

Evaluating the Business Impact Through Artificial Intelligence – Powered Livestreaming As Strategic Innovation in the Fmcg Industry:A Cost Efficiency and Feasibility in Indonesia

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Kata Kunci	Abstrak
Inovasi Strategis, Analisis Biaya-Manfaat, Kecerdasan Buatan, Pemasaran, Perdagangan Digital	<p>Kecerdasan Buatan (AI) terus berkembang dari hari ke hari menjadi sesuatu yang besar di industri ini. Pada awalnya, AI hanyalah konsep teoretis dan dianggap sebagai ide, tetapi saat ini teknologi itu sendiri tidak hanya tumbuh tetapi juga membentuk kembali industri dan memengaruhi perilaku bisnis. Sebelumnya, AI berperan sebagai dukungan di mana ia bekerja di backend, teknologi membantu otomatisasi untuk tugas sehari-hari dan berulang yang biasanya berfokus pada analisis dan prediksi, tetapi sekarang AI telah berevolusi menjadi menghadap pelanggan, di mana orang/pengguna dapat dengan mudah memasukkan prompt mereka dan AI dapat merespons sesuai dengan itu. Karena orang memasukkan AI ke dalam semua aspek bisnis, perkembangan terbaru adalah streaming langsung bertenaga AI, yang dihitung sebagai pelopor transformasi dan inovasi strategis di bidang pemasaran.</p> <p>Tujuan dari penelitian ini adalah untuk fokus pada analisis penggunaan AI dalam livestreaming, khususnya untuk fokus pada peran AI dapat berperan sebagai host dalam livestreaming. Sudut penelitian ini akan mengambil perspektif efisiensi biaya melalui analisis biaya-manfaat atau analisis perbandingan biaya untuk melihat biaya antara penggunaan AI sebagai host livestream dan manusia sebagai host livestream. Selain itu, penelitian ini akan mempersempit kelayakan penggunaan host streaming langsung AI untuk melihat apakah pengguna ingin mengadopsi teknologi baru ini. Tujuan dari penelitian ini adalah untuk berkontribusi pada wawasan strategis untuk bisnis, untuk mengadopsi penggunaan AI dalam streaming langsung, dan untuk menempatkan inovasi strategis ini ke dalam saluran pemasaran mereka dengan menganalisis keuangan dan kelayakan secara khusus pada tahap adopsi awal. Selain itu, tujuan penelitian ini adalah untuk menunjukkan dan mengemukakan bahwa teknologi AI, khususnya dalam streaming langsung, bukanlah tren pemasaran atau bisnis yang harus diikuti, tetapi lebih merupakan inovasi strategis untuk dipertimbangkan.</p>
Keywords	Abstract
<i>Strategic Innovation, Cost-Benefit Analysis, Artificial Intelligence, Marketing, Digital Commerce</i>	<i>Artificial Intelligence (AI) continues to evolve day by day into something big in the industry. In the beginning, AI was only a theoretical concept and considered as an idea, but nowadays the technology itself is not only growing but also reshaping the industry and affecting business behaviour. Previously, AI played a role as a support where it works on the backend, the technology helps with the automation for daily & repetitive task that typically focuses on analysis and prediction, but now AI has evolved to the customer-facing, where people/user can easily input their prompt and AI can respond accordingly. As people incorporate AI into all business aspects, the recent development is the AI-</i>

powered livestream, that counted as a pioneer of transformation and strategic innovation in the marketing area.

The purpose of this research is to focus on the analysis of the use of AI in the livestreaming, specifically to focus on the role AI could play a role as a host in the livestreaming. The angle of this research will be taking the perspective of cost efficiency through cost-benefit analysis or cost comparison analysis to see the cost between the use of AI as the livestream-host and the human as the livestream-host. Moreover, this research will narrow down the feasibility of the use of the AI livestream-host to see whether users would like to adopt this new technology. The aim of this research is to contribute to strategic insight for the business, to adopt the use of AI in the livestreaming, and to put this strategic innovation into their marketing funnel by analysing the financial and feasibility specifically in the early adoption stage. Moreover, this research objective is to show and put upfront that the AI technology, specifically in the livestreaming, is not a marketing or business trend to follow, but more to a strategic innovation to consider.



PENDAHULUAN

In the 50's era, AI (Artificial Intelligence) firstly came into the radar as a theoretical concept, that is mostly used in the academic research (Russell & Norvig, 2020; McCarthy et al., 2006), then the application of using AI is evolving into something more comprehensive into human lives. It comes as a practical way to help people in their day-to-day job. For the past decades, AI plays the role to support the human from the back-end operation by helping to filter the spam that people get in their mail box (Goodman et al., 2007), evolve to automation and personalization such as giving the relevant contents for the users (Kumar et al., 2019) and the recent development that commonly used is the AI that finally come into the consumer facing, which generative AI, which ChatGPT, perplexity, even China create one, which known as Deepseeker (Li et al., 2024), then the very recent one that got released in first quarter of 2025 is the new version of OpenAI 03 and 04 mini (OpenAI, 2025).

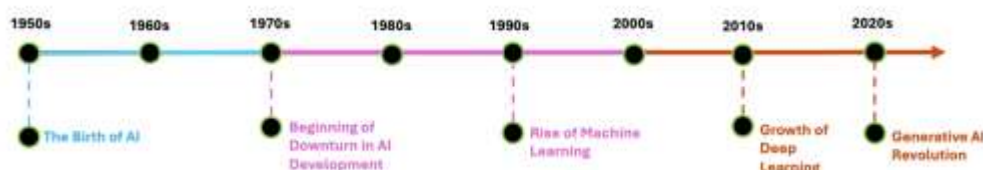


Figure I. 1 Improved version of development history of AI (Wang et al., 2021)

As fast as the enhancement of AI technology, it comes with a package that people need to aware, which is the ethical way. In 2025, OpenAI has officially released their feature to generate any picture that you prompt AI to do (OpenAI, 2025). However, this feature is become more polemic to some of the artist, not to mention Ghibli studio that released their statement that it's not part of partnership moreover we can quote from Hayao Mizaki as the cofounder of Studio Ghibli said that it's "An insult to life itself" (The Guardian, 2025). The technology development from AI is very rapid, and nowadays, AI is going beyond from assisting human workers, in industry AI can enhance the efficiency of the work (Bughin et al., 2018).

Crème de la crème that people put into their mind, is that the integration of AI in the industries comes as the hybrid approach whereby AI and humas can collaborating to get a better outcome when it comes to work (Davenport & Ronanki, 2018). Nowadays, many businesses are leveraging the utilization of AI in a different division, which the recent development that AI has been rapidly being developed is the utilization of AI in the marketing area. As dynamic as it gets, the application of AI in the marketing area can consider as astounding help to the business. According to a report by McKinsey & Company (2023), companies that utilizing AI into their marketing area, can leverage the achievement up to 20% increase in customer satisfaction and 30% reduction in marketing costs (McKinsey & Company, 2023).

The example of utilization of AI in the marketing area is starting from the customer service area (complaint handling), automated copywriting, and even helping to create a marketing strategy (Russell & Norvig, 2020). To get more specific of AI utilization in the marketing, we can turn our gaze into the recent development of AI in the livestreaming commerce. Livestream has come as a channel to unlock more revenue, it was first introduced in the industry in China (Chen et al., 2021). In Southeast-Asia, to be precise in Indonesia, livestreaming commerce has been brought by TikTok with their TikTok shop and replicating the success by Shopee (Statista, 2024). Livestreaming commerce with AI has been used to create revolution of live commerce.

Many industries have applied livestreaming into their strategic marketing initiatives and nowadays, the livestream itself has become the most powerful channel to gain traction as it provides the interactive setting that allows the hosts to communicate with the audience directly. This interaction is creating the immersive shopping experience compared to the traditional e-commerce platforms (Chen et al., 2021). The utilization of AI has finally reached to the integrated into the livestreaming which the host of livestream can be changed by AI and the AI-host could automate interactions, personalize product recommendation and information during the live sessions. This new technology advancement in livestreaming is the biggest breakthrough, not only in the technology industry, but also a strategic movement in the marketing area.

Utilizing a human as the livestream host is perceived as more emotionally present and perceived integrity (Yu et al., 2025; Wang et al., 2024), however, the downturn of using human could be inconsistent by having a risk from human error, and since the operational cost such as talent fee, studio expenses, product training fee categorized as the fixed cost, it may not good for the business in the long run (He et al., 2023). This is where the technology of AI as the livestream host comes forward. The AI in the livestream commerce can automated, scalable and interactive consumer engagement. To give the example, Alibaba's Taobao Live has incorporated AI into their livestream commerce in 2023, where it leads to 200% in audience engagement during peak hours and improve the operational continuity (Goh et al., 2023).

Despite the rapid technology transformation, one of the main obstacles for brands to adopt the AI-powered livestream is the perception of high initial cost (Merhi, 2023), especially for mid-sized companies and SMEs. According to Dewantara and Akadji (2024), many Indonesian companies often focus on the direct monetary cost cuts and do not see the cost-benefit from the process efficiency. Additionally, many firms/companies in Indonesia think that integrating AI would add additional cost to product knowledge training or even building a new team. This technical capability has proven to result in low adoption despite the mature

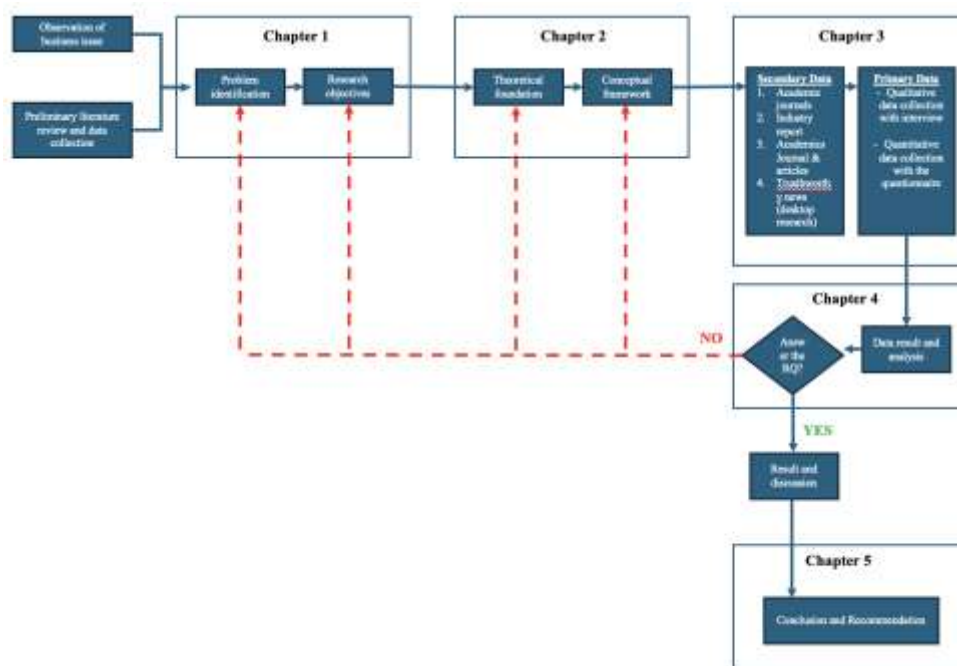
markets (Fatorachian & Ramesh, 2025). However, from the cost perspective utilizing AI as the livestream host considered 5 times lower and predictable, and able to do the frequent product updates and can adjust into different language.

Another obstacle following the cost efficiency is the scalability at the early stage, which is the feasibility, whether the users would like to use it. Consumer in Indonesia still heavily trust human-led communication, and utilizing AI as the livestream host feel impersonal and less human touch. This limitation shows that many firms choose to heavily rely on humans as the livestream host instead of integrating AI into their livestream commerce.

From the underlying challenge for the user to utilize the AI as the livestream host, the evident gaps in cost justification, and whether the user would like to use it are the two strong cases for this research. The existing studies is not providing the comprehensive cost benefit analysis that assess the long-term return on investment in low margin for the FMCG industry (Cai et al., 2023; Xu et al., 2024). Another gap that is not being explored is the question of feasibility, on the willingness for the user to adopt it or not. At the same time the consumer acceptance is heavily influence by the several factors such as trust, authenticity, and interactivity (Sun et al., 2022). To answer those 2 critical gaps, this research objective is to analyze and observe whether the transformation in the livestream commerce with the AI technology could drive measurable cost efficiency and feasibility for the FMCG players in Indonesia.

METODE PENELITIAN

This research methodology has been meticulously designed to answer the two research objectives that will guide the research. The two objectives are to address whether utilizing AI as the livestream host could be beneficial from a monetary perspective (cost-efficiency), and second is to answer and provide a broad perspective on the feasibility, to see and evaluate if the user would like to adopt this strategic innovation. This research will utilize the mixed-method approach by integrating the qualitative and quantitative data to capture a detailed understanding of the current practice. This chapter will further cascade the information of the research design, data collection methods, population and sampling strategies, and analytical techniques that will support the empirical observation of utilizing AI as the livestream host.



This research is utilizing the iterative approach that is systematic and also flexible at the same time, in order to address business challenges. In the beginning, the research will focus on observing the issues that have been going on in the industry and deep diving into the existing research to comprehend and find the research gaps. Preliminary, this research exploration could be categorized as a new insight and eye-opening when it came to understanding how Artificial Intelligence’s role in the livestreaming and reshaping the business, moreover, giving a new alternative in the FMCG industry. The new technology implementation, which is an AI-powered livestream, has created a major gap, especially compared to the conventional marketing practice in the livestream (utilizing a human as the host for the livestream).

Overlooking the current industry situation, the research focuses on the issue and objectives that are evidently stated in Chapter 1. These have become the foundation and the north star throughout the whole research and focus to address these challenges. In Chapter 2, it explicitly showcases the theoretical foundation of this research, where it’s not just a list of summaries from the existing theories, but it weaves from all the current theories to find the silver lining and create different frameworks and models that are tailored specifically for this research. From that theoretical foundation, it becomes a strong stepping stone to approach the data collection and analysis with a clear vision.

For the data collection, it’s clearly stated in Chapter 3 where the mixed methods of data collection are explained explicitly. To add the broad information in order to support the research, this secondary data typically will be gathered by compiling all data from academic journals, industry reports, and credible news sources. As for the primary data, it will be divided into 2 methods: qualitative data and quantitative data. Each of the methodologies to gather data will come from 2 different instruments, adjusting to the variable that needs to be assessed.

The qualitative

data is needed to answer the variable on the willingness of business users to implement, and consumer trust and satisfaction. The data collection method will use the in-depth interview throughout the scenario-based experiment. Then for the analysis will utilizing thematic coding.

As for the quantitative data to answer the cost variable, the data collection could be done by delivering questionnaire and on top of that to add more depth on the perspective from the business users, the semi-structured interview will be conducted, and then later the results of the data would be analyzed with the cost-benefit analysis for the cost perspective and thematic coding analysis for the perspective from the business users. The combination of qualitative and quantitative data will give a broad perspective for this research, adding more depth and avoiding one-sided judgments.

Later on, Chapter 4, where all the data collection is coming to the analysis stage, the researcher will simultaneously and consistently check the findings to determine whether the data result answers the research questions, and if it's not connected with the research questions, it might require the researcher to circle back on the previous progress. This approach was important to keep the research questions and data results relevant to the main business issues. Chapter 5 is where all the results of data collections are translated into findings that could be strategic recommendations for the industry. The conclusions and recommendations are not merely for academic purposes but also give industry professionals strategic insight that they could use in their business practice. Hence, these conclusions and recommendations could be the connector to link up the theory and current practice, which could give academic contributions and real-world implementations. The research design will become the foundation of a logical flow that will robust validation and practical applicability of the research outcomes.

Data Collection Method

In this research, there are two type of data collection method that researcher will conduct adjusting to the variables and stakeholders of information that researcher will obtain. Two methods that researcher adopted in this research are: questionnaire to gather the quantitative data from the business users and by conducting in-depth interview to obtain the qualitative data and perspective from both business users and consumer. This study uses an integrated approach combining quantitative and qualitative analysis to provide a comprehensive understanding of AI-powered livestreaming in FMCG marketing.

Data Analysis Method

The process of analysis will be done separately and differently based on the type of data output from different data collection methods. This combination approach and analysis is necessary to create a more comprehensive understanding of the complex business practice and gives strength to both numerical analysis and interpretive inquiry. The integrated approach for data analysis of cost benefit analysis and thematic analysis is to create a holistic understand and dive deeper on the research questions on this research. The three analysis will be conducted to analyze separately based on stakeholders and obtained data as below.

HASIL DAN PEMBAHASAN

Quantitative Analysis: Cost Benefit Analysis

Quantitative data were collected by questionnaire that distributed to professionals who are working in the marketing area and operating with the livestream commerce, especially in the FMCG industry in Indonesia. The distributed questionnaire was created in order to obtain the comprehensive information regarding livestream commerce, practice and perceptions of AI from the business users.

There are total of 80 responses from business users coming from professionals who are working in the multinational company and FMCG local players that providing several product categories, starting from the food and beverage to the household goods. This section will show furthermore of the comparative cost perspective of utilizing AI as the host for livestream commerce and utilizing human for livestream (Cai et al., 2023; McKinsey & Company, 2023).

Table IV. 1 Cost Component Classification

Cost Category	Cost Components	Human-hosted Description	AI-hosted Description
Direct Cost	Talent fee	Payment to the professional livestream host	The cost of subscription fee / avatar licensing cost
Indirect Cost	Studio rent	The cost to rent the physical place to conduct the livestream	Could be eliminated cost, as the AI-hosted can be done remotely
	Operational / Maintenance	The cost of utilizing the equipment and operational staff	The cost of software based maintenance for AI-hosted

The empirical findings show the important differences in cost structure of comparing both human-hosted and AI-hosted within the livestream commerce in the context of Indonesia FMCG market. Based on the given questionnaire responses and semi-conducted interviews, human-hosted livestream sessions average cost approximately up to IDR 10,000,000 per session where in comparison, utilizing AI-hosted could be less and additional there would be a trial periode that will cut down the cost. The number on the table below is the comprehensive financial efficiency gains through AI implementation, this break down of analysis of cost componetes show the differential from both AI-hosted and human-hosted.

Table IV.2: Comparative Cost Breakdown per Livestream Session

Cost Component	Human-Hosted (IDR)	AI-Hosted (IDR)	Savings (%)
Talent/Host Fees	5,000,000 - 7,000,000	800,000 - 1,200,000	82.9%
Studio & Equipment	1,500,000 - 2,000,000	300,000 - 500,000	77.8%

Creative Development	800,000 - 1,200,000	400,000 - 700,000	45.5%
Operational Support	1,000,000 - 1,500,000	200,000 - 600,000	66.7%
Maintenance & Updates	200,000 - 300,000	100,000 - 200,000	40.0%
Total Average	10,250,000	2,500,000	75.6%

The analysis highlights several key factors contributing to cost savings in AI-based live streaming. The primary cost difference comes from replacing human talent fees with AI subscription fees, which are fixed and predictable, unlike human hosts whose fees can fluctuate based on availability, talent negotiations, and demand. AI-based live streaming eliminates labor costs, enabling multiple sessions to run concurrently across different platforms and time zones without additional charges. Furthermore, AI systems reduce the need for physical space, equipment, and studio rentals, lowering operational costs. The technology also improves efficiency by facilitating real-time language translation, instant product information retrieval, and dynamic script adjustments based on audience engagement, which reduces preparation time and enhances message consistency. Research findings correlate with global studies on AI in marketing, showing significant revenue increases and cost reductions. The Indonesian FMCG sector, with a 75.6% cost-saving rate, experienced even greater savings due to high labor costs associated with talent sourcing in Southeast Asia.

KESIMPULAN

This study concludes that AI-powered livestreaming represents a strategic innovation for Indonesia’s FMCG sector rather than a short-term marketing trend. Quantitative analysis demonstrates significant cost-saving benefits, with AI hosts reducing expenses by an average of 75.6% per session through lower talent, studio, and operational costs, while providing scalable, predictable, and efficient operations. Business users show strong acceptance and strategic receptivity, with most willing to implement AI livestreams to gain operational efficiencies and competitive advantages. However, consumer hesitancy remains, driven by concerns over authenticity, trust, and emotional connection, creating a stakeholder acceptance gap.

To address this, hybrid AI-human livestream models are recommended, balancing cost efficiency with consumer engagement and trust, and offering flexible architectures such as sequential, concurrent, adaptive, or tiered approaches. This approach ensures dual-dimension feasibility, integrating economic viability for businesses and sociocultural acceptance for consumers, enabling sustainable innovation adoption. The research contributes to innovation management theory by highlighting the importance of evaluating technology adoption from

both business and consumer perspectives, showing that AI-based livestreaming can deliver long-term strategic value when implemented thoughtfully.

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