



# An Investigation of Live Stream Shopping Via TikTok: The Role of Perceived Enjoyment in Impulsive Buying

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## Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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## ABSTRACT

Live streaming can effectively attract consumers' attention because it can display products with dynamic images, and has good content creativity and interaction, good product display, high consumption involvement experience, and value congruence between consumers and live streamers, having a positive impact on increasing intent buy consumers.

**Objective:** This research aims to compile the impact of environmental factors on consumers' psychological situations when shopping live streaming. Then develop a model to understand impulse buying.

**Study Design:** This research uses a quantitative research approach.

**Place and Duration of Study:** This research was conducted in Indonesia with a duration of time from May to June 2023.

**Methodology:** This research uses quantitative methods with purposive sampling techniques. The criteria for selected respondents were Indonesian citizens aged 17-25 years who had made a

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purchase transaction on live streaming shopping at least once. The number of respondents used in this research reached 210 people. The data analysis method uses PLS-SEM and is processed using the SmartPLS application. This study has five variables: convenience, interactivity, playfulness, perceived enjoyment, and impulse buying.

**Results:** The results of this study indicate that the three factors of convenience, interactivity, and playfulness have a positive and significant influence on the perception of enjoyment. Apart from that, perceived enjoyment also has a positive influence on consumers' impulse purchases.

*Keywords: Convenience; interactivity; playfulness; perceived enjoyment; impulse buying.*

## 1. INTRODUCTION

Live streaming is becoming a popular live sales feature, allowing sellers to engage and interact with potential customers [1]. The increasingly popular emergence of the live-streaming phenomenon has made sellers in social e-commerce start to use live-streaming as a platform to increase sales [2]. One platform that utilizes the live streaming feature is TikTok.

“TikTok is where users can post videos of themselves talking, dancing, or lip-syncing. TikTok generates a wider and more diverse audience than traditional “follower”-based social media models. On TikTok, videos are sorted by hashtags, and search results are directly sorted by the number of likes received per post” [3]. “TikTok is a social networking site (SNS) that allows users to create personal profiles, express themselves, connect with others, upload, comment, share and view messages, videos, photos and other content uploaded on their homepage” [4].

[5] “Live streaming has three advantages: accurate target audience, strong engagement, and high return on investment”. “Three characteristics of live broadcast marketing, namely, good product display, high consumption involvement experience, and value congruence between consumers and live streamers, have a positive impact on increasing consumer purchase intentions” [6].

Previous research conducted by [7] stated that enjoyment is influenced by several variables such as convenience, interactivity, and playfulness. [8] defined convenience-oriented customers as people who strive to complete tasks quickly with the least expenditure of human energy. According to [9], Interacting with other people is one of the main reasons consumers use live streaming instead of regular online shopping. [10] interaction between viewers may have a negative impact on impulse buying decisions because buyers with important

emotional intelligence are less susceptible to psychosocial stress, resulting in lower impulse buying. Playfulness is very important to encourage a person's intrinsic motivation to engage in certain activities. [11] stated that the perceived excitement resulting from the shopping experience influences enjoyment.

Enjoyment in shopping can be interpreted as the happiness a person feels during the shopping process. Various studies show that perceived enjoyment determines online shopping intentions [12,13]. Another study from [14] found that positive effects such as pleasure and arousal had a significant effect on impulse buying. Impulsive buyer behavior attracts potential buyers to buy a product without much thought, thus making potential buyers buy without thinking about the benefits but only using emotions and feelings.

This research was conducted to prove previous research which discussed the influence of convenience, interactivity and playfulness which influence impulse purchasing intentions and is mediated by the enjoyment felt by consumers [15]. The popularity of TikTok live streaming in society is the reason for choosing this platform as a research object.

## 2. LITERATURE REVIEW

### 2.1 SOR model

The SOR theory from [16] explains that this model is designed to combine individual reactions that are processed to explain how people see and feel things around them, as well as how good or bad behavior arises as a result of what is perceived. SOR consists of three interconnected parts, namely the thing that triggers or stimulates (stimulus), the individual or organism involved (organism), and the response or reaction given (response).

“In the classic SOR model, stimuli are defined as factors that influence an individual's internal state

and can be conceptualized as influences that stimulate the individual” [17,16] In his research, “the SOR model believes that stimuli, such as convenience, interactivity, and playfulness, will influence consumers' emotional responses. In this research, the stimuli above will be factors that will influence the response of potential consumers”.

## 2.2 Convenience

“An early application of the notion of convenience can be found in the term 'convenience goods', where convenience relates to the time and effort saved by consumers in purchasing a product” [18]. “Convenience research has long looked at consumers' expenditure of time and energy”. [19] “In the case of a lack of time or energy, there is a direct link to the desire for comfort. This may be a contributing factor to a recurring theme in the convenience literature, which refers to the idea of how consumers prioritize convenience. As consumers allocate less time to shopping and more to other activities, their desire for convenience increases, and as a result, their attention shifts to online shopping” [20]. “The absence of queues and long journeys is a convenience factor that makes online shopping increasingly attractive to them” [21].

## 2.3 Interactivity

“Interactivity can be defined as the ability of participants to have control over the exchange of information and the ability to exchange roles in a reciprocal conversation” [22]. “The formation of information sets provides the possibility of customer engagement, which is an important indicator for companies to obtain potential customer value” [23]. “As an important form of social stimulus in online advertising, interactivity can stimulate customers' physiological arousal, influencing their attitudes and purchasing intentions” [24]. “In online commerce, interactivity is an important signal to stimulate consumers' cognitive and emotional states and subsequently influence their behavioral responses” [25].

## 2.4 Playfulness

“Playfulness is associated with creativity, sense of humor, curiosity, fun, and spontaneity” [26]. “Fun between friends has been shown to increase the emotional capital of a relationship” [27]. “The level of playfulness is influenced by the intensity of environmental stimuli, so it is situational. Excitement is also an innate

component of motivation and thus drives people to display exploratory behavior and achieve satisfaction from new experiences” [28]. “The streaming experience in live streaming can give users feelings of playfulness and enjoyment, which is the joy of live streaming. Enjoyment can be used to explain attitudes towards online consumption. The more enjoyable a live stream is, the more likely users are to feel relaxed and happy, thereby immersing themselves in the live stream” [29].

## 2.5 Perceived Enjoyment

Enjoyment is defined as the extent to which an Internet user participates in a social network because the process “produces pleasure and enjoyment” because enjoyment is a factor that determines the user's intention to participate in a social network [30]. Satisfaction, entertainment, and enjoyment bridge the gap in increasing the intention to continue using blogs [31]. As intrinsic motivation, perceived enjoyment indicates the pleasure and joy obtained from performing a particular behavior. Perceived enjoyment is the main factor that influences consumers' attitudes and intentions towards a behavior. [32] explains that services are based on more pleasure-oriented components; it is very important for users to feel emotional pleasure when they use these services. In addition, expectations can predict how happy someone feels in research on intention to use services. In addition, when they are satisfied with the initial pleasant expectations, people are more likely to enjoy the service to maintain a good mood.

## 2.6 Impulsive Buying Behavior

Impulse buying is unplanned, exciting, and hedonically complex purchasing behavior [33]. In the marketing literature, much effort has been made to identify factors (e.g. consumer characteristics, store characteristics, situational stimuli, and product characteristics) that influence impulse buying. [34] defined “impulse buying as an unplanned purchase that results from comparing alternative purchase intentions with actual outcomes. Consumers initially do not plan impulse purchases before entering the store, but this results in purchasing behavior from the stimulus created by the store”. “Impulse buying is driven by consumer emotions, spontaneous behavior, or low cognitive control, and this behavior is driven by objects of interest, thereby triggering impulse buying among buyers without considering financial and other aspects in the E-commerce era” [35,36].

## 2.7 Hypothesis Development

The convenience of shopping at an online store can provide benefits to consumers because online shopping eliminates the burden of physically handling a product. When someone feels convenience then he will feel happy [37,38] also stated that “shopping convenience is positively related to perceived shopping enjoyment. Nowadays, for some people, shopping is not just to get goods and services, but can also be a source of pleasure”. “Enjoyment refers to the extent to which consumers feel happy, interested, and excited during shopping, whatever the consequences”. [39]. Based on the results of previous research, the first hypothesis proposed is:

H1: Convenience has a positive effect on Perceived Enjoyment

The concept of interactivity is considered as one of the important determinants of the presence and enjoyment of interactive services and systems [40]. Research from [41] shows that the interactivity students feel towards the environment is a positive antecedent of perceived environmental enjoyment. User-perceived interactivity is one of the main solutions to increase perceived enjoyment [42]. [13] found a positive relationship between high levels of interactivity and visual-spatial cues and increased perceived informativeness and perceived enjoyment. Based on the results of previous research, the second hypothesis proposed is:

H2: Interactivity has a positive effect on Perceived Enjoyment

Playful consumers tend to engage more in product and service experiences for intrinsic enjoyment rather than specific extrinsic rewards [43]. Therefore, they prefer to focus on pretending, not being attached to literal meanings, being actively involved, and giving meaning to the objects they perceive. Playfulness is also a component of intrinsic motivation and thus encourages people to display exploratory behavior and achieve satisfaction from new experiences [44,45]. Playful people tend to be creative and less focused on needs. Based on the results of previous research, the third hypothesis proposed is:

H3: Playfulness has a positive effect on Perceived Enjoyment

[46] concluded that personal situational factors, namely family influence, time availability, credit card use, and the tendency to enjoy shopping have a significant and positive effect on impulse buying behavior. [47] concluded that the tendency to enjoy shopping has a significant and positive effect on impulse buying. [48] concluded that there is a significant relationship between consumers' shopping enjoyment and impulse buying behavior [49]. [50] reported that sensory stimulants and shopping enjoyment influence impulse buying. The enjoyment of shopping develops a positive image in the minds of customers, increasing impulse purchases [51]. Based on the results of previous research, the fourth hypothesis proposed is:

H4: Perceived Enjoyment has a positive effect on Impulse Buying

## 2.8 Conceptual Framework

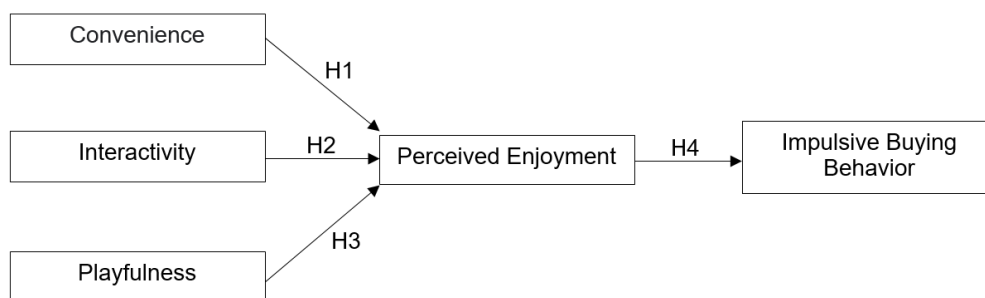


Chart 1. Conceptual Framework

### 3. METHODS

This research was carried out covering the territory of Indonesia using a quantitative research method, with a population of Indonesian people who had used the Live Streaming Shopping feature on Tik Tok with a sample of 280 respondents. The data used in this research is primary data with data collection techniques using a questionnaire distributed via Google form.

The analysis technique used in this research uses SEM analysis techniques using the PLS application. PLS-SEM is used to evaluate whether there is a predictive relationship between various constructs with the aim of seeing whether there is an influence or relationship between these constructs.

### 4. RESULTS AND DISCUSSION

#### 4.1 Results

The characteristics of respondents in this study include gender, education level, current job, monthly income, and frequency of visiting TikTok per day. Based on the Table 1, female

respondents dominate this research at 53.8%, respondents with the highest level of education at undergraduate level with a percentage of 81.9%, most respondents are students with a percentage of 96.7%, respondents' income is the highest in the range ≤ IDR 2,000,000 with a percentage of 52.4%, respondents with the highest frequency of visits of 3-4 hours with a percentage of 39.5%.

Based on Table 2, it is known that the loading factor value produced by each indicator is more than 0.5 and the AVE value is more than 0.5. In this way, these indicators are declared valid as measures of the latent variable

Based on Table 3, it can be seen that the composite reliability value of all research variables is > 0.7 and Cronbach Alpha > 0.7. These results indicate that each variable has met composite reliability and Cronbach alpha so it can be concluded that all variables have a high level of reliability.

Evaluation of the PLS structural model begins by looking at the R-square of each dependent latent variable. Fig. 1 is the result of R-square estimation using PLS

**Table 1. Characteristics of respondents**

Category	Frequency	%
Gender		
Man	97	46.2%
Woman	113	53.8%
Education		
Elementary school	0	0%
Junior high school	0	0%
SENIOR HIGH SCHOOL	38	18.1%
Bachelor's degree	172	81.9%
Master's degree	0	0%
Doctorate	0	0%
Work		
Student	203	96.7%
Businessman	1	0.5%
Private sector employee	5	2.4%
State Civil Apparatus	1	0.5%
BUMN employee	0	
Income		
≤ IDR 2,000,000	110	52.4%
IDR 2,000,001 – IDR 4,000,000	68	32.4%
IDR 4,000,001 – IDR 6,000,000	13	6.2%
IDR 6,000,001 – IDR 8,000,000	5	2.4%
IDR 8,000,001 – IDR 10,000,000	1	0.5%
≥ IDR 10,000,000	13	6.2%
Frequency of visits		
<1 hour	18	8.6%
1-2 hours	54	25.7%
3-4 hours	83	39.5%
5-6 hours	34	16.2%
>6 hours	21	10.0%

Source: Primary data processed (2023)

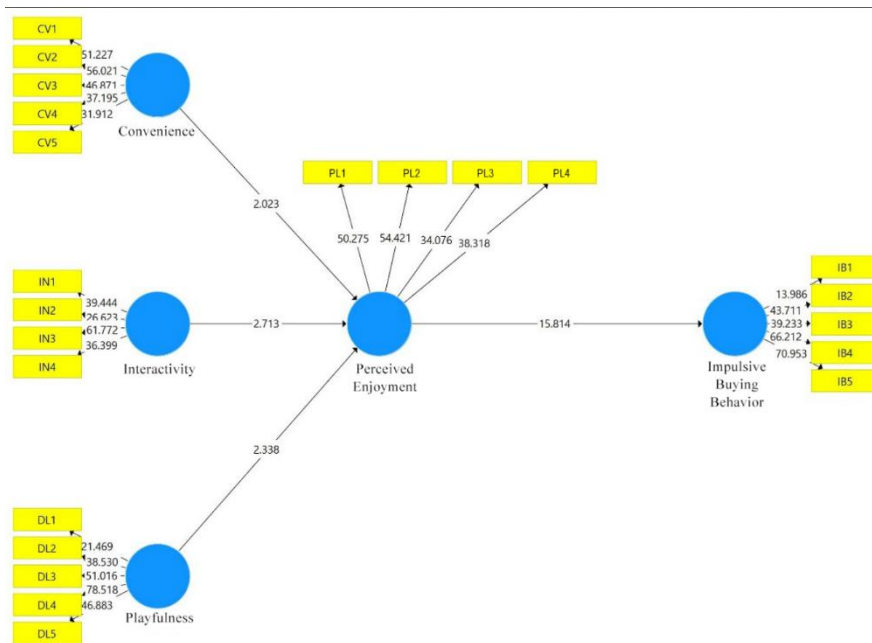
**Table 2. Validity test**

Variable	Items	Loading Factor	AVE	Information
Convenience	CV1	0.901	0.771	Valid
	CV2	0.886		Valid
	CV3	0.882		Valid
	CV4	0.878		Valid
	CV5	0.842		Valid
Playfulness	DL1	0.806	0.777	Valid
	DL2	0.865		Valid
	DL3	0.903		Valid
	DL4	0.928		Valid
	DL5	0.900		Valid
Impulsive Buying Behavior	IB1	0.792	0.780	Valid
	IB2	0.898		Valid
	IB3	0.887		Valid
	IB4	0.922		Valid
	IB5	0.910		Valid
Interactivity	IN1	0.880	0.764	Valid
	IN2	0.840		Valid
	IN3	0.913		Valid
	IN4	0.862		Valid
Perceived Enjoyment	PL1	0.894	0.779	Valid
	PL2	0.898		Valid
	PL3	0.863		Valid
	PL4	0.875		Valid

Source: Primary data processed (2023)

**Table 3. Reliability test**

Variable	Cronbach's Alpha	Composite Reliability
Interactivity	0.897	0.928
Playfulness	0.928	0.946
Perceived Enjoyment	0.905	0.934
Convenience	0.926	0.944
Impulsive Buying Behavior	0.929	0.946



**Fig. 1. Structural Model**

**Table 4. R-Test ResultsSquare**

Variable	R-Square	R-Square Adjusted
Perceived Enjoyment	0.559	0.552
Impulsive Buying Behavior	0.516	0.514

**Table 5. SEM results**

Variable Relations	Hypothesis	$\beta$	P value	T statistics	Conclusion
CV > PL	H1	0.222	0.044	2,023	Supported
IN > PL	H2	0.349	0.007	2,713	Supported
DL > PL	H3	0.252	0.020	2,338	Supported
DL > IB	H4	0.719	0,000	15,814	Supported

Source: Primary data processed (2023)

Based on Table 4, it shows that the R-Square value of the two endogenous variables has an R-Square value that is in the moderate category ( $0.33 < R^2 < 0.67$ ).

In PLS, statistical testing of each hypothesized relationship is carried out using simulation. In this case, it is done using the bootstrapping method for the sample. The following are the results of the PL bootstrapping analysis as follows:

- 1. The influence of convenience on the perceived enjoyment.** The results of testing the first hypothesis, namely the Influence of Convenience on Perceived Enjoyment, show a coefficient value of 0.222, p-values of  $0.044 < 0.05$  and t-statistics of  $2.023 > 1.960$ . These results indicate that convenience influences perceived enjoyment [52]. So the hypothesis which states that "Convenience has a Positive and Significant Influence on Perceived Enjoyment" is accepted.
- 2. The effect of interactivity on perceived enjoyment.** The results of testing the second hypothesis, namely the Effect of Interactivity on Perceived Enjoyment, show a coefficient value of 0.349, p-values of  $0.007 < 0.05$  and t-statistics of  $2,713 > 1.960$ . These results indicate that interactivity influences perceived enjoyment [53]. So the hypothesis which states that "Interactivity has a Positive and Significant Influence on Perceived Enjoyment" is accepted.
- 3. The influence of playfulness on perceived enjoyment.** The results of testing the third hypothesis, namely the Effect of Playfulness on Perceived Enjoyment, show a coefficient value of 0.252, p-values of  $0.020 < 0.05$  and t-statistics of  $2,338 > 1.960$ . These results

indicate that Playfulness influences perceived enjoyment. So the hypothesis which states that "Playfulness has a Positive and Significant Influence on Perceived Enjoyment" is accepted.

- 4. The Influence of Perceived Enjoyment on Impulsive Buying Behavior.** The results of testing the fourth hypothesis, namely the Influence of Perceived Enjoyment on Impulsive Buying Behavior, show a coefficient value of 0.719, p-values of  $0.000 < 0.05$  and t-statistics of  $15,814 > 1.960$ . These results indicate that perceived enjoyment influences impulse buying behavior. So the hypothesis which states that "Perceived Enjoyment Has a Positive and Significant Influence on Impulsive Buying Behavior" is accepted [54,55].

## 4.2 Discussion

### 4.2.1 The effect of convenience on perceived enjoyment

The results of testing the first hypothesis, namely the influence of convenience on perceived enjoyment, show a coefficient value of 0.222, a p-value of  $0.044 < 0.05$ , and a t-statistic of  $2.023 > 1.960$ . These results show that convenience influences perceived enjoyment, this is in line with [56] who in his research stated that convenience influences consumer enjoyment. The large number of internet users who carry out online transactions allows sellers to provide buying and selling services more quickly, precisely and accurately with Electronic Commerce [57]. TikTok is often used as a promotional medium by many influencers to reach as many consumers as possible. In enjoying TikTok content, consumer convenience is a variable that can influence consumer enjoyment in watching live streamers on TikTok. A live streamer's ability to build connections and

closeness with consumers can create a sense of convenience in the audience, which in turn will make consumers enjoy the content they watch on TikTok live.

#### 4.2.2 The effect of interactivity on perceived enjoyment

The results of testing the second hypothesis of the Effect of Interactivity on Perceived Enjoyment show a coefficient value of 0.349, a p-value of  $0.007 < 0.05$ , and a t-statistic of  $2.713 > 1.960$ . These results indicate that interactivity has an influence on perceived enjoyment. The closeness and involvement with live streaming will be felt by the audience if the live streamer can play with the audience's emotions by carrying out interactivity that can make the audience feel at home watching the live stream until the end. The TikTok Live feature will make the online shopping experience even more exciting and entertaining. It creates a new communication channel between sellers and consumers, with Live Streaming Commerce creating an interactive, engaging and user-focused environment. This makes it even more enjoyable for viewers to watch because they feel involved and appreciated by the live streamer who is willing to answer questions in real-time. In line with [58], his research states that the perception of audience interactivity through the comments column influences consumer buying interest.

#### 4.2.3 The effect of playfulness on perceived enjoyment

The results of testing the third hypothesis, namely the influence of playfulness on perceived enjoyment, show a coefficient value of 0.252, a p-value of  $0.020 < 0.05$ , and a t-statistic of  $2.338 > 1.960$ . These results show that playfulness Affects Perceived Enjoyment is in line with [58] who in his research concluded that entertainment influences the audience's buying interest. The playfulness shown by live streamers when offering a product is entertaining for the audience so that consumers will feel pleasure when watching live streaming broadcasts on TikTok. The playfulness of live streaming also brings its own enjoyment to viewers when watching live streaming on TikTok. Viewers will enjoy and feel more comfortable watching live streamers who are communicative, cheerful, and give positive feelings so that it spreads to the audience and they can enjoy live streaming more. A live streamer who displays an attractive and playful

attitude will most likely attract the attention of viewers to continue enjoying the live streaming so that they can persuade customers to purchase products online [59].

#### 4.2.4 The influence of perceived enjoyment on impulsive buying

The results of testing the fourth hypothesis, namely the influence of perceived enjoyment on impulsive buying behavior, show a coefficient value of 0.719, a p-value of  $0.000 < 0.05$ , and a t-statistic of  $15.814 > 1.960$ . These results indicate that Perceived enjoyment influences Impulse Buying Behavior. In line with [56], their research concluded that there was a positive influence of perceived enjoyment on online impulse purchases on TikTok Shop. By increasing the enjoyment that viewers feel when watching live streaming, consumers will pay more attention to the products offered; The more often you watch, the more the audience's trust in the products offered will increase, so it can also increase the audience's impulsive buying interest. Interest in the product on display is the reason why live-streaming users stay for a long time seeing it displayed according to what they like and will buy it even though the product will not be used later [60].

## 5. CONCLUSION

### 5.1 Conclusion

Based on the results of hypothesis testing in this research, it can be concluded that:

1. **Convenience has a positive and significant effect on perceived enjoyment.** Where a live streamer's ability to build connections and closeness with consumers can create feelings of entertainment in the audience, thereby creating feelings of convenience in the hearts of consumers which in turn will make consumers enjoy the content they are watching on live Tik Tok.
2. **Interactivity has a positive and significant effect on perceived enjoyment.** The existence of the Tik Tok Live feature will make the online shopping experience more interesting and entertaining. It creates a new communication channel between sellers and consumers, with Live Streaming Commerce creating an interactive, engaging and user-focused environment.



This makes the audience feel more enjoyable when watching because they feel involved and appreciated by the live streamer who is willing to answer questions in real time.

3. **Playfulness has a positive and significant effect on perceived enjoyment.** The playfulness displayed by live streamers when offering a product is entertainment for the audience so that consumers will feel enjoy when watching live streaming broadcasts on Tik Tok.
4. **Perceived enjoyment has a positive and significant effect on impulsive buying behavior.** By increasing the enjoyment felt by the audience when watching a live streaming, consumers will pay more attention to the products being offered, the more often they watch, the more the audience's trust in the products being offered will increase, thereby increasing the audience's impulsive buying interest.

## 6. RECOMMENDATION

- a. Respondents in the study were very narrow in terms of diversity of types of work. The majority of respondents came from students or students. So the research results are less able to examine different behavior from the diversity of respondents' types of work. Therefore, it is hoped that future research can involve respondents with various types of work evenly.
- b. This research only focuses on live streaming shopping on TikTok. So the results of this research may be different from other online trading platforms.

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## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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