.4%). Most survey participants reported that their monthly income falls between BDT 11,000 to 20,000 (55.9%). More than half of the participants (51.9%) were students, while 23.2% identified themselves as self-employed. The proportions of the respondents having graduate and post-graduate education (49.9%) and undergraduate education (46.1%) were almost the same.

Table 1: Respondents' demographic information

		Frequency	Percentage
Age (years)	18-20	16	4.6
	21-23	65	18.6
	24-26	166	47.6
	27-28	102	29.2
Income (BDT per month)	11,000-20,000	195	55.9
	21,000-30,000	51	14.6
	31,000-40,000	55	15.8
	41,000-50,000	34	9.7
	More than 50,000	14	4.0
Gender	Male	199	57.0
	Female	150	43.0
Occupation	Student	181	51.9
	Employed in Private or Public sector	59	16.9
	Self-employed	81	23.2
	Unemployed	26	7.4
	Others	2	.6
Education	College Level	10	2.9
	Undergraduate	161	46.1
	Graduate and Post Graduation	174	49.9
	No education	2	.6
	Others	2	.6

4.2. Measurement Model

The measurement model assessed 18 items under five constructs to identify construct reliability with convergent and discriminant validity. The composite reliability (CR) and Cronbach's alpha (α) of each construct were above 0.79, indicating acceptable construct reliability. Moreover, the CR, average variance extracted (AVE), and factor loadings (λ) were higher than 0.79, 0.56, and 0.70, respectively (see results in Table 2), ensuring measurement scales' convergent validity is met (Fornell & Larcker, 1981; Hair et al., 2014). The measurement model's fit indices were also satisfactory: $\chi 2/df = 1.063$, GFI = 0.958, AGFI = 0.943, CFI = 0.997, TLI = 0.996, RMSEA = 0.013, and SRMR = 0.036 (Hair et al., 2014; Hu & Bentler, 1999).

Table 2: Construct reliability and convergent validity estimations

Constructs	Indicators	α	CR	AVE	CFA load (λ*)
Vicarious touch (VT)	VT1	0.808	0.808	0.584	0.762
	VT2				0.786
	VT3				0.745
Visual images (VI)	VI1	0.844	0.845	0.578	0.775
	VI2				0.790
	VI3				0.756
	VI4				0.717
Verbal description (VD)	VD1	0.865	0.866	0.564	0.759
	VD2				0.769
	VD3				0.789
	VD4				0.732
	VD5				0.702
Purchase intention (PI)	PI1	0.815	0.818	0.602	0.703
	PI2				0.848
	PI3				0.769
Actual purchase behavior (APB)	APB1	0.788	0.789	0.556	0.738
	APB2				0.787
	APB3				0.709

*Significant at $p < 0.001$
Note: CFA=confirmatory factor analysis

The discriminant validity analysis results are demonstrated in Table 3, where non-bold values are inter-construct correlations, and bold values are the square root of the corresponding construct's AVE. All bold values are higher than the non-bold values in their corresponding rows and columns, satisfying the discriminant validity condition (Fornell & Larcker, 1981).

Table 3: Discriminant validity estimation

	APB	VD	VT	VI	PI
APB	**0.745**				
VD	0.470*	**0.751**			
VT	0.406*	0.204*	**0.765**		
VI	0.407*	0.702*	0.196*	**0.760**	
PI	0.597*	0.426*	0.365*	0.325*	**0.776**

*Significant at $p < 0.001$
Note: Bold values=squared root of AVE; Non-bold values=inter-construct correlations.

4.3. Structural Model

At this stage, the analysis tested this study's proposed hypotheses (see results in Table 4), where again adequate model fit indices were achieved: $\chi 2/df = 1.273$, GFI = 0.950, AGFI = 0.933, CFI = 0.987, TLI = 0.984, RMSEA = 0.028, and SRMR = 0.058 (Hair et al., 2014; Hu & Bentler, 1999).

The results disclosed that VT, VI, and VD together explain 30.6% (r2 =0.306) variations in purchase intentions. In particular, the verbal description has the most significant positive effect on purchase intentions ($\beta=0.356$, $p<0.001$), followed by vicarious touch ($\beta=0.175$, $p<0.001$). Accordingly, H1 and H3 are supported, denoting that vicarious touch and verbal description significantly affect Generation Z's purchase intention toward Smartphone. In contrast, the visual images had no significant effect on purchase intentions ($\beta=0.030$, $p>0.05$), thereby H2 is not supported.

In addition, purchase intentions explain 40.3% (r2 =0.403) variations in actual purchase behavior, where purchase intentions had a significant positive effect on Generation Z's actual purchase behavior of Smartphone ($\beta=0.706$, $p<0.001$), supporting H4.

Table 4: Hypotheses testing outcomes

Hypotheses	relationships	Std. estimate (β)	*t*-value	*p*-value	r^2	Outcomes
H_1	VT → PI	0.175	4.864	0.000		Supported
H_2	VI → PI	0.030	0.401	0.689	0.306	Not supported
H_3	VD → PI	0.356	3.996	0.000		Supported
H_4	PI → APB	0.706	8.490	0.000	0.403	Supported

5. Discussion

This study examined how Unboxing videos made by the TechTubers influence purchase intention and actual purchase behavior of Smartphone by Generation Z. Our study findings reveal that vicarious touch significantly influences purchase intention. Unboxers in YouTube Unboxing videos often showcase the product being unboxed, thus enabling viewers to gain first-hand experience of the product's practical and functional attributes. This reduces uncertainty and increases confidence in the product, increasing the likelihood of purchase. This finding is consistent with prior studies in similar contexts (Chen et al., 2022; Liu et al., 2018; Peck & Childers, 2003). Indeed, when viewers watch Unboxing videos, it increases their product knowledge and generates vicarious emotional connection and experience with the featured product.

This study also shows that verbal description used in Unboxing videos by TechTubers positively influences Generation Z's purchase intention for Smartphone. This research finding is consistent with previous works (Yang & Ma, 2020; Vaudrey, 2022; Kim & Lennon, 2008). Such a finding implies that using natural language in verbal descriptions can make the video more like a conversation between the viewer and the YouTuber, increasing viewers' engagement with the product. When viewers better understand the product, they are more likely to see its value and be more willing to purchase it.

Our study further finds that purchase intentions generated by the unboxing video exerted a significant positive effect on the actual purchase behavior of Smartphone by Generation Z. This finding aligns with the results of other extant studies (Bhutto et al., 2022; Nelson & McLeod, 2005; Ruiz Mafe et al., 2010; Uzunoğlu & Kip, 2014; Venkatesh & Davis, 2000), highlighting that behavioral intention is the main predictor of individuals' mobile usage behavior. Consumers believe that digital influencers such as TechTubers can offer sufficient value through Smartphone unboxing videos, which leads them to search for the product, purchase it, and use them.

Finally, this study reveals that visual images have no significant effect on the purchase intention of Smartphone by Generation Z (β=0.030, p>0.05), leading to H2 unsupportive. This finding is contrary to that of extant studies (Filieri et al., 2021; Kim & Lennon, 2008), as these studies found that visual images in conjunction with product presentation can exert a favorable and meaningful effect on product purchase intention by consumers. Moreover, the finding about the visual image also contrasts the result of Mitchell and Olson (1981), who noted that visual stimuli elicit a more significant positive attitude and purchase intention than verbal information. One of the explanations behind this phenomenon could be that the type of photographs or images and the quality of the visuals used in Unboxing videos may not be engaging enough to hold the viewer's attention or convey the product's value to viewers. Besides, the visuals may not provide enough information about unboxed items' features or functionality to viewers. Another explanation could be that the viewers may prefer to see the product in action, through a demonstration or review, rather than relying on visuals.

6. Conclusion

This study explored the effect of unboxing videos made by Techtubers on the purchase behavior of Generation Z customers in a developing country utilizing vicarious touch and dual coding theory. The results of the study have a meaningful contribution to the extant theoretical knowledge as well as for marketing practitioners. While Mowlabocus (2020) delineated the affective intensities and haptic pleasure associated with unboxing videos, his study lacks critical theory integration. Moreover, Kim (2020) employed the tenets of the uses and gratifications theory and parasocial interaction to investigate why people watch YouTube Unboxing videos and how it affects their intention to purchase. However, the study neither included vicarious touch nor dual coding theory in analyzing consumers' purchase intention. In other research, Vaudrey (2022) combined the social practice theory with the vicarious effect but did not include the DCT. Thus, the integration of vicarious touch and dual coding theory in this study is a novel approach, particularly in the unboxing video and Smartphone purchase behavior context. The study also contributes to the existing knowledge by showing how vicarious touch significantly influences purchase behavior. The study contributes immensely to existing knowledge on the importance of vicarious product touch in forming purchase intention. The finding from vicarious touch suggests that the customers can get an excellent opportunity to perceive the products by observing the product touch

made by the Unboxers. Moreover, they can get first-hand product experience before buying it. Furthermore, the study implicates that verbal descriptions used in the unboxing videos can evoke haptic imagery and enable viewers to improve memory retention and recall, enhancing consumers' positive and favorable attitude, evaluation, and purchase intention toward the unboxed item (Park, 2006).

For marketers, the study suggests that YouTube unboxing videos offer a great advertising opportunity to promote new products by unboxers. The unboxers can turn into advertisers and sales agents by unpacking the new items on YouTube platform and pushing undecided customers to purchase. A Google consumer survey reported that 62% of people who view Unboxing videos were interested in the video because they were planning to purchase the unboxed product (Google, 2014). Results also implicate that Smartphone marketers can use the popular YouTube unboxing channel platforms to provide a vicarious touch experience to the viewers and generate a prompt purchase intention. Burnaz and Acikgoz (2021) reported that commercial partnerships with popular YouTube influencers to promote their brands through YouTube unboxing videos are viable. Marketers can develop ideal and robust sponsorship content to reach potential customers and affect consumers' behaviors and attitudes.

Finally, this study implies that online content creators can benefit from unboxing videos. People watching the customer unbox the much-anticipated product get to see another consumer handle the item and experience the vicarious experience. This vicarious experience helps unboxers to have a good product valuation (Luangrath et al., 2022). Though the study has meaningful theoretical and practical implications, it has several limitations leading to further research avenues. First, generalizing the current study's outcomes is predominantly constrained to young people in developing countries. Second, this research obtained cross-sectional data by solely analyzing self-reported responses from respondents. However, future researchers might adopt a longitudinal study design with different time intervals in data collection regarding predictors (such as visual touch) and outcome variables (such as actual purchase behavior). Third, the current study only examined the direct relationships among variables, while future studies may test the indirect effects of antecedents on outcome variables or examine consumer demographics (e.g., gender, education) as potential moderators. Fourth, the insignificant direct link between visual image and purchase intention requires further examination to check whether such a finding changes with time and different countries' contexts.

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Appendix: Measurement items

Constructs	Indicators	Wording	Item sources
Vicarious touch (VT)	VT1	When I watch the Smartphone Unboxing video, I feel like this is my Smartphone.	Peck and Shu (2009)
	VT2	When I watch the Smartphone Unboxing video, I feel a very high degree of personal ownership of the Smartphone.	
	VT3	When the YouTuber touches and grabs the Smartphone, I feel like I own this product.	
Visual images (VI)	VI1	The photographs and other images provided in the Unboxing videos help me understand the detailed features of the Smartphone.	Filieri et al. (2021)
	VI2	The photographs and other images provided in the Unboxing videos provide me with useful information about the Smartphone.	
	VI3	The photographs and other images provided in the Unboxing videos attract my interest towards the unboxed Smartphone.	
	VI4	The photographs and other images provided in the Unboxing videos make me fantasize about having an opportunity to experience the featured Smartphone.	Wu et al. (2020)
Verbal description (VD)	VD1	The Verbal description by the YouTuber in the Unboxing video helps me familiarize myself with the product.	Li et al. (2013)
	VD2	The Verbal descriptions by the YouTuber in the Unboxing video help me understand the product's performance.	
	VD3	The Verbal descriptions by the YouTuber in the Unboxing video contain the statement of key product characteristics and features.	Smith (2006)
	VD4	The Verbal descriptions by the YouTuber in the Unboxing video provide me with a clear and unambiguous description of the product.	
	VD5	The Verbal descriptions by the YouTuber in the Unboxing video give me the right level of detail regarding the pros and cons of the product.	
Purchase intention (PI)	PI1	I would be willing to buy the same Smartphone that the YouTuber unboxed in the video I just watched.	Lee and Watkins (2016)
	PI2	If I were going to purchase Smartphone, I would consider buying the same product that YouTuber unboxed used in the video.	
	PI3	If I were shopping for Smartphone, the likelihood I would purchase the same product that YouTuber unboxed in the video is high.	
Actual purchase behavior (APB)	APB1	I buy the Smartphone unboxed and recommended by TechTubers.	Lee and Lee (2020)
	APB2	I enjoy using the Smartphone unboxed by TechTubers.	
	APB3	I actively recommend others around me to buy the Smartphone unboxed by the TechTubers.	