AI-driven Scenario -Based Comprehensive Training Model: Taking Live Broadcast Marketing Course as an Example

Hui Shi[1,2], Xiaolin Zhu[1]
[1]Guangzhou Huashang College, Guangzhou, Guangdong, China
[2]Graduate University of Mongolia, Ulaanbaatar, 14200, Mongolia

Abstract: This study aims to construct an AI-driven scenario-based comprehensive training model to enhance the teaching effectiveness of live broadcast marketing courses in vocational colleges. Focusing on the current disconnect between teaching, learning, and doing in vocational talent cultivation, the paper leverages the advantages of artificial intelligence to propose a teaching model that integrates task orientation, job competency, and multi-role collaboration. The model creates authentic business scenarios, introduces virtual characters for AI interaction, and simulates enterprise live broadcast processes, enabling students to improve their job competence and professional qualities through learning by doing and doing by learning. Based on the Outcome-Based Education (OBE) philosophy and tailored to the characteristics of live broadcast marketing courses, the study constructs a "Five-Dimensional Collaborative" training system, which has been practically applied and validated in teaching. Results show that the model effectively stimulates student interest, enhances practical skills and teamwork, and offers a feasible path and theoretical reference for curriculum reform and AI-empowered teaching in vocational education. The paper concludes with suggestions for promoting and optimizing the model, emphasizing the critical role of technological integration and scenario innovation in the transformation and upgrading of vocational education.

Keywords: AI-Driven; Scenario-Based Teaching; Comprehensive Training; Live-Stream Marketing; Teaching Model

1. Introduction

The term "scenario" originally referred to scenes in films or theatrical plays, but later came to broadly denote specific situations in everyday life, representing a mode of human behavior. Therefore, the word "scenario" can be used to encompass both spatial contexts and environments shaped by behavior and psychological atmosphere [1]. After entering the era of mobile communication, scenario theory has been widely applied in various new media business practices. It is now also being applied in courses. With the rapid development of the digital economy, the scene-based approach to business models has become a new model and path for business model innovation [2]. At the same time, the teaching of live-streaming marketing courses must keep up with the times. However, the traditional teaching model of live streaming marketing is still based on theoretical teaching and lacks practical operation links, which makes it difficult for students to truly master core skills such as live streaming operations, content planning, audience interaction and data analysis. Based on this, this paper proposes an AI-driven scenario -based comprehensive training model. Taking the live streaming marketing course as an example, it explores how to use artificial intelligence, big data and cloud computing technology to build a highly simulated training environment so that students can learn systematically in an immersive and interactive scenario. This paper designs and implements a set of intelligent and personalized teaching models by analyzing scenario-based teaching theory, the application of AI technology in education, and the key links of live streaming marketing training. The research aims to provide a new training teaching model for e-commerce and related majors in colleges and universities, improve students' practical ability and employment competitiveness, and provide theoretical support and practical guidance for the intelligent development of live streaming marketing teaching. The author designed a flowchart for scenario-Based teaching curriculum

development process as follows:

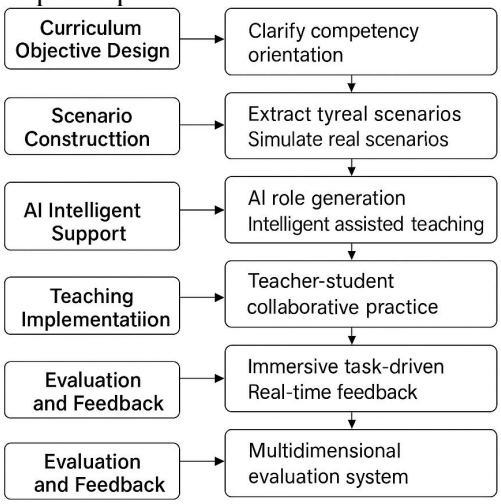

Figure 1. Scenario-Based Teaching Curriculum Development Process

The Figure1 illustrates the "Scenario-Based Teaching Curriculum Development Process," which includes five stages: curriculum objective design, scenario construction, AI intelligent support, teaching implementation, and evaluation and feedback. Each stage is divided into three key tasks, forming a complete instructional cycle driven by real-world tasks, enhanced by AI support, facilitated through teacher-student collaboration, and continuously optimized through outcome-based feedback—aimed at improving students' practical skills and curriculum adaptability.

2. Theoretical Basis of Scenario -Based Comprehensive Training Model

With the rapid development of artificial intelligence technology, the education sector is undergoing a paradigm shift from "knowledge transmission" to "competency building." This chapter aims to systematically analyze the theoretical foundations and technological support of the AI-driven scenario-based comprehensive training model. First, by tracing the origins of situated learning theory and the constructivist framework, it elucidates the core logic of the scenario-based training model and its fundamental differences from traditional teaching methods. Second, by examining the application of AI technology in education—such as adaptive learning systems and behavioral data analysis—it demonstrates how intelligent technology, through dynamic scenario construction and personalized feedback mechanisms, overcomes the spatial-temporal limitations and homogenization challenges of traditional training. This dual perspective of theoretical interpretation and technological deconstruction provides both an academic foundation and a practical reference for the subsequent development of an AI-integrated scenario-based training model in live-stream marketing courses.

2.1 Overview of Scenario- Based Training Model

2.1.1 Theoretical Foundations of Scenario-Based Training and Characteristics

(1) Situated Learning Theory

Situated Learning Theory [3], proposed by Jean Lave and Etienne Wenger in 1991, emphasizes that learning should take place within real social and cultural contexts. It highlights the importance of authentic contexts, which serve as a foundation for scenario-based training.

(2) Constructivist Learning Theory

According to Jean Piaget and Lev Vygotsky, constructivist learning theory suggests that learners construct knowledge through practice rather than passively receiving information [4]. This theory has led to the development of task-based, case-based, and scenario-based learning approaches, such as Problem-Based Learning (PBL) [5] and Situated Cognition [6].

Scenario-based teaching is a teaching model based on a real or simulated environment, which aims to improve learners' practical ability and comprehensive quality by constructing specific teaching scenarios. This model emphasizes the close integration of teaching content and practical application, enabling learners to learn and practice in real or nearly real situations. The scenario-based teaching of live marketing mentioned in this article refers to a real teaching environment rather than a virtual one.

The main characteristics of scenario-based teaching include the following five points:

1) Restoration of real situation: Through virtual simulation technology, case teaching or on-site operation, the real working environment is simulated to enable learners to experience the application of knowledge in an immersive way.

2) Task-driven learning: oriented towards specific tasks, allowing students to master knowledge and skills in the process of problem solving.

3) Interactive experience: emphasizes the interaction between learners and the environment, teachers, and peers to enhance learning immersion and participation.

4) Multi-dimensional evaluation: Use diversified evaluation methods, such as process evaluation, results display and reflection summary, to comprehensively measure learning effects.

5) Technical support: Combine artificial intelligence, big data, virtual reality (VR) and other technologies to improve the intelligence and personalization of teaching.

Under the stimulation of experiential learning, organizations allocate and combine resources for specific scenarios [7], enriching existing knowledge bases while gaining deeper insights into market dynamics, meeting the diverse demands of various contexts, and fostering more scenario-based innovations.

2.1.2 Comparison Between Traditional Teaching Mode and Scenario-Based Training

Table 1. Comparison of Scenario-Based Teaching Mode and Context-Based Teaching Mode

Comparison Dimensions	Traditional teaching mode	Scenario-based training mode
Teaching Method	Mainly based on lectures, students passively accept	Focusing on task-driven and practical operations, students actively learn
Learning Environment	Mainly classroom-based, less integrated with practical applications	Real or simulated application environment to improve practical ability
Interaction	Less interaction between teachers and students, emphasis on individual learning	Emphasize the interaction between teachers and students, students and students, and people and the environment
Evaluation method	Focusing on exams and homework, emphasizing knowledge acquisition	Combine process evaluation with achievement display, and pay more attention to capacity building
Technology Application	Traditional teaching tools, such as PPT, blackboard, etc.	Combine modern technologies such as AI, VR, and big data to enhance the learning experience

With the development of educational technology, teaching models have been continuously evolving. Traditional teaching methods emphasize knowledge transmission, where students passively receive information, while scenario-based training focuses more on practice and interaction to enhance learners' practical application abilities. The Table 1 below compares traditional teaching models with scenario-based training models across multiple dimensions, highlighting their differences in teaching methods, learning environments, interaction styles, evaluation approaches, and technological applications.

As shown in the table, traditional teaching models focus on theoretical knowledge transmission, with students learning in a relatively passive manner. In contrast, scenario-based training emphasizes hands-on practice, interactive experiences, and skill development. This approach not only enhances students' practical abilities but also leverages modern technologies such as AI and VR to improve learning effectiveness, making education more efficient and flexible. Therefore, in actual teaching practices, it is essential to integrate both models based on educational goals and student needs to achieve optimal learning outcomes.

2.2 Application of AI Technology in Education

2.2.1 Basic Concepts and Development Trends of AI Technology

Artificial intelligence (AI) refers to computer systems that simulate human intelligence, enabling machines to perform tasks such as learning, reasoning, planning, recognition, and decision-making. AI technology includes machine learning, deep learning, natural language processing, computer vision, speech recognition, and other fields. The goal of AI is to enable machines to perceive and make decisions like humans, thereby achieving autonomy and intelligence.

Deep learning has made significant progress in the fields of image, speech, and natural language processing. It can better simulate human neural networks and improve the learning ability and prediction accuracy of machines. AI-driven intelligent education systems are gradually becoming popular, especially in personalized education, intelligent assessment, and teaching aids. AI technology is accelerating its application.

With the continuous development of AI technology, the education field will gradually realize functions such as automated teaching, intelligent assessment and personalized learning, providing more efficient and accurate

educational services.

The combination of AI and big data technology will provide educational institutions with more decision-making support based on data analysis, thereby promoting the intelligent transformation of educational content, methods and management.

2.2.2 Specific Applications of AI in Teaching: Intelligent Recommendation, Personalized Learning Paths, etc

AI can generate personalized learning content recommendations through data analysis of students' learning behavior. For example, based on students' learning history, knowledge mastery, and interests, AI recommends textbooks, videos, exercises, and other resources that match students' current learning progress and needs. This recommendation system not only improves learning efficiency, but also helps students find learning materials that suit them.

Personalized learning path: AI technology can automatically adjust the difficulty and pace of teaching content according to students' learning situation and ability level, and develop a personalized learning path for each student. The generation of this personalized path can fully consider students' interests, learning styles and progress, so that students can complete learning tasks at the most appropriate pace.

On some AI-assisted learning platforms such as Coursera, students can set their own learning goals and preferences, and the system will customize a personalized learning plan for them based on this information. For example, AI can design different course sequences for students at different levels to help them improve their abilities in a targeted manner.

2.2.3 The Impact of AI Technology on Students' Learning Outcomes

Improve learning efficiency: AI technology can accurately recommend learning content and paths based on students' learning progress, knowledge mastery, and interest preferences, helping students save time, avoid repetitive learning work, and improve learning efficiency. Through intelligent recommendations and personalized learning paths, students can focus more on the areas they need to improve.

Enhance learning motivation and participation: AI can stimulate students' interest and motivation through regular learning progress tracking, reward mechanisms, gamification elements, etc. For example, the learning platform sets daily learning tasks and progress reminders, and students receive reward points or titles after completing tasks, thereby increasing students' sense of participation and achievement.

Personalized feedback and guidance: AI technology can provide students with personalized learning feedback in real time, including error analysis, learning suggestions, and Q&A, which enables students to correct mistakes in a timely manner during their learning process and enhance the pertinence of their learning. Personalized feedback can help students clearly understand where they need to improve and take appropriate remedial measures.

Promote students' independent learning: The AI system can provide students with flexible learning methods and environment. Students can study at any time and any place, and the AI system will automatically adjust the learning content and rhythm based on students' real-time feedback. This not only improves students' independent learning ability, but also helps to cultivate students' self-discipline and problem-solving ability.

Improve teaching quality and fairness: AI technology makes teaching content and evaluation more standardized and objective, thereby reducing human bias and improving the fairness and consistency of teaching. In addition, AI technology can provide similar quality educational resources to students from different regions and backgrounds, thereby improving educational fairness.

In summary, AI technology has significantly improved students' learning outcomes and brought revolutionary changes to the teaching process by providing personalized learning experience, improving learning efficiency, and enhancing learning motivation.

3. Design of AI-Driven Scenario -Based Comprehensive Training Model

Within the dual context of theoretical support and technological empowerment, this chapter focuses on constructing an AI-driven scenario-based training framework centered on live-stream marketing courses. Grounded in situated learning theory and constructivist principles, and aligned with the core skill demands of the live-streaming industry (such as user profiling analysis, speech optimization, and real-time interaction), a triadic "Goal-Technology-Task" teaching model is designed. First, by integrating a modular course

framework with dynamic scenarios, the training objectives are clearly mapped to academic competencies. Second, leveraging AI technologies (such as intelligent algorithms and scenario simulation engines), the traditional training process is restructured to facilitate a paradigm shift from knowledge transmission to competency transfer. This systematic design, guided by theoretical foundations, aims to provide a replicable practical pathway for live-stream marketing talent development while offering a methodological reference for the cross-disciplinary application of AI educational technologies.

3.1 Training Objectives and Course Framework Design

3.1.1 Teaching Objectives and Academic needs of Live Streaming Marketing Courses

The goal of the live streaming marketing course is to help students master the basic concepts, strategies and techniques of live streaming marketing in modern e-commerce, and be able to skillfully apply this knowledge for practical operations. The course not only aims to cultivate students' theoretical foundation, but also to enhance their ability to use live streaming platforms for sales, brand promotion, user interaction and data analysis in actual work. The specific teaching objectives are as follows:

Combination of theory and practice: Students should not only understand the theoretical framework of live streaming marketing (such as e-commerce ecology, operating mechanism of live streaming platform, etc.), but also learn how to plan, execute and optimize live streaming marketing activities on actual e- commerce platforms (such as Taobao Live and Douyin Live).

Live broadcast content creation and expression skills: Cultivate students' content creation skills in live broadcasts, including product introduction, brand building, entertaining content design, etc., which can attract and maintain the audience's attention and improve conversion rates.

Data Analysis and Marketing Optimization: Through actual live broadcast data analysis, students will learn how to optimize live broadcast content and marketing strategies based on information such as audience interaction and sales data.

Technology and innovative applications: Students should learn to use modern technologies such as AI and data mining to optimize the effectiveness of live marketing, such as intelligent recommendations and user portrait analysis.

3.1.2 Curriculum Framework Design: Modular and Contextualized Teaching Structure

Modular design: The course framework should follow a modular design approach, with each module focusing on an independent teaching objective and gradually building up students' knowledge system and practical ability. Modular design helps students clearly understand the content of each part and systematically master the core skills of live marketing.

Introduction to Live Marketing: Introduces the basic concepts, development history, industry status and trends of live marketing. It allows students to fully understand the background and prospects of live marketing.

Live content creation and planning: Explain how to design live content that attracts audiences based on product characteristics, user groups, platform features and other factors, and cultivate students' creativity and expression skills during the live broadcast process.

Live broadcast platform operation and management: Introduce the operation mechanisms of major live broadcast platforms, including Douyin, Kuaishou, Taobao Live, etc., and explain how to operate live broadcasts on different platforms to increase exposure and conversion.

Live Interaction and Fan Management: Learn how to interact with the audience, including responding to questions in real time, answering doubts, and conducting interactive activities to improve fan stickiness and loyalty.

Data analysis and optimization of live broadcast effects: focus on explaining methods of live broadcast data analysis, such as number of viewers, duration of stay, interaction rate, conversion rate, etc., and how to use AI technology to monitor and optimize live broadcast effects.

Application of AI technology in live streaming: Specifically explains how AI can assist in live streaming marketing, such as automated recommendations, intelligent customer service, virtual anchors, etc.

Contextualized teaching structure: The course design should not only consider theoretical explanations, but also focus on practical operations and situational simulations. Through contextualized teaching, students can conduct

full-process training from planning to execution in a simulated live broadcast environment. For example:

Simulate live broadcast scenarios: Through a virtual live broadcast platform, simulate various e-commerce live broadcast scenarios to allow students to experience the entire live broadcast process in actual operations and solve practical problems.

Role-playing and group work: Students can divide roles to plan and execute live events. Some students are responsible for content creation, some students are responsible for interaction management, and others are responsible for data analysis and effect evaluation. Through group work, students can gain a deeper understanding of teamwork and multi-faceted job responsibilities.

Actual case analysis: Use AI to analyze historical live broadcast data and analyze successful and failed live broadcast cases, so that students can learn from them and apply them to future live broadcast planning.

3.1.3 Core Skills and Knowledge Points in Live Streaming Marketing

Core skills include live content creation, live data analysis and optimization, user interaction and fan management.

Live content creation: Students need to master how to produce attractive live content, including script writing, product introduction, entertaining interactive design, etc., to ensure that it can attract audiences and maintain their interest.

Live broadcast data analysis and optimization: By analyzing real-time data during the live broadcast (such as the number of viewers, interaction frequency, product sales, etc.), students need to learn how to evaluate the live broadcast effect and make adjustments and optimizations based on the data.

User interaction and fan management: Learn how to interact with live broadcast viewers and enhance their participation and loyalty through interaction. Learn how to design interactive activities (such as lucky draws, Q&A, etc.) to increase audience stickiness.

Application of AI technology: Students need to understand how to use AI technology to improve live broadcast efficiency, such as AI-driven intelligent recommendation system, automated customer service, sentiment analysis, etc., to enhance audience experience and conversion rate.

Core knowledge points include live streaming marketing strategies, live streaming tools and technologies, e-commerce platform operations and rules, and sales and conversion skills.

Live streaming marketing strategy: The core knowledge points of live streaming marketing include target audience analysis, content positioning, platform selection, communication strategy, etc. Students need to understand how to formulate a live streaming marketing strategy suitable for specific products.

Live broadcast tools and techniques: Students need to master the tools and techniques required for live broadcast, including the use of live broadcast equipment, video editing, and the application of AI-assisted tools.

E-commerce platform operations and rules: Students need to understand the operation modes and rules of different e-commerce platforms (such as the difference between Taobao Live and Douyin Live), and how to use the characteristics of the platform to improve the live broadcast effect.

Sales and conversion skills: Students need to master how to achieve product sales conversion through live streaming, including promotion strategies, timing selection, product display skills, etc.

Through modular, situational and targeted skills training, the live streaming marketing course can help students comprehensively improve their theoretical and practical abilities, laying a solid foundation for entering the live streaming marketing industry.

3.2 Application of AI Technology in Live Streaming Marketing Training

How AI technology can help students improve their learning outcomes and training quality in live marketing training can be specifically expanded from the following aspects:

3.2.1 Intelligent Algorithms and Data Analysis

AI-driven intelligent algorithms and data analysis have become an indispensable part of modern live marketing. In the process of live marketing, AI technology can help analyze massive amounts of audience behavior data, thus providing strong support for marketing decisions. Specific applications include:

Audience behavior analysis: AI can provide real-time feedback to live streamers by analyzing audience behavior data (such as viewing time, interaction frequency, message content, etc.). For example, the system can identify which time period the audience is most

active and which stages are most likely to leave, helping live streamers optimize content and adjust the rhythm of live streaming.

Application example: In a live broadcast of a product promotion, AI analyzed the audience's viewing behavior and found that most viewers left when the product features were explained. Based on this data, the live broadcaster can adjust the rhythm, advance the interactive session or add more eye-catching content, thereby improving the audience retention rate.

Sentiment analysis and audience feedback: Through natural language processing (NLP) technology, AI can analyze the comments and comments of the audience in the live broadcast room, and identify the emotional tendencies of the audience (for example, joy, excitement, anger, etc.). This kind of sentiment analysis helps the live broadcaster to adjust the language style or interaction method in real time during the live broadcast, and improve the audience's sense of participation and satisfaction.

Application example: If AI analysis results show that viewers' feedback on a certain product is relatively negative, the live streamer can adjust the language strategy, strengthen the positive promotion of the product, or offer promotional activities to stimulate the audience's desire to buy.

Precision marketing and intelligent recommendations: AI can make accurate product recommendations based on viewers' behavioral data, viewing history, and interests. For example, the system can analyze viewers' consumption habits and push products or discount information that they may be interested in. Through intelligent recommendations, live streamers can improve conversion rates and increase sales.

Application example: If a viewer shows interest in beauty products in multiple live broadcasts, the AI system can automatically push relevant beauty product recommendations when the viewer enters the next live broadcast, increasing the viewer 's likelihood of purchase.

Optimize advertising: AI can analyze live broadcast effects based on real-time data and optimize advertising strategies. For example, AI will decide when and what form of advertising is most effective based on the characteristics and behaviors of different audience groups. This not only improves the relevance of advertising, but also avoids excessive interruptions from advertising.

Application example: If AI detects that the audience's active time is mainly concentrated between 9pm and 10pm, advertisers can increase advertising during this period to improve advertising effectiveness.

3.2.2 Personalized Learning Path

In the teaching process of live marketing, AI can provide personalized learning paths based on students' learning progress, interests, hobbies, and ability levels, thereby improving students' learning outcomes and participation. Specific content includes:

Intelligent assessment of student level: AI automatically assesses students' learning level by analyzing their performance in class (such as homework grades, test results, classroom interactions, etc.), and then recommends learning content and tasks of corresponding difficulty. For example, if a student performs well in the live content creation module, AI will push more difficult practical tasks based on their ability level, while for students with weaker foundations, AI will recommend more basic content.

Dynamically adjust learning progress: The AI system can monitor students' learning progress in real time and adjust the learning rhythm according to their performance. If a student has mastered the basic knowledge, the AI system can automatically advance to higher-level knowledge points; conversely, if a student performs poorly in a certain module, AI can provide more review resources or personalized tutoring.

Application example: In the live broadcast marketing course, AI intelligently pushes content suitable for the student's current level through analysis of online tests, interactive feedback and simulated training. For example, if a student scores low in the live broadcast planning module, the system will push more courses on live broadcast process and content creativity, and provide some learning suggestions to help him make up for his shortcomings.

Real-time feedback and personalized suggestions: During the learning process, AI can provide personalized feedback and suggestions by analyzing students' learning data. For example, if students show strong creative ability in the practice of live content creation, the AI system will encourage students to play this advantage and provide relevant learning resources to further enhance creative expression.

Help students set learning goals: Based on their

learning situation, AI helps students set personalized learning goals and development plans. The AI system will design a learning path that matches their personal interests and career plans based on their short-term and long-term learning needs, helping students effectively plan their learning process.

3.2.3 Live Streaming Simulation: Using AI Technology to Generate Real Live Streaming Scenes and Interactions

The application of AI technology in live broadcast scene simulation is mainly reflected in creating a realistic live broadcast simulation experience through a virtual environment. Through AI-driven scene simulation, students can conduct live broadcast training in a highly simulated and interactive environment, so as to better master live broadcast skills.

Virtual live broadcast environment construction: AI technology can create a realistic virtual live broadcast environment, including virtual anchors, virtual audiences, virtual goods, etc., so that students can practice how to live broadcast on different live broadcast platforms in simulated scenarios. The AI-driven virtual environment can not only simulate the real-time interaction in the live broadcast, but also provide instant feedback based on the students' performance.

Application example: Students can use the AI system to generate a virtual live broadcast room to simulate the entire live broadcast process, including product display, interactive sessions, sales sessions, etc. Through interaction with virtual audiences, students can practice in a real live broadcast environment, become familiar with the platform's operating procedures, and adjust live broadcast strategies based on real-time data.

Real-time interaction and feedback: In the live broadcast scene simulation, the AI system can generate virtual audiences and interact with students in real time. The feedback from these virtual audiences (such as likes, comments, questions, etc.) can help students understand how to effectively manage and interact with the audience. AI will also provide instant feedback based on the interaction and data analysis to help students improve their performance.

Application example: During the simulated live broadcast, the AI system will generate some questions and feedback from virtual audiences, and students need to respond immediately. The system will also adjust the difficulty and topic of the live broadcast content according to the audience's response, thereby enhancing students' adaptability.

Multi-scenario simulation training: AI can create a variety of live broadcast scenarios based on the different scene requirements of live broadcast to help students cope with different challenges. For example, students can simulate a variety of live broadcast scenarios such as single product promotion, limited-time flash sales, brand live broadcasts, etc. AI will generate specific tasks and interaction requirements based on each scenario to help students master live broadcast skills in different marketing scenarios.

Application examples: Students can simulate live broadcasts on different platforms, such as Taobao Live and Douyin Live. Their live broadcast strategies and interaction methods are different. AI can generate different live broadcast training scenarios based on platform characteristics to help students adapt to diverse e-commerce platforms.

Through scenario simulation driven by AI technology, students can gain practical experience similar to actual work in a virtual but highly realistic environment, so as to better master the core skills of live streaming marketing.

3.3 Training Tasks and Process Design

3.3.1 Live Marketing Task Design

The live broadcast marketing task design aims to help students master the entire process from live broadcast planning to execution through a series of practical training tasks, covering multiple links such as content creation, marketing strategy design and live broadcast promotion. The specific task design can be carried out as follows:

(1) Content creation tasks:

Task objective: To enable students to increase audience engagement and sales conversion rate by creating attractive live content. The task requires students to understand product features, market demand and audience preferences, and design live content around these elements.

Task content: Students need to design a complete live broadcast content plan, including product display, interactive links, language expression, etc., and write a live broadcast script. The task also requires students to reasonably use visual design and emotional expression to enhance the entertainment and interactivity of the live broadcast.

(2) Marketing strategy design tasks:

Task objective: To enable students to master the basic strategies of live streaming marketing, such as how to design appropriate marketing plans based on different target audiences and products.

Task content: Students need to design a marketing plan based on the nature of the product and the target audience, including promotional strategies during live broadcasts, limited-time discounts, exclusive offers for live broadcasts, etc. The task also requires students to make full use of the platform's special features in strategy design, such as shopping carts and bullet screen interactions.

(3) Live broadcast promotion tasks:

Task objective: To help students learn how to promote live broadcast activities through various channels and increase the exposure and audience traffic of live broadcasts.

Task content: Students need to design a live broadcast promotion plan involving social media promotion, short video trailers, cross-platform cooperation, etc. The task also requires students to develop publicity strategies to attract audiences, such as trailers, celebrity endorsements, etc.

3.3.2 Student Roles and Task Allocation

The tasks in the live marketing training not only require students to master different skills, but also simulate teamwork through role allocation to enhance students' practical operation ability. The following are the main student roles and their task allocation:

The anchor is responsible for displaying products, interacting with the audience, creating a live atmosphere and promoting sales during the live broadcast. The anchor needs to create a task script based on the live broadcast content, vividly introduce the product, mobilize the audience's emotions and increase the attractiveness of the product. The anchor interacts with the audience in real time, answers the audience's questions, and conducts interactive sessions such as lucky draws and games to enhance the audience's sense of participation and stickiness. The anchor needs to adjust the live broadcast rhythm based on real-time data (such as the number of viewers, viewing time, etc.), strengthen promotions and product recommendations, and promote sales conversion.

The operator is mainly responsible for the overall operation and management of the live broadcast, including the arrangement of the live broadcast process, audience management and compliance with platform rules. The operator needs to ensure that the live broadcast proceeds smoothly according to the established schedule to avoid technical problems or content interruptions. The operator is responsible for monitoring the audience interaction in the live broadcast room, such as handling negative comments in a timely manner and maintaining a good atmosphere in the live broadcast room. The operator should adjust the live broadcast content and progress based on real-time data feedback (such as the number of viewers, interaction, etc.) to ensure the live broadcast effect.

Data analysts are responsible for collecting and analyzing data generated during live broadcasts to provide a basis for optimizing live broadcast effects. They evaluate the effects of live broadcasts by analyzing audience behavior data (such as viewing time, interaction frequency, conversion rate, etc.). Based on the data analysis results, they write detailed effect evaluation reports to provide reference for future live broadcast strategies . Based on the analysis results, they make optimization suggestions, such as adjusting live broadcast content, adding interactive links, etc.

3.3.3 Task Completion Process

The task completion process of live broadcast marketing starts from the preliminary preparation stage, to the interaction and marketing strategy implementation during the live broadcast, and then to the data feedback and optimization after the end. The following is the detailed process of completing the live broadcast task:

In the early preparation stage, you first need to clarify the goals of the live broadcast, such as increasing product sales and brand exposure. According to the live broadcast goals, design content and marketing strategies, including product display, interactive sessions, promotional activities, etc. Ensure that the equipment and technical platforms required for the live broadcast are operating normally, including the layout of the live broadcast room, cameras, microphones, network stability, etc. Promote in advance through social media, short videos and other channels to attract viewers to make appointments to watch the live broadcast.

During the live broadcast execution phase, content display and interaction: the anchor will display the product according to the plan during the live broadcast, conduct interactive sessions,

and guide the audience to participate in comments, likes, and sharing. The operation staff is responsible for monitoring the live broadcast process to ensure smooth progress. Real-time data monitoring and optimization: Data analysts monitor the data during the live broadcast, such as the number of viewers, interaction frequency, etc., provide timely feedback, and optimize the live broadcast content and strategy based on the data.

End of live broadcast and data feedback stage,

Data aggregation and analysis: After the live broadcast, data analysts collect and analyze the data generated during the live broadcast to evaluate the effect of the live broadcast, such as the number of viewers, interaction volume, sales conversion rate, etc. Effect evaluation and summary: Based on the data analysis results, the operation staff and the live broadcast team summarize, evaluate the success and shortcomings of the live broadcast, and propose improvement measures. Report writing and strategy adjustment: Write an effect evaluation report and adjust future live broadcast content, marketing strategy, etc. based on feedback to prepare for the next live broadcast.

Through such task design and role allocation, students can fully understand the entire process of live broadcast marketing during the practical training, and master key skills such as live broadcast planning, operation management, and data analysis.

4. Implementation and Practice of AI-Driven Scenario -Based Comprehensive Training Model

With the advancement of AI technology, significant transformations have taken place in content creation, interaction methods, and strategy optimization within live-stream marketing. This chapter focuses on the implementation and practical application of the AI-driven scenario-based comprehensive training model in live-stream marketing courses. First, it examines how AI empowers content optimization in live-streaming. Then, it further explores AI’s role in enhancing live-stream interactions, optimizing marketing strategies, and improving practical application capabilities. Finally, it provides a forward-looking perspective on the deep integration of AI and live-stream marketing, offering insights into future industry developments.

4.1 AI Empowers Live Content

(1) AI generates live broadcast scripts

AI can automatically generate live broadcast scripts based on product information, user preferences, and hot topics to improve the quality of the host's expression. This includes using ChatGPT or Deepseek to generate live broadcast scripts, including product introductions, promotional information, interactive questions, etc.

(2) AI intelligent subtitles and translation

Real-time AI subtitles: Improve viewing experience, enhance content comprehensibility, and adapt to users with different hearing levels. Use AI for multi-language translation AI can perform real-time translation to expand overseas markets, such as TikTok live streaming.

(3) AI virtual anchor

Through AI-driven virtual anchors, 24-hour uninterrupted live broadcasting is achieved, reducing labor costs. Taobao's "Lu Xiaoqi" and JD's "Jing Xiaozhi" and other virtual anchors have been put into use.

4.2. AI Enhances Live Interaction

(1) AI Intelligent Customer Service

AI customer service can provide automatic replies, product recommendations, question answers and other services in the live broadcast room to improve user experience. JD.com uses AI customer service in live broadcasts to respond to users' information about prices, logistics and promotions in real time.

(2) AI Sentiment Analysis

By using AI to identify the emotions of users’ comments and the popularity of bullet comments, anchors can adjust their words and optimize content. AI analyzes the emotions of users’ bullet comments and determines when to promote sales, reduce prices, or interact with lucky draws.

(3) AI personalized recommendations

AI provides personalized product recommendations based on user browsing, purchasing, and interaction data to improve conversion rates [9].

Example: Taobao Live ’s AI recommendation technology can push the most relevant live content based on user interests [10].

4.3 AI-Optimized Live Streaming Marketing Strategy

(1) AI user portrait analysis

AI generates accurate user portraits by analyzing

user behavior data, helping anchors to better formulate marketing strategies. AI analyzes live broadcast viewing time and interaction frequency to identify core consumer groups and increase repurchase rates.

(2) AI sales prediction

AI can predict the sales volume of a product in live broadcasts based on historical data and market trends, and optimize inventory management. Brands use AI to predict hot-selling products before Double 11, and adjust stocking in advance to avoid out-of-stock or overstocking.

(3) AI-optimized live streaming

AI can intelligently adjust advertising and targeted traffic based on user data to accurately reach potential customers. Douyin live streaming uses AI to optimize "Thousands of Streams" and accurately deliver ads based on user interests.

4.4. Practical Application of AI Combined with Live Streaming Marketing

Table 2. Application Scenarios and Effects of AI Technology

AI Technology	Live broadcast application scenarios	Actual Results
AI generated scripts	Live broadcast script optimization	Improve anchor performance and enhance audience stickiness
AI Sentiment Analysis	Identifying user emotions	Adjust promotion strategies in time to improve conversion rates
AI Intelligent Customer Service	Live automatic reply	Reduce labor costs and improve service efficiency
AI User Profile	Precise live streaming	Match products to users who are most likely to buy them
AI Virtual Anchor	24-hour live broadcast	Reduce costs and cover the global market

AI not only enhances live interaction experiences but also optimizes marketing strategies and operational efficiency. The table2 below summarizes the main application scenarios of AI technology in live e-commerce and their actual effects, providing a clearer understanding of its impact.

In summary, the application of AI technology in live e-commerce covers multiple aspects, from content generation to user profiling, significantly improving the intelligence and precision of live streaming. In the future, as AI technology continues to evolve, its applications in the live streaming sector will become even more sophisticated, bringing enhanced experiences and greater commercial value to both businesses and consumers.

4.5. Future Trends of Combining AI with Live Streaming Marketing

Virtual live broadcast + AI interaction, providing intelligent interaction.

AI drives personalized recommendations. AI will predict user needs more accurately and provide customized live shopping experiences.

AI automatic editing & short video marketing → AI can edit the essence of live broadcasts into short videos, forming secondary dissemination and improving the effect of bringing goods.

5. Analysis of the Effectiveness of the AI-Driven Scenario -Based Comprehensive Training Model

Under the AI-driven scenario-based comprehensive training model, students' learning outcomes, satisfaction, and practical performance serve as key indicators for evaluating the model's effectiveness. This chapter analyzes the actual impact of the training model, beginning with an exploration of students' improvements in core skills such as live-stream planning, communication, and marketing strategy design. Then, based on student feedback, it assesses the influence of course content, training processes, and AI system assistance on the learning experience. Finally, by examining students' real-world performance, it further validates the application value of the AI-driven training model in live-stream marketing education.

5.1 Improvement of Student Skills: Live Broadcast Planning, Communication, and Marketing Strategy Design Capabilities

Students need to master the entire process from live broadcast planning to execution, covering content creation, marketing strategy design, live broadcast promotion and other links. Specific skills improvement is reflected in the following aspects: - Live broadcast planning: Learn to design a complete live broadcast content plan

based on product characteristics, market demand and audience preferences, including product display, interactive links, language expression, etc., and write live broadcast scripts; reasonably use visual design and emotional expression to enhance the entertainment and interactivity of live broadcasts; master how to design appropriate marketing plans according to different target audiences and products, including promotional strategies, limited-time discounts, live broadcast exclusive discounts, etc. during live broadcasts; plan the time schedule of live broadcasts in advance to maximize audience participation and sales conversion rate. - Communication: The simulated anchor is responsible for displaying products, interacting with the audience, creating a live broadcast atmosphere and promoting sales during the live broadcast. It is necessary to introduce the product vividly, mobilize the audience's emotions, and increase the attractiveness of the product; interact with the audience in real time, answer the audience's questions, and conduct interactive links such as raffles and games to enhance the audience's sense of participation and stickiness. - Marketing strategy design: Design marketing plans based on the nature of the product and the target audience, and make full use of the platform's special features, such as shopping carts, bullet screen interactions, etc.; determine appropriate marketing tools, such as coupons, lucky draws, gifts, etc. The 2024 graduates' destination statistics show that as of 16:00 on July 26, 2024, the school's graduate destination implementation rate was 84.54%. The e-commerce major's destination implementation rate was 98.295%, far exceeding the school average.

5.2 Student Satisfaction and Feedback: Course Content, Practical Training Process, and the Auxiliary Role of AI System

The document does not explicitly mention the specific content of student satisfaction and feedback, but overall, the course content covers multiple modules such as introduction to live streaming marketing, content creation and planning, platform operation and management through a modular and situational teaching structure, focusing on the combination of theory and practice; the practical training process includes live streaming marketing task design, student role and task allocation, and a complete task completion process; the AI system provides auxiliary functions such as intelligent algorithms and data analysis, personalized learning paths, and live streaming scene simulation in the practical training, which may affect students' satisfaction and feedback.

5.3 Students' Practical Performance

The number of online views of students' works soared to 47.51 million, and the number of fans of the short video accounts operated by students participating in the workshop surged to 846,000, with more than 208,000 likes, more than 246,000 shares, and more than 64,000 comments. Through the learning and practice of the workshop, the students achieved a leap from theory to practice, demonstrating their significant improvement in key skills such as account operation, video production and editing.

6. Conclusion

This study constructs and explores the value of an AI-driven scenario-based comprehensive training model in live-stream marketing courses. The findings indicate that this model effectively enhances students' practical skills, market sensitivity, and employment competitiveness. By incorporating AI technology, the teaching process achieves more precise personalized guidance, improves interactivity and immersion in learning, and optimizes the allocation of educational resources. Empirical analysis confirms that this model not only enhances students' learning outcomes but also fosters innovation in live-stream marketing education. Future research can further integrate broader intelligent technologies, such as big data analysis and virtual reality, to optimize teaching effectiveness and explore potential applications in other disciplines.

Acknowledgments

This paper is supported by Guangzhou Huashang College 2024 Integrated Courses (No. HSRHKC2024142).

References

[1] Li Yimai. "A Study on the Community Effect of E-commerce Live Streaming from the Perspective of Scenario Theory." 2023 (8): 38-39.

[2] Sun Xinbo, Yuan Lixiu. "How Digital Content Platforms Achieve Scene-Based Innovation in Business Models: An Exploratory Single-Case Study from a

Resource-Behavior Perspective." 2024 (8): 4-5.
[3] Lave, J., & Wenger, E. (1991). Situated learning: Legitimate peripheral participation. Cambridge University Press.
[4] Piaget, J. (1950). The psychology of intelligence. Routledge & Kegan Paul.
[5] Barrows, H. S. (1986). A taxonomy of problem-based learning methods. Medical Education, 20(6), 481-486.
[6] Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. Educational Researcher, 18(1), 32-42.
[7] Cui Jie. "A Study on the Fission Entrepreneurship and Patching Process: A Multi-Case Study of Software Startups." Foreign Economics and Management, 2021 (5): 47-62.
[8] Yan Chun, Huang Shaosheng. "The Impact of Organizational Learning and Environmental Uncertainty on Scene-Based Innovation in Live-Streaming E-commerce Companies: A Resource Patching Perspective." 2024 (1): 17-18.
[9] Yin, R. K. Case Study Research: Design and Methods. Sage Publications, 2008.
[10]Eisenhardt, K. M., Graebner, M. E. Theory Building from Cas es: Opportunities and Challenges. Academy of Management Journal, 2007, 50(1): 25-32.

