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Engagement at Scale: Experimental Evidence on Interactivity and Purchase Behavior in Indonesia's Live Commerce Ecosystem

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ABSTRACT: This study investigates how interactivity influences consumer purchase decisions in live commerce, focusing on short video platforms in Indonesia. As digital retail rapidly expands across Southeast Asia, live commerce particularly on platforms like TikTok Shop by Tokopedia has become a dominant format for real time engagement and conversion. The objective of this research is to provide empirical evidence on the causal effects of interactivity during live shopping sessions on key performance indicators such as trust, click through rates, and paid orders. Using a randomized field experiment design, the study categorizes live sessions into three treatment groups representing different levels of interactivity (low, moderate, high). Quantitative data were collected from 90 sessions hosted by certified sellers, supplemented by post session viewer surveys. Key metrics include chat frequency, response time, Q&A participation, and viewer trust scores. Analytical techniques include regression models and mediation analysis. Results show that higher interactivity significantly enhances engagement and drives stronger outcomes at each stage of the purchase funnel. Paid order rates increased from 1.2% in low interactivity sessions to 3.6% in high interactivity sessions. Trust was identified as a statistically significant mediator between interactivity and purchase behavior, reinforcing existing digital commerce theories such as the Stimulus Organism Response (S O R) model. These findings have critical implications for platform developers, marketers, and policymakers. Optimizing live commerce features to encourage real time interaction can improve trust and conversion outcomes, particularly in culturally collectivist and regulatory sensitive markets like Indonesia. The research highlights the need for adaptive platform design and regulatory foresight to balance innovation with compliance.

Keywords: Live Commerce, Interactivity, Purchase Decision, Tiktok Shop, Trust, Indonesia, Digital Retail.

INTRODUCTION

Live commerce on short video platforms has reshaped retail practices globally, driven by digital innovation and changing consumer behavior. In emerging markets, especially Indonesia, rapid technological adoption, a youthful population, and the integration of entertainment with e-commerce have accelerated this shift. With over 212 million internet users and TikTok's ad reach exceeding 108 million adults by early 2025, the country has become a focal point for live commerce experimentation and expansion. The COVID 19 pandemic accelerated these trends, further embedding digital habits across various socio economic groups.

TikTok Shop's entry into and subsequent evolution within the Indonesian market highlights the intersection of social media, commerce, and regulatory influence. Initially lauded for its seamless integration of content and shopping, TikTok Shop faced regulatory challenges following the enforcement of Ministry of Trade Regulation No. 31/2023, which mandated the separation of social media and transactional functions. This led to the platform's strategic merger with Tokopedia, reflecting how live commerce must constantly navigate legal frameworks while responding to consumer demands. Against this backdrop, Indonesia's market is unique: it is large and dynamic, but also shaped by distinct socio economic, infrastructural, and regulatory conditions. This complex environment makes it an ideal setting for understanding the causal mechanisms of consumer decision making in live commerce.

The rise of live commerce in Indonesia cannot be detached from broader shifts in digital consumption and the increasing demand for interactivity and personalization. Global studies indicate that interactivity manifested through live chat, real time Q&A, gamification, and personalized responses drives trust and purchase intention in online settings. In Indonesia, these effects are amplified by cultural preferences for relational shopping experiences and the popularity of social media influencers. Yet, most empirical evidence remains correlational, based on self reported surveys or platform analytics that do not establish causality. As such, the mechanisms through which interactivity influences consumer behavior in live commerce remain insufficiently understood, particularly in the context of short video platforms.

Existing literature in Southeast Asia underscores the centrality of trust as a mediator between platform design and consumer action. Interactivity enhances user engagement, reduces uncertainty, and fosters a participatory environment, thereby strengthening trust and increasing the likelihood of conversion. For example, viewer engagement through live Q&A allows for immediate clarification, mimicking the assurance offered in traditional in store experiences. Indonesian consumers, especially from Gen Z and millennial cohorts, have shown high responsiveness to such features, especially when accompanied by time limited promotions or influencer endorsements. Furthermore, theoretical frameworks such as the Technology Acceptance Model (TAM) and the Technology Organization Environment (TOE) model offer valuable lenses to examine how consumers interpret, trust, and act upon interactive e commerce experiences.

In addition to consumer psychology, the regulatory environment plays a decisive role in shaping live commerce outcomes. In Indonesia, policy shifts have redefined platform strategies. The introduction of taxation requirements, advertising regulations, and local content mandates has influenced how platforms structure live sessions and onboard sellers. These legal dynamics offer an external mechanism that potentially moderates the relationship between interactivity and purchase behavior. Consequently, any study of live commerce effectiveness in Indonesia must consider these macro level variables.

This study examines the impact of interactivity on purchase decisions in live commerce through a randomized field experiment on TikTok Shop by Tokopedia. It compares different interactivity levels to test their causal effects on funnel metrics (click-through rate, add-to-cart, and completed transactions) and explores trust as a mediator. The novelty of this research lies in its rare field-based design within the Indonesian context and its focus on a dynamic commerce format. By anchoring the study within Indonesia's unique market and regulatory context, the research contributes to both academic literature and practical applications in digital commerce strategy and platform policy.

METHOD

This chapter outlines the research design, variables, data collection instruments, and analytical techniques used to assess the impact of interactivity on consumer purchase behavior in live commerce sessions on TikTok Shop by Tokopedia. Emphasis is placed on aligning the operationalization of interactivity and trust with established digital behavior methodologies, integrating robust experimental practices to ensure empirical validity.

The study employed a randomized field experiment involving 90 live sessions over a four month period (January–February 2025). Sellers participating in TikTok Shop's Certified LIVE Host Program were randomly assigned to one of three treatment arms low, moderate, or high interactivity. Each session maintained consistent product categories, presentation duration, and promotional schemes to isolate the effects of host interactivity levels.

The experiment followed A/B testing and randomized controlled trial (RCT) frameworks commonly used in digital commerce research. Treatment groups differed in host responsiveness (e.g., response time), Q&A frequency, gamified interactions, and engagement tools such as polls or giveaways. These features align with platform experimentation best practices (Liang et al., 2023; Voordijk, 2021).

Operationalization of Variables

- Interactivity (Independent Variable): A composite index was constructed using backend metrics: chat frequency (chats/minute), average host response time, Q&A count, and interactive feature activation (e.g., quizzes).
- Trust (Mediator): Measured post session using a Likert scale survey assessing perceived credibility, transparency, and confidence in product claims(Suder et al., 2022).
- Purchase Outcomes (Dependent Variables): Tracked via platform analytics: click through rate, add to cart rate, checkout initiation, and paid orders.

- Control Variables: Product category, host ID, session time (peak vs. off peak), presence of discounts/vouchers, and consumer demographics (where available).

These operationalizations align with recent digital behavior research, which emphasizes real time interactivity data and structured trust surveys to understand e commerce outcomes (Hallikas et al., 2021; Wang et al., 2023).

Data Collection Instruments

Data was collected from TikTok Shop's internal dashboard, complemented by manual coding of session replays for interaction variables. Trust data was obtained through post session digital surveys distributed to a randomized sample of session viewers (n ≈ 1,600). To ensure reliability, instruments underwent pre testing and validation with a pilot group of consumers (n = 100).

Analytical Framework

To assess causal and mediation effects, the study used both regression-based and structural analysis methods:

- ANOVA and Linear Regression: Used to compare treatment arms and estimate the direct effects of interactivity on purchase funnel metrics.
- Mediation Analysis: Conducted using the Baron Kenny method and supported by bootstrap confidence intervals to validate indirect effects through trust (Faraz & Anjum, 2025).
- Structural Equation Modeling (SEM): Employed as a robustness check to test the theoretical structure linking interactivity, trust, and purchase outcomes simultaneously (Giakomidou et al., 2022).

This multi method approach ensures internal validity while addressing common issues in observational studies of digital commerce behavior. By incorporating advanced analytics and rigorous experiment design, the methodology contributes novel empirical insights into how interactivity functions within Indonesia's evolving live commerce ecosystem.

RESULT AND DISCUSSION

This chapter presents the outcomes of the field experiment conducted to examine how interactivity influences purchase behavior in live commerce sessions. It synthesizes descriptive metrics, analyzes causal effects, tests mediation through trust, and validates robustness through various controls. The insights are structured into four subsections: descriptive statistics, main effects, mediation tests, and robustness checks.

Viewer engagement metrics across sessions reflect expected variation based on interactivity levels. Table 1 summarizes key indicators:

Table 1. Experimental Summary by Treatment

Treatme nt	Avg. Chat/Min	Response (sec)	Time	View ers	Sessio ns
Low	3.2	60		1,250	30
Moderat e	5.9	35		1,270	30
High	9.8	15		1,290	30

Session level performance showed higher engagement metrics (likes, comments, shares) in high interactivity groups. Peak viewer retention rates correlated positively with chat volume and Q&A frequency (Chang et al., 2024; Wu & Huang, 2023).

Main Effects

Table 2. Conversion Funnel Outcomes

Treatme nt	CTR (%)	Add to Cart (%)	Paid (%)	Orders
Low	5.1	2.3	1.2	
Moderat e	6.8	3.6	2.0	
High	9.4	5.2	3.6	

High interactivity sessions outperformed the others in all funnel metrics. Regression analysis confirmed statistically significant effects ($p < 0.01$) on click through and conversion (Anabila et al., 2024; Liu & Leo, 2023). Personalized host behavior and gamification increased viewer retention and purchase probability.

Mediation Tests

Table 3. Viewer Trust Scores

Treatment	Avg. Trust Score (1–5)	N
Low	2.8	520
Moderate	3.6	540
High	4.4	560

Mediation analysis (Baron Kenny and bootstrap) confirmed trust as a significant mediator between interactivity and paid orders. Structural equation modeling (SEM) supported the theoretical path: Interactivity → Trust → Conversion (Sohaib, 2021; Zhou & Baskaran, 2025).

Robustness Checks

Findings remained stable across control variables. Sessions conducted during peak hours had marginally higher performance, but treatment effects persisted. Fixed effects regression ruled out host specific confounds (Iisnawati et al., 2022). External variables such as promotions and product categories showed no significant interaction with treatment effects.

Results were robust across control variables and confirmed through cross-validation with TikTok platform-level sales data (Elgammal et al., 2023). This strengthens the conclusion that interactivity causally influences consumer behavior in live commerce settings.

Alignment with E commerce Literature

This study provides compelling and granular empirical evidence that interactivity serves as a central driver of consumer engagement and purchase behavior in live commerce sessions, particularly in emerging markets such as Indonesia. The evidence generated here substantiates existing claims in the broader e commerce literature that interactive digital features, such as real time chat, question and answer functionalities, polls, and gamification mechanics, enhance both psychological and behavioral consumer outcomes. These elements align closely with the theoretical predictions of the Stimulus Organism Response (S O R) model, which posits that specific environmental cues influence internal psychological states (such as trust) that ultimately result in consumer action (Adlina, 2023).

The findings support global literature that positions interactivity as a core component of digital commerce strategies. In our study, increased interactivity led to a 3-fold rise in paid orders, emphasizing its foundational role in shaping user experience and behavior. Previous research indicates that interactive components not only increase session duration and attention but also build a community like atmosphere in which users feel socially connected, validated, and encouraged to act (Anabila et al., 2024; Ong et al., 2021). This study extends that understanding by providing field based, causal evidence from Indonesia, showing that viewer trust acted as a statistically significant mediator in the relationship between interactivity and purchase conversion. The role of trust in live commerce is thus not ancillary but essential, and its development is strongly correlated with the quality and frequency of interactive elements.

Implications for Platform Design

From a platform development standpoint, the practical implications of these findings are substantial. Digital commerce platforms, especially those focused on short video content and live selling, should prioritize the implementation of design features that encourage ongoing, two way communication between sellers and viewers. This includes enhancements in real time interaction interfaces such as intuitive chat systems, live Q&A boxes, and visually prominent engagement prompts. Platforms should also consider integrating backend algorithms that prioritize sessions with high engagement metrics, thereby reinforcing interactivity as a performance standard.

In addition, gamification should not be treated as an add on feature but as a structural component of the live commerce experience. Reward mechanisms for example, awarding discount vouchers or bonus content based on viewer interaction can serve dual purposes: enhancing session vitality and encouraging retention. Moreover, behavioral segmentation analytics can inform platform operators and sellers about the most effective forms of interactivity for different audience demographics, allowing for tailored and targeted engagement strategies (Ngo et al., 2025). The inclusion of real time user generated content (UGC), where consumers can post reviews or live reactions, adds layers of authenticity that further reinforce trust and social proof.

Cultural Variations in Trust

While the operational architecture of interactivity may be universally deployable, the trust dynamics it activates are highly culture bound. In collectivist societies such as Indonesia, trust is often derived less from institutional assurances and more from peer behaviors, interpersonal rapport, and social endorsements. This cultural orientation reshapes the interactivity trust purchase pathway. Instead of relying solely on platform based trust signals such as verified sellers or return policies, Indonesian consumers may respond more strongly to socially embedded cues such as host familiarity, user testimonials, or endorsements by micro influencers within their community networks (Wei et al., 2017).

Live commerce's ability to offer dynamic and immediate interactions allows for a deeper cultivation of emotional trust, which, according to regional studies, plays a disproportionately large role in Southeast Asian consumer behavior. Unlike conventional e commerce where rational trust mechanisms (i.e., product descriptions, delivery assurances) dominate, live commerce emphasizes presenter demeanor, tone, humor, and perceived authenticity as critical trust signals. These findings underscore the need for brands and platforms to understand and localize interactivity strategies to reflect the cultural dimensions of trust.

Regulatory and Policy Considerations

The fast paced expansion of live commerce in Indonesia occurs against a backdrop of evolving regulatory scrutiny. Policies such as Permendag 31/2023, which prohibits direct integration of e commerce and social media functions, mark a turning point for platforms operating in this space. While such policies aim to enhance consumer protections, increase transparency, and ensure fair competition, they also introduce operational constraints that demand strategic adaptation.

For platforms like TikTok Shop, this has necessitated the restructuring of transaction infrastructure evident in its integration with Tokopedia as a compliant commerce gateway. This study affirms that regulatory measures serve as external moderators that influence the effectiveness of interactive commerce strategies. At the same time, compliance complexity may increase the cost and technical overhead for small sellers, potentially curbing the inclusive potential of live commerce.

Additionally, Indonesia's regulatory approach remains under development in areas like data privacy, digital taxation, and AI driven personalization. For platforms to thrive, they must invest in legal foresight and adaptable compliance protocols. Engagement strategies must be reviewed regularly to remain within permissible boundaries while still driving innovation. Policymakers, in turn, must balance the need to regulate with the opportunity to catalyze economic inclusion and technological advancement through live commerce.

Synthesis and Forward Outlook

Our findings show that interactivity serves as a multidimensional catalyst in live commerce directly improving funnel metrics and indirectly boosting conversions through enhanced trust. Yet, its effectiveness is neither culturally neutral nor operationally straightforward. It requires deliberate alignment between design innovation, cultural awareness, and policy compliance. For developers, this means investing in adaptive, audience specific interaction tools; for brands, it necessitates an understanding of localized trust signals; and for regulators, it calls for governance frameworks that accommodate both consumer protection and commercial creativity.

Future research should explore longitudinal impacts of interactivity on repeat purchase behavior and brand loyalty, while practitioners should experiment with hybrid formats that blend live and asynchronous content. The continued evolution of live commerce will depend not only on technological enhancements but also on nuanced engagement strategies that resonate with diverse user bases.

CONCLUSION

This study demonstrates that interactivity significantly affects purchase behavior in Indonesia's live commerce setting. A randomized field experiment on TikTok Shop by Tokopedia showed that higher levels of real-time engagement measured by chat frequency, Q&A, and response time led to substantial increases in click-through and conversion rates. Trust emerged as a key mediating factor in this relationship.

These findings advance theoretical understanding by confirming the relevance of S-O-R and TAM models in emerging markets. In collectivist contexts like Indonesia, real-time interaction fosters not just engagement but emotional trust making interactivity a strategic element for both platform design and digital marketing effectiveness.

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