

HOW AI-ANALYTICS DRIVEN MARKETING SUPPORTS ART-BASED CONTENT CREATORS PERFORMANCE

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ABSTRACT

The rapid growth of TikTok and Instagram as primary platforms for art marketing requires art-based content creators to adopt more data-driven and systematic marketing decision-making processes. However, limited resources, time constraints, and constantly evolving platform algorithms often reduce the effectiveness of intuition-based strategies. This study aims to examine the association of AI-Analytics Adoption, Content Personalization, and Engagement Optimization on the Marketing Performance of art-based content creators. A quantitative cross-sectional research design was applied using a survey method involving 127 Indonesian art-based content creators who have utilized AI-based analytics tools. Data were analyzed using simple and multiple linear regression with JASP software. The findings reveal that all variables are positively and significantly associated with Marketing Performance. In the simultaneous model, AI-Analytics Adoption emerges as the strongest predictor, followed by Content Personalization and Engagement Optimization. Nevertheless, Content Personalization remains highly influential in enhancing engagement, reach, and commission conversion. These results highlight the importance of AI-driven analytics in supporting data-based marketing decisions for creators with limited resources. This study contributes to the literature by extending AI-based marketing strategies into the context of individual creators within the creative economy.

Keywords : AI-Analytics Adoption; Content Personalization; Engagement Optimization; Marketing Performance; Art-Based Content Creators

ABSTRAK

Pertumbuhan pesat TikTok dan Instagram sebagai platform utama pemasaran seni menuntut para kreator konten berbasis seni untuk mengadopsi proses pengambilan keputusan pemasaran yang lebih sistematis dan berbasis data. Namun, keterbatasan sumber daya, keterbatasan waktu, serta algoritma platform yang terus berkembang sering kali mengurangi efektivitas strategi pemasaran yang berbasis intuisi. Penelitian ini bertujuan untuk menganalisis hubungan AI-Analytics Adoption, Content Personalization, dan Engagement Optimization terhadap Marketing Performance pada kreator konten berbasis seni. Penelitian ini menggunakan desain penelitian kuantitatif dengan pendekatan cross-sectional melalui metode survei yang melibatkan 127 kreator konten berbasis seni di Indonesia yang telah menggunakan perangkat analitik berbasis AI. Data dianalisis menggunakan regresi linear sederhana dan regresi linear berganda dengan bantuan perangkat lunak JASP. Hasil penelitian menunjukkan bahwa seluruh variabel berasosiasi positif dan signifikan terhadap Marketing Performance. Pada model simultan, AI-Analytics Adoption muncul sebagai prediktor yang paling kuat, diikuti oleh Content Personalization dan Engagement Optimization. Meskipun demikian, Content Personalization tetap memiliki asosiasi yang tinggi dalam meningkatkan keterlibatan audiens, jangkauan, dan konversi komisi. Temuan ini menegaskan pentingnya analitik berbasis AI dalam mendukung pengambilan keputusan pemasaran berbasis data bagi kreator dengan sumber daya yang terbatas. Penelitian ini berkontribusi terhadap pengembangan literatur dengan memperluas kajian strategi pemasaran berbasis AI ke dalam konteks kreator individu dalam ekonomi kreatif.

Kata Kunci: AI-Analytics Adoption; Content Personalization; Engagement Optimization; Marketing Performance; Kreator Konten Berbasis Seni

INTRODUCTION

The rapid development of the digital economy has transformed social media platforms into key infrastructures for creative entrepreneurship. Platforms such as TikTok and Instagram have evolved from communication tools into major marketing channels for individual creators and small creative businesses. The scale of this transformation is particularly evident in Indonesia, where the digital landscape has

achieved supermajority status. According to the latest Digital 2026 Indonesia report, the country now has 230 million internet users (80.5% penetration) and 180 million active social media user identities, representing 62.9% of the total population - this figure is based on account identities rather than unique individuals, and year-on-year growth should be interpreted with caution due to methodological changes in primary data sources (DataReportal, 2026a; Kompas.com, 2025). This massive, tech-savvy user base, which grew by 26% (or 37 million new identities) year-on-year, spends an average of nearly 22 hours per week across 7.7 different social platforms (DataReportal, 2026a). Notably, within this ecosystem, TikTok leads with 180 million user identities, followed by Instagram with 108 million users, making these platforms the primary arenas for art-based content creators in Indonesia (Kompas.com, 2025). Globally, the trend is similar, with 5.66 billion social media users worldwide (68.7% of the global population) by early 2026 (DataReportal, 2026b). These platforms are particularly influential due to their algorithm-driven recommendation systems and short-form visual content formats, which enable rapid content discovery and viral distribution, creating a fertile ground for art-based creators.

Within this ecosystem, the creator economy has expanded significantly, involving more than 50 million individuals worldwide, including content creators, influencers, and digital entrepreneurs (Goldman Sachs, 2023). A growing segment within this ecosystem consists of digital artists and art-based content creators who utilize social media to showcase portfolios, build audiences, obtain commissions, and monetize creative work through digital products and collaborations. However, the increasing dependence on algorithm-driven platforms has significantly altered how visibility and audience reach are generated within digital creative industries. Social media algorithms increasingly prioritize watch time, interaction rates, audience retention, and behavioral relevance rather than follower count alone. Consequently, marketing outcomes become highly uncertain, as content visibility can fluctuate rapidly despite creators having established audiences (Kaye et al., 2020; Bishop, 2020).

These conditions create substantial managerial challenges for independent creators, particularly small-scale digital artists who often possess limited financial resources, restricted marketing capabilities, and insufficient time to conduct strategic market analysis. Many creators experience unstable engagement, declining reach, and difficulties producing content that aligns with rapidly changing audience preferences and platform trends. Research indicates that a significant portion of digital content risks remaining unseen without strategic algorithmic alignment, directly reducing creators' opportunities for monetization and sustainable income (Fang et al., 2025; Stanikzai & Mittal, 2025). As a result, intuition-based marketing strategies are no longer sufficient to maintain visibility and sustainable audience growth in highly competitive social media environments. A systematic review of content creation within algorithmic environments confirms that creators increasingly depend on algorithmic optimization and cross-platform strategies to sustain visibility and financial performance. The review highlights that creators actively rely on quantified metrics—such as views, likes, and shares—to anticipate demand and predict success, while attempting to "reverse engineer" platform algorithms to maintain audience reach (Liang et al., 2025).

To address these challenges, data-driven marketing approaches increasingly incorporate Artificial Intelligence (AI) analytics to support marketing decision-making and content optimization. AI-based analytics tools enable the processing of large-scale interaction data, facilitating audience

segmentation, trend prediction, content performance evaluation, and engagement optimization based on real-time behavioral patterns. This approach aligns with the concept of data-driven marketing, in which strategic decisions are formulated using analytical insights rather than relying solely on creative intuition. In the context of TikTok and Instagram, AI analytics may assist creators in identifying optimal posting times, predicting trending content categories, and understanding audience engagement behavior more accurately.

Previous studies demonstrate the growing importance of AI in digital marketing strategies. Research conducted by (Acatrinei et al., 2025) found that AI adoption enhances customer engagement and improves marketing effectiveness through predictive analytical capabilities that identify consumer behavior and preferences. Similarly, (Mohd Amin et al., 2025) emphasized that AI facilitates content personalization and more precise marketing decisions based on real-time data. Furthermore, (Labib, 2024) identified predictive analytics, automation, and AI-assisted personalization as major trends shaping modern marketing strategies. Additional findings by (Ribeiro et al., 2025) suggest that AI-driven marketing strategies improve audience segmentation, personalization, and consumer engagement while supporting more adaptive and flexible decision-making processes.

Despite this increasing scholarly attention toward AI-driven marketing, a critical research gap remains. Existing studies predominantly focus on large corporations, e-commerce businesses, or organizational marketing contexts, often overlooking the unique dynamics of individual entrepreneurs and content creators. A recent systematic literature review on AI in content creation confirms that while AI's transformative potential in creative industries is well-recognized, existing research has largely concentrated on technical capabilities rather than how individual creators strategically integrate AI into their workflows. The review explicitly calls for "novel theoretical frameworks to understand human-AI dynamics in creative processes" and highlights that empirical research on customer views and trust in AI-generated content remains limited (Seneadza et al., 2025). Moreover, previous studies generally examine AI as a productivity-enhancing technology, while limited research specifically investigates how AI-supported analytics influences marketing performance among independent creators whose success depends heavily on perceived authenticity and audience trust.

This gap is particularly important because digital artists, who build their brands on authenticity and personal connection, face a unique tension: they must leverage data-driven AI tools for visibility without eroding the perceived authenticity that defines their artistic value. The focus on art-based content creators is justified by several converging factors. First, Indonesia's creative economy contributed IDR 1,500 trillion to GDP in 2025 and employed 27.4 million workers (KemeneKraf, 2025; BPS, 2025; Republika, 2025), ranking among the top three creative economies globally alongside the United States and South Korea (ISEI, 2025). Digital sectors - including gaming, animation, and digital arts - are the fastest-growing engines of this economy (ISEI, 2025). Second, the creator economy in Indonesia is experiencing unprecedented growth: TikTok reported a 2,000% year-on-year increase in the number of Indonesian creators who successfully monetized their content (SWA, 2025), signaling a fundamental shift from reliance on major influencers toward the emergence of 'everyday creators' (SWA, 2025). Third, based on the collaborative study 'The Art & Science of Authenticity' by TikTok and Accenture Song,

Indonesian creators are projected to generate an economic impact of USD 376 billion (approximately IDR 6,200 trillion) by 2030, making Indonesia the largest creator economy market in the Asia-Pacific region (Kompas.id, 2025; SWA, 2025).

Fourth, and most critically, art-based creators face a unique tension that distinguishes them from other types of content creators. While lifestyle, beauty, or gaming creators can more readily adopt data-driven optimization without threatening their core value proposition, digital artists build their brands on authenticity, personal expression, and emotional connection with audiences (Stanikzai & Mittal, 2025). Research shows that 81% of Indonesian consumers are influenced to purchase products because of authentic content, and 55% perceive lo-fi, spontaneous content as more authentic (Kompas.id, 2025). This means that for art-based creators, the adoption of AI-driven analytics tools creates a fundamental paradox: they must leverage data for visibility without eroding the perceived authenticity that defines their artistic identity. This tension has not been systematically examined in previous AI-marketing literature, which has predominantly focused on corporate or e-commerce contexts.

Fifth, the geographic concentration of digital creative workers in Java - particularly in Jakarta (Haqiqi, 2025) - combined with Indonesia's 190 million productive-age population (69.3% of total population) and 212 million internet users (78% active on social media) (We Are Social, 2025; ISEI, 2025), makes Indonesia an ideal setting to study how art-based creators navigate algorithmic platforms like TikTok and Instagram. Therefore, focusing on art-based content creators is not arbitrary but represents a theoretically and empirically significant segment that embodies the core tension between data-driven optimization and artistic authenticity - a tension that is central to understanding the future of creative work in algorithm-driven digital economies.

Evidence from the creator economy suggests that audiences continue to value authenticity and emotional connection in creator-generated content, even as AI-assisted tools become increasingly integrated into digital creative practices (Stanikzai & Mittal, 2025). Limited research specifically examines how independent creators and digital artists resolve this tension to optimize marketing performance within algorithm-driven social media ecosystems. Moreover, the dynamics of TikTok and Instagram differ substantially from conventional digital marketing environments due to their rapidly changing algorithms, viral distribution systems, and short-form content structures. Given that recent large-scale field experiments provide causal evidence of AI's positive impact on conversion rates and consumer experience in retail contexts (Fang et al., 2025), it becomes imperative to examine whether similar performance gains apply to individual art-based creators operating in social media ecosystems.

Therefore, this study focuses on art-based content creators who utilize TikTok and Instagram as marketing platforms, examining how AI-analytics adoption, content personalization, and engagement optimization influence marketing performance. AI-analytics adoption refers to the use of AI-supported analytical tools, such as TikTok Analytics and Instagram Insights, to evaluate and optimize marketing outcomes, excluding AI-generated art technologies. Content personalization refers to the alignment of creative content with audience preferences and behavioral trends, while engagement optimization reflects strategic efforts to increase interactions such as likes, comments, shares, and audience retention. Marketing performance is measured through indicators including engagement levels, audience reach

growth, and commission outcomes. By examining these relationships, this study contributes to extending AI-driven marketing literature into the context of independent creators and digital artists, while also enriching discussions regarding the strategic role of AI-supported analytics within algorithm-driven creative economies.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Theoretical Framework

This study is grounded in the concept of data-driven marketing, which emphasizes the use of data, analytics, and digital technologies to improve marketing decision-making and outcomes (Davenport et al., 2019). In digital environments, the growing availability of consumer data enables marketers and content creators to better understand audience behavior and make more informed strategic decisions. Artificial Intelligence (AI) further strengthens this capability through advanced data processing, predictive analytics, and pattern recognition, allowing deeper insights into audience preferences (Huang & Rust, 2018). Consequently, AI-analytics adoption enhances decision accuracy and is expected to positively influence marketing performance.

Content personalization is based on the premise that marketing effectiveness increases when content aligns with user preferences and expectations. By leveraging data insights, marketers can tailor content to specific audience segments, improving relevance and user response (Ameen et al., 2021; Yadav & Rahman, 2018). Engagement optimization, reflected in interactions such as likes, comments, and shares, indicates audience involvement and increases content visibility (Lim et al., 2022; Tafesse & Wood, 2021). Collectively, these variables function through complementary mechanisms - data analysis, content relevance, and user interaction - and are expected to produce a stronger combined association with marketing performance.

Conceptual Definition of Variables

AI Analytics Adoption

Artificial Intelligence (AI) has increasingly transformed marketing practices by enabling organizations and individuals to process large volumes of digital data and generate predictive insights for strategic decision-making. AI analytics refers to the application of computational algorithms, machine learning techniques, and data-processing technologies to analyze patterns in consumer behavior and optimize marketing activities. These technologies allow marketers to evaluate campaign performance, identify audience preferences, and develop data-driven strategies that improve marketing outcomes (Davenport et al., 2019). As digital interaction data continues to expand, AI analytics has become increasingly important for supporting evidence-based marketing decisions. Consequently, marketing actors increasingly rely on AI analytics tools to interpret complex digital marketing data.

To establish a clear conceptual foundation, three perspectives from the literature are presented. First, in the view of (Davenport et al., 2019), AI-analytics adoption refers to the use of artificial intelligence that fundamentally reshapes marketing strategies and consumer behavior, working best when AI complements rather than replaces human judgment. A different angle comes from (Huang and Rust, 2018), who see it as the deployment of AI-driven capabilities for analyzing data, segmenting markets, personalizing experiences, and automating tasks to boost marketing efficiency. Meanwhile, (Dwivedi et

al., 2021) conceptualize it as the application of AI-based analytics to process large datasets, offering early warnings, spotting opportunities and risks, and thus sharpening strategic decisions in digital marketing.

Building on this perspective, AI technologies also enhance marketing decision-making by augmenting human analytical capabilities. Predictive analytics systems are capable of identifying hidden patterns within large datasets, enabling marketers to improve targeting strategies and personalize marketing communication (Huang & Rust, 2018). In addition, digital marketing analytics tools allow marketers to monitor engagement metrics and evaluate the effectiveness of marketing campaigns in real time (Chaffey & Ellis-Chadwick, 2019). These capabilities allow organizations to respond more quickly to changes in audience behavior. As a result, AI-supported analytics contributes to more adaptive and effective marketing strategies.

The integration of machine learning with marketing analytics has further expanded the ability of marketers to extract actionable insights from consumer interaction data. Research indicates that the increasing availability of digital behavioral data has accelerated the adoption of advanced analytics tools to support marketing decision-making processes (Dwivedi et al., 2021; Haleem et al., 2022). Empirical studies also suggest that the adoption of AI-based analytics improves marketing efficiency and customer engagement by supporting data-driven decision making (Mohd Amin et al., 2025; Labib, 2024). These findings highlight the growing importance of analytics capabilities in modern marketing environments. Consequently, AI analytics adoption has become a key strategic capability for digital marketers.

Within social media marketing contexts, AI analytics adoption refers to the utilization of analytics tools and AI-driven data analysis systems to evaluate content performance and analyze audience behavior patterns. For content creators operating on platforms such as TikTok and Instagram, these tools provide insights related to engagement metrics, audience interaction patterns, and content reach. Such information allows creators to identify high-performing content and adjust their strategies accordingly. In particular, art-based content creators can use analytics dashboards to predict trends and improve marketing effectiveness. Therefore, AI-Analytics Adoption in this study refers to the extent to which creators utilize AI-assisted analytics tools to support content evaluation and strategic decision making.

The measurement indicators of AI-Analytics Adoption were adapted from (Zhao et al., 2025), who examined AI tool adoption in higher education settings, and modified to fit the context of art-based content creators on TikTok and Instagram. The adaptation is supported by established frameworks in digital marketing analytics and AI-enabled decision-making (Davenport et al., 2019; Chaffey & Ellis-Chadwick, 2019), as well as recent empirical studies on AI adoption in marketing strategies (Dwivedi et al., 2021; Mohd Amin et al., 2025). Three indicators were operationalized: (1) the frequency and extent to which creators utilize built-in analytics tools (e.g., TikTok Analytics, Instagram Insights) to evaluate content performance and audience engagement; (2) the degree to which creators trust in AI-generated insights when making strategic content decisions; and (3) the perceived ease of integrating AI analytics recommendations into daily content creation workflows.

Content Personalization

Content personalization has become an essential strategy in digital marketing environments where audiences are exposed to large volumes of online information. Personalization refers to the process

of adapting marketing messages, content formats, and communication strategies to match the preferences and characteristics of specific audience segments (Koay et al., 2021). By aligning content with audience expectations, personalization increases the relevance of marketing communication and improves the likelihood of audience engagement. This approach allows marketers and content creators to deliver content that resonates more strongly with their target audiences. As a result, personalization has become a key component of digital marketing strategies.

To establish a clear conceptual foundation, three perspectives from the literature are presented. First, according to (Koay et al., 2021), content personalization means tailoring marketing messages and content formats to fit the preferences and traits of particular audience groups. Second, (Yadav and Rahman, 2018) interpret it as the deliberate adaptation of digital content to mirror user interests and needs, which in turn lifts consumer interaction and response rates. Third, (Ribeiro et al., 2025) describe it as the process where AI technologies examine audience behavior patterns to deliver customized content suggestions, achieving a finer level of precision.

Several studies demonstrate the positive relationship between personalization strategies and user engagement. Personalized content significantly improves consumer interaction and response rates in digital marketing contexts (Li et al., 2021; Yadav & Rahman, 2018). When content reflects the interests and needs of users, audiences are more likely to interact with and share the content. Similarly, personalization strategies can enhance user satisfaction by delivering information that is more relevant and meaningful to consumers (Koay et al., 2021). These findings highlight the importance of tailoring digital communication to audience preferences.

In social media environments, personalization is often implemented through creator-driven audience targeting and the development of distinctive personal identities. Social media marketing strategies frequently rely on the establishment of unique personal branding that differentiates creators from competitors and helps build stronger relationships with audiences (Tafesse & Wood, 2021). Through consistent thematic presentation and recognizable visual styles, creators can develop stronger audience loyalty. This strategy is particularly relevant in the creative industry where artistic identity is closely linked to audience attraction. Consequently, personalization strategies often involve the development of distinctive artistic identities.

In addition to branding strategies, personalization may also involve adjusting content elements based on insights generated from analytics tools. AI-supported personalization tools allow creators to analyze audience behavior patterns and refine their content strategies accordingly. Research suggests that AI technologies enable higher levels of personalization precision by identifying patterns in audience data (Ribeiro et al., 2025). For art-based content creators, this process may include adjusting captions, visual styles, or content formats based on analytical recommendations. Therefore, Content Personalization in this study refers to the extent to which creators adapt content elements to align with audience insights and AI-generated recommendations.

The measurement indicators of Content Personalization were adapted from (Ki Kim et al., 2025), who examined the quality factors of ChatGPT influencing user perceptions, and modified to fit the context of art-based content creators on TikTok and Instagram. The adaptation is supported by established

frameworks in digital marketing personalization (Koay et al., 2021; Yadav & Rahman, 2018) and AI-enabled content adaptation (Ribeiro et al., 2025). Three indicators were operationalized: (1) adjustment of captions, titles, and hashtags based on AI recommendations; (2) use of AI insights to determine themes, art styles, or visual presentation; and (3) adjustment of video format or content duration based on AI recommendations.

Engagement-Optimization

Engagement represents one of the most important indicators of effectiveness in social media marketing. Engagement refers to the level of interaction between users and digital content, which is typically reflected through actions such as likes, comments, and shares (Lim et al., 2022; Tafesse & Wood, 2021). Higher engagement levels indicate stronger audience interest and involvement with the presented content. Consequently, engagement is widely used as a key metric for evaluating digital marketing performance. These interaction behaviors provide important signals about audience preferences and content relevance.

To establish a clear conceptual foundation, three perspectives from the literature are presented. First, (Lim et al., 2022) view engagement as the cognitive, emotional, and behavioral connections users form with digital content and brands, signaling how deeply consumers are involved. Second, (Tafesse & Wood, 2021) treat engagement as the collection of user actions—likes, comments, shares—that substantially expand the reach and visibility of social media posts. Third, (Acatrinei et al., 2025) characterize engagement optimization as the practice of using AI-powered analytics tools to uncover engagement patterns and pinpoint tactics that trigger stronger audience reactions through automated, data-informed campaigns.

Expanding on this concept, engagement also plays a critical role in determining the visibility of content within algorithm-driven platforms. Consumer engagement reflects the cognitive, emotional, and behavioral interactions that users have with digital content and brands (Lim et al., 2022). These interactions influence how audiences respond to marketing communication strategies. Additionally, engagement behaviors such as commenting and sharing significantly increase the reach and visibility of social media content (Tafesse & Wood, 2021). As a result, encouraging audience interaction has become a central objective of social media marketing strategies.

Recent developments in marketing technology have introduced data-driven approaches to improving engagement outcomes. AI-supported analytics tools allow marketers and content creators to analyze engagement patterns and identify strategies that generate stronger audience responses. Studies indicate that AI technologies strengthen user engagement by enabling more efficient campaign automation and data-based marketing decisions (Acatrinei et al., 2025). Through these insights, creators can experiment with different posting times, hashtags, and content formats. Consequently, AI analytics plays an important role in optimizing engagement strategies.

In the context of art-based content creators, engagement optimization refers to the implementation of strategies designed to increase audience interaction with social media content. These strategies may include posting at optimal times, experimenting with hashtag variations, and comparing engagement outcomes across different content versions. By relying on AI-generated insights, creators are

able to refine their content strategies and improve audience participation. Such practices enable creators to better understand audience interaction patterns. Therefore, Engagement Optimization in this study refers to the extent to which creators apply AI-assisted insights to increase interaction with their digital content.

The measurement indicators of Engagement Optimization were adapted from (Osman, 2025), who examined the role of perceived ease of use, perceived usefulness, and self-efficacy in shaping AI adoption intention among students, and modified to fit the context of art-based content creators on TikTok and Instagram. The adaptation is supported by established frameworks in social media engagement (Lim et al., 2022; Tafesse & Wood, 2021) and the role of AI analytics in optimizing engagement strategies (Acatrinei et al., 2025). Three indicators were operationalized: (1) posting content according to time recommendations generated by AI analytics tools; (2) experimenting with AI-recommended hashtags to identify those generating higher engagement; and (3) using AI analytics tools to compare engagement results across content versions.

Marketing Performance

Marketing performance refers to the effectiveness of marketing strategies in achieving organizational objectives. It represents the measurable outcomes of marketing activities in relation to strategic business goals (Grewal & Roggeveen, 2020). These outcomes commonly include indicators such as market growth, customer acquisition, and brand visibility. In digital marketing environments, performance evaluation often relies on metrics derived from online interaction data. Therefore, marketing performance measurement has become increasingly data-driven.

To establish a clear conceptual foundation, three perspectives from the literature are presented. First, (Grewal and Roggeveen, 2020) think of marketing performance as the tangible results of marketing efforts tied to strategic goals, such as market expansion, customer gain, and brand recognition. Second, (Liang and Gao, 2020) frame it as the degree to which marketing strategies accomplish organizational aims, using structured measurement systems that connect marketing actions to business results. Third, (Chaffey and Ellis-Chadwick, 2019) propose that in digital settings, marketing performance is gauged by metrics like audience reach, engagement levels, and conversion rates to assess how much marketing activities contribute.

Effective marketing performance evaluation requires systematic measurement systems capable of linking marketing activities with business outcomes. Research suggests that organizations must adopt structured performance metrics to assess the contribution of marketing activities to overall organizational performance (Liang & Gao, 2020; Petrauskaitė, 2025). In digital marketing contexts, these metrics frequently include audience reach, engagement levels, and conversion outcomes (Chaffey & Ellis-Chadwick, 2019). Such indicators allow marketing actors to evaluate whether their strategies generate meaningful results. Consequently, performance measurement provides essential insights for improving marketing strategies.

Within the digital creative economy, independent content creators increasingly rely on social media platforms as marketing channels. Social media visibility plays a crucial role in attracting potential clients and generating commercial opportunities. For art-based content creators, increased engagement

and audience reach often translate into greater opportunities for commissioned work and monetization activities. These outcomes highlight the importance of evaluating marketing performance within the creator economy. As a result, social media performance indicators have become key measures of marketing success for digital creators.

In this study, Marketing Performance refers to the effectiveness of social media marketing strategies implemented by art-based content creators in generating audience engagement, increasing content visibility, and creating commission-based opportunities. These outcomes reflect how successfully creators convert digital exposure into measurable marketing results. By evaluating engagement growth and audience reach, creators can assess the effectiveness of their marketing strategies. Consequently, marketing performance serves as the primary dependent variable in this research.

This study employs a perceptual (self-reported) measure of Marketing Performance rather than objective platform metrics for several reasons. First, perceptual measures of marketing performance are widely accepted in digital marketing research, particularly when examining individual entrepreneurs and content creators who may not have systematic access to aggregated platform analytics (Chaffey & Ellis-Chadwick, 2019; Liang & Gao, 2020). Second, perceptual measures allow respondents to provide a holistic assessment of their marketing outcomes, capturing not only quantitative metrics but also their subjective evaluation of performance improvements (Petrauskaitė, 2025). Third, the use of self-reported performance measures is consistent with established practices in creative economy research, where individual creators' perceived success is often a more meaningful indicator than raw metric counts (Khatri et al., 2026).

To mitigate the risk of social desirability bias and over-reporting, several procedural safeguards were implemented: (1) respondents were assured of complete anonymity, (2) questionnaire items were randomly ordered to reduce response patterns, (3) the questionnaire emphasized that there were no 'right' or 'wrong' answers, and (4) respondents were asked to report their perceptions based on their honest assessment rather than attempting to recall exact metric values. Additionally, the three indicators of Marketing Performance - engagement increase, view increase, and commission increase - were designed to capture verifiable outcomes that creators can reasonably assess based on their daily platform interactions. While objective data triangulation would strengthen the findings, the perceptual approach adopted in this study is methodologically appropriate for exploratory research targeting an understudied population of individual creators.

The measurement indicators of Marketing Performance were adapted from the GAIA scale (Khatri et al., 2026), which assesses individual creative performance resulting from AI appropriation, and modified to fit the context of art-based content creators on TikTok and Instagram. The adaptation is supported by established frameworks in digital marketing performance measurement (Chaffey & Ellis-Chadwick, 2019; Liang & Gao, 2020) and outcome-based evaluation in creative economy contexts (Grewal & Roggeveen, 2020; Petrauskaitė, 2025). Three indicators were operationalized: (1) increase in engagement levels (likes, comments, shares) after applying AI recommendations; (2) increase in content views after following AI analytics recommendations; and (3) increase in art commission requests or monetization opportunities.

Hypothesis Development

Based on prior literature, there are logical relationships between each independent variable and Marketing Performance within digital marketing environments. The adoption of AI-supported analytics has been shown to improve customer engagement, predictive decision-making, and marketing efficiency, which subsequently contribute to improved marketing performance (Acatrinei et al., 2025; Mohd Amin et al., 2025). AI-driven analytics enables marketers and creators to process audience data more effectively, optimize strategic decisions, and improve content performance through data-driven insights. In highly competitive social media ecosystems such as TikTok and Instagram, these analytical capabilities become increasingly important because creators are required to continuously adapt their strategies according to audience behavior and platform algorithms. Consequently, the use of AI-supported analytics is expected to strengthen Marketing Performance by supporting more accurate and data-oriented marketing decisions.

In addition to AI-supported analytics, Content Personalization and Engagement Optimization are also considered important factors influencing Marketing Performance. Content Personalization enables creators to deliver more relevant and audience-oriented content, thereby increasing user engagement and marketing effectiveness (Labib, 2024; Ribeiro et al., 2025). Previous studies emphasize that AI-assisted personalization improves audience responsiveness and strengthens interaction quality by aligning content with user preferences and behavioral patterns. Furthermore, Engagement Optimization improves interaction effectiveness and strengthens content visibility within digital platforms, which positively contributes to marketing performance. Prior research suggests that higher engagement levels improve audience interaction and support more effective digital marketing outcomes through increased content visibility and audience reach (Acatrinei et al., 2025). These relationships collectively form the theoretical basis for proposing that AI-Analytics Adoption, Content Personalization, and Engagement Optimization positively influence Marketing Performance. Therefore, based on the literature review and the theoretical relationships between the independent and dependent variables, the following hypotheses are proposed:

- H1: AI-analytics adoption is positively associated with marketing performance among art-based content creators.
- H2: Content personalization is positively associated with marketing performance among art-based content creators.
- H3: Engagement optimization is positively associated with marketing performance among art-based content creators.
- H4: AI-analytics adoption, content personalization, and engagement optimization are simultaneously positively associated with marketing performance among art-based content creators.

Conceptual Framework

This study proposes a conceptual framework explaining the relationships between AI-Analytics Adoption, Content Personalization, Engagement Optimization, and Marketing Performance in digital content creation contexts. The model highlights both the individual and combined association of these variables in shaping performance outcomes. AI-Analytics Adoption functions as a foundational capability that enables the collection, processing, and analysis of audience data, providing insights into user

behavior and preferences (Huang & Rust, 2018). These insights support more effective marketing strategies and decision-making, thereby contributing directly to improved marketing performance.

Content Personalization builds on these insights by aligning content with audience preferences, increasing relevance and user response (Ameen et al., 2021; Yadav & Rahman, 2018). Engagement Optimization reflects user interaction through actions such as likes, comments, and shares, which enhance content visibility within digital platforms (Lim et al., 2022; Tafesse & Wood, 2021). Collectively, these variables create a synergistic association by combining analytical capability, content relevance, and audience interaction to strengthen Marketing Performance. Therefore, their combined influence is expected to produce a stronger impact on marketing performance than any single variable alone. As depicted in Figure 1, each of the three independent variables — AI-Analytics Adoption, Content Personalization, and Engagement Optimization — is hypothesized to independently predict Marketing Performance (Hypothesis 1, Hypothesis 2, Hypothesis 3), and their combined association is tested simultaneously through Hypothesis 4. This structure reflects a parallel predictor model consistent with data-driven marketing theory (Davenport et al., 2019). Within this framework, AI-Analytics Adoption represents analytical capability, Content Personalization reflects content relevance, and Engagement Optimization captures audience interaction. Although conceptually distinct, these dimensions contribute to Marketing Performance through complementary rather than causal pathways.

RESEARCH METHOD

Method is a method of work that can be used to obtain something. While the research method can be interpreted as a work procedure in the research process, both in searching for data or disclosing existing phenomena (Zulkarnaen, W., Amin, N. N., 2018).

Sample, Variables and Measurements

This study employs a quantitative, exploratory cross-sectional design to examine how AI-analytics adoption, content personalization, engagement optimization influence the marketing performance of art-based content creators using TikTok and Instagram in Indonesia. The design is exploratory in nature because limited empirical research has examined AI-driven marketing strategies among individual art-based creators, making this study an initial investigation into the hypothesized relationships. A survey method was used to collect standardized data, enabling statistical analysis of associations rather than causal inference.

The target population consists of Indonesian art-based content creators who actively use TikTok and Instagram for content promotion, audience engagement, and creative marketing activities. Since the total population size is unknown and highly dynamic, a non-probability sampling method was employed. Purposive sampling was justified because the study requires respondents with specific characteristics (active art creators using AI analytics tools) who cannot be randomly identified from any available sampling frame. This approach ensures that only eligible respondents, those possessing the necessary experience and knowledge are included, which is essential for exploratory research aiming to test theoretical relationships in an understudied population. Respondents were required to (1) have a TikTok or Instagram account focused on art content, (2) have used AI- based analytic tools for content planning,

creation, or analytics and be involved in promotional or commission-based activities, and (3) reside in Indonesia.

The decision to include only creators who have already used AI-based analytics tools is deliberate and aligned with the study's exploratory purpose. Since the objective is to examine how AI-analytics adoption is associated with marketing performance among active users, including non-adopters would introduce a different research question - namely, the determinants or barriers of adoption - which falls outside the scope of this study. This selection criterion is consistent with the logic of purposive sampling, where participants are chosen based on their relevance to the research question rather than statistical representativeness (Hair et al., 2019).

The minimum sample size was determined using G*Power version 3.1.9.7 with three predictors ($\alpha = 0.05$, power = 0.95, medium effect size $f^2 = 0.15$), resulting in a recommended sample size of 119 respondents. This calculation is consistent with the multiple linear regression model used to test H4 (simultaneous association of three predictors), where the number of predictors ($k = 3$) and the desired statistical power guided the sample size determination. A total of 128 responses were collected, of which 127 were valid and retained for analysis, exceeding the minimum requirement and increasing the robustness of the statistical analysis.

The variables in this study include AI-Analytics Adoption, Content Personalization, Engagement Optimization, and Marketing Performance. The first three variables function as independent variables, while Marketing Performance serves as the dependent variable. The questionnaire items were constructed based on the theoretical constructs of these variables. Each variable was measured using a 5-point Likert scale, with instruments adapted and modified from previous studies. The measurement indicators for each variable are presented in Table 2. These indicators provide a structured way to operationalize each variable within the research model. They also enhance transparency in how each construct is measured and interpreted. This ensures that the measurement approach remains aligned with existing literature. Given the exploratory cross-sectional design, all relationships reported in this study reflect statistical associations rather than causal claims.

Data Analysis Method

The procedure for developing the research instrument was carried out by distributing a Google Forms-based questionnaire consisting of a 5-point Likert scale (Strongly Disagree – Strongly Agree). The instrument was designed to capture responses related to the key variables of the study. Prior to full deployment, the instrument was pilot tested on 44 respondents from the Indonesian art-based content creator community to ensure the clarity, relevance, and initial reliability of the questionnaire items. Validity testing was conducted through content validity assessment by adapting items from previously validated instruments (Zhao et al., 2025; Ki Kim et al., 2025; Osman, 2025; Khatri et al., 2026). The original instruments were developed in English. The questionnaire was prepared in Bahasa Indonesia using straightforward wording appropriate for the target respondents. The questionnaire was reviewed for clarity during the pilot test with 44 respondents; no formal back-translation was conducted due to the exploratory nature of the study. Exploratory factor analysis (EFA) was not performed due to the small pilot sample size ($n=44$). However, item-total correlations for all constructs ranged from 0.440 to 0.740,

supporting internal structure validity. According to (Hair et al., 2019), item-total correlations above 0.30 are considered acceptable for exploratory research, while values above 0.50 are preferred. The pilot test yielded Cronbach's Alpha values ranging from 0.682 to 0.841 across all constructs in Table 1, indicating acceptable to good internal consistency (Hair et al., 2019). The main study was then conducted with the 127 valid respondents, and the reliability analysis confirmed strong internal consistency with Cronbach's Alpha values ranging from 0.821 to 0.884 in Table 3, all exceeding the recommended threshold of 0.70 (Hair et al., 2019).

Data collection was conducted online through Google Forms over a 7-day period, distributed via: TikTok and Instagram; TikTok and Instagram advertising features; and Indonesian art-based content creator community networks on TikTok and Instagram. During the data collection period, the minimum target for respondents was 119 participants. Meanwhile, data screening procedures were applied as follows: completed questionnaires were examined for incomplete responses (missing values on any Likert-scale item); cases with more than 10% missing data were excluded. No straight-lining patterns (identical responses across all items) were detected. A total of 128 responses were collected. One respondent was excluded because they did not meet the inclusion criteria (i.e., had never used AI-based analytics tools for content planning or evaluation). After screening, 127 valid responses were retained for analysis.

Ethical procedures and informed consent were implemented as follows: at the beginning of the Google Form questionnaire, respondents were presented with a consent section explaining the study's purpose, voluntary nature, and the right to withdraw at any time without penalty. Respondents were required to read this information and select an 'I agree to participate' option before accessing the questionnaire. To verify eligibility and distribute monetary incentives, respondents were asked to provide their social media account names (TikTok or Instagram username). These identifiers were used solely for verification and incentive distribution purposes and were not included in the statistical analysis. No other personal identifying information (e.g., full names, email addresses, phone numbers) was collected. Respondents were informed that their account names would be kept confidential and used only for the stated purposes. A monetary incentive was provided to all eligible respondents who completed the questionnaire. This study did not require formal ethical approval from an institutional review board as it involved anonymous, non-sensitive surveys and posed no foreseeable harm, consistent with common practice for exploratory marketing research in the Indonesian context.

Media engagement requirements were initially designed to increase participation but were made optional rather than mandatory. Specifically, respondents were invited to follow the researcher's TikTok or Instagram account, like and repost a specific post, tag two friends, and leave a comment containing three emojis on the designated post. However, participation in these social media activities was entirely voluntary and explicitly stated as not influencing the content of their responses or their eligibility to complete the questionnaire. Respondents could complete the survey regardless of whether they performed any of these optional activities. Monetary incentives were provided to all eligible respondents who completed the questionnaire, independent of their participation in social media engagement activities.

Regression assumptions were tested prior to hypothesis testing. Normality of residuals was assessed using the Shapiro-Wilk test, which indicated a slight deviation from normality ($p = 0.010$). However, linear regression is generally robust to mild violations of normality, particularly with sample sizes exceeding 100 (Hair et al., 2019). Homoscedasticity was examined through a scatterplot of standardized residuals versus predicted values, which showed random distribution with no obvious patterns, indicating that the assumption of homoscedasticity was met. Multicollinearity was assessed using the Variance Inflation Factor (VIF). The VIF values were 5.826 for AI-Analytics Adoption, 5.221 for Content Personalization, and 6.350 for Engagement Optimization. Although these values slightly exceed the common threshold of 5, they remain below the more conservative threshold of 10, indicating no severe multicollinearity (Hair et al., 2019). Given the exploratory nature of this study, these levels are considered acceptable. Independence of residuals was confirmed using the Durbin-Watson statistic ($d = 2.061$), which falls within the acceptable range of 1.5 to 2.5. These diagnostic checks support the appropriateness of linear regression for the current dataset.

Statistical analysis was conducted through several steps, including validity and reliability testing, and regression analysis to examine the individual association of each independent variable (AI-Analytics Adoption, Content Personalization, and Engagement Optimization) on Marketing Performance, using JASP version 0.19.0.0. Simple linear regression was used to test the individual associations (Hypothesis 1, Hypothesis 2, Hypothesis 3), while multiple linear regression was used to test the simultaneous association (Hypothesis 4). This two-stage approach is standard when a study includes both partial and joint hypotheses (Hair et al., 2019). Simple linear regression was used to examine the individual association of each predictor with Marketing Performance without controlling for the presence of other predictors. Multiple linear regression was subsequently employed to assess the unique contribution of each variable when all predictors were considered simultaneously. This approach allows comparison between individual and joint relationships and helps identify whether the relative importance of the predictors changes when shared variance among variables is taken into account. Hypothesis testing was conducted at a 5% significance level ($\alpha = 0.05$), which is commonly adopted as a standard threshold in statistical analysis (Di Leo & Sardanelli, 2020). These analytical procedures were applied to ensure that the research findings are statistically valid and reliable.

RESULT AND DISCUSSION

The responses obtained from 127 valid respondents include demographic data collected using a multiple-response format, allowing respondents to select more than one AI-based tool used for performance analysis and content planning. Therefore, the reported percentages represent the proportion of respondents utilizing each tool rather than a mutually exclusive distribution. The findings indicate that Instagram Insights (Instagram) is the most widely used tool (46.5%), followed by TikTok Analytics (44.9%) and TikTok Creative Center (44.1%). Additionally, Exolyt, CapCut AI Insight (CapCut), and Gemini (Google) are each used by 42.5% of respondents, suggesting a strong reliance on AI-based tools for performance analysis and trend identification, particularly within the TikTok ecosystem. Other tools, such as TrendTok and ChatGPT (OpenAI), are each used by 41.7% of respondents, mainly to support trend discovery and content ideation. Meanwhile, Prime Time Analyzer (35.4%) and AI-based hashtag

recommendation tools (30.7%) are less frequently used, indicating that respondents tend to prioritize tools focused on analytics, trend identification, and optimal posting time over more technical optimization tools.

Regarding the geographical distribution of respondents, the largest proportion originated from Surabaya with 25 respondents (19.7%), followed by Jakarta and Bandung, each contributing 18 respondents (14.2%), and Semarang with 16 respondents (12.6%). Respondents also came from other regions including Samarinda (6 respondents, 4.7%), Bali (5 respondents, 3.9%), Palembang (4 respondents, 3.1%), as well as various other cities across Sumatra, Kalimantan, Sulawesi, and Java. Overall, although the majority of respondents were concentrated in Java - consistent with BPS data indicating that 57.81% of Indonesia's creative economy workforce is concentrated in three Java provinces (BPS, 2025) - the sample also included respondents from outside Java, indicating a geographically dispersed population that is not limited to a single region

Reliability Test

The reliability analysis was conducted to assess the internal consistency of each construct. The results indicate that all variables meet the recommended threshold of Cronbach's $\alpha \geq 0.70$ (Peterson, 1994); (Hair et al., 2019), confirming that the measurement instruments are reliable. The AI-Analytics Adoption variable shows a Cronbach's Alpha value of 0.858 (95% CI: 0.810–0.896), indicating good reliability. Although item AIA02 has the lowest contribution based on the “if item dropped” analysis, all items maintain item-rest correlation values above 0.50, and the construct remains reliable without requiring item deletion.

Similarly, the Content Personalization variable demonstrates a Cronbach's Alpha value of 0.834 (95% CI: 0.777–0.878), indicating good reliability and adequate internal consistency. The “if item dropped” analysis identifies CP02 as the lowest contributing item; however, all items still meet the acceptable threshold, and no item removal is necessary. The Engagement Optimization variable also shows good reliability, with a Cronbach's Alpha value of 0.821 (95% CI: 0.760–0.869). Although EO02 contributes the least among the items, all indicators remain above the acceptable criteria, supporting the retention of all items.

Furthermore, the Marketing Performance variable demonstrates very good reliability, with a Cronbach's Alpha value of 0.884 (95% CI: 0.845–0.915), indicating high internal consistency. Although MP03 has the lowest contribution within the construct, all items exhibit strong item-rest correlations (≥ 0.70), and the overall reliability remains very high. Therefore, all measurement items across variables are retained for further analysis. A detailed summary of the reliability results is presented in Table 3. In addition, item-total correlations for all constructs ranged from 0.440 to 0.740, supporting internal structure validity (Hair et al., 2019). Although one item showed a correlation of 0.440, this remains within the acceptable threshold of 0.30 for exploratory research. Exploratory factor analysis(EFA) was not performed due to the small pilot sample size ($n=44$).

Regression Analysis (Hypothesis Testing)

H1: AI-analytics adoption is positively associated with marketing performance among art-based content creators.

The standardized beta coefficient shows that the independent variable AI-Analytics Adoption has a positive and very strong association with the dependent variable Marketing Performance ($\beta = 0.894$). The t-test results indicate that this association is statistically significant, $t(125) = 22.267$, $p < 0.001$. Furthermore, the model fit results indicate that the regression model demonstrated a good overall fit, with $F(1, 125) = 495.818$, $p < 0.001$. The coefficient of determination (R^2) of 0.799 indicates that AI-Analytics Adoption explains 79.9% of the variance in Marketing Performance, while 20.1% is explained by other factors outside this research model. Therefore, it can be concluded that AI-Analytics Adoption is strongly associated with Marketing Performance, and thus Hypothesis 1 is accepted. The complete regression results for Hypothesis 1 are presented in Table 4.

H2: Content personalization is positively associated with marketing performance among art-based content creators.

The standardized beta coefficient shows that the independent variable Content Personalization has a positive and very strong association with the dependent variable Marketing Performance ($\beta = 0.887$). The t-test results indicate that this association is statistically significant, $t(125) = 21.433$, $p < 0.001$. Furthermore, the model fit results indicate that the regression model demonstrated a good overall fit, with $F(1, 125) = 459.377$, $p < 0.001$. The coefficient of determination (R^2) of 0.786 indicates that Content Personalization explains 78.6% of the variance in Marketing Performance, while 21.4% is explained by other factors outside this research model. Therefore, it can be concluded that Content Personalization is strongly associated with Marketing Performance, and thus Hypothesis 2 is accepted. The complete regression results for Hypothesis 2 are presented in Table 5.

H3: Engagement optimization is positively associated with marketing performance among art-based content creators.

The standardized beta coefficient shows that the independent variable Engagement Optimization has a positive and very strong association with the dependent variable Marketing Performance ($\beta = 0.879$). The t-test results indicate that this association is statistically significant, $t(125) = 20.640$, $p < 0.001$. Furthermore, the model fit results indicate that the regression model demonstrated a good overall fit, with $F(1, 125) = 426.006$, $p < 0.001$. The coefficient of determination (R^2) of 0.773 indicates that Engagement Optimization explains 77.3% of the variance in Marketing Performance, while 22.7% is explained by other factors outside this research model. Therefore, it can be concluded that Engagement Optimization is strongly associated with Marketing Performance, and thus Hypothesis 3 is accepted. The complete regression results for Hypothesis 3 are presented in Table 6.

H4: AI-analytics adoption, content personalization, and engagement optimization are simultaneously positively associated with marketing performance among art-based content creators.

The standardized beta coefficients show that the independent variables AI-Analytics Adoption, Content Personalization, and Engagement Optimization each have a positive association with the dependent variable Marketing Performance. AI-Analytics Adoption has the strongest association ($\beta = 0.390$), followed by Content Personalization ($\beta = 0.358$), and Engagement Optimization ($\beta = 0.216$). The t-test results indicate that all variables have statistically significant association, namely AI-Analytics Adoption ($t(123) = 4.713$, $p < 0.001$), Content Personalization ($t(123) = 4.570$, $p < 0.001$), and

Engagement Optimization ($t(123) = 2.501, p = 0.014$). Furthermore, the model fit results indicate that the regression model demonstrated a good overall fit, with $F(3, 123) = 242.823, p < 0.001$. The coefficient of determination (R^2) of 0.856 indicates that the combination of AI-Analytics Adoption, Content Personalization, and Engagement Optimization explains 85.6% of the variance in Marketing Performance, while 14.4% is explained by other factors outside this research model. Therefore, it can be concluded that all three independent variables simultaneously have a significant positive association with Marketing Performance, and thus Hypothesis 4 is accepted. The complete regression results for Hypothesis 4 are presented in Table 7.

Discussion

This section discusses the findings, which indicate that among art-based content creators on TikTok and Instagram, AI-Analytics Adoption, Content Personalization, and Engagement Optimization each demonstrate a positive and significant association with Marketing Performance. Their combined predictive strength is greater than any single variable in isolation. Although AI-Analytics Adoption exhibits the highest standardized beta coefficient in the simultaneous model ($\beta = 0.390$), this finding reflects relative predictive strength among parallel predictors rather than a causal relationship among the independent variables themselves. The integrated relationship confirms prior studies while highlighting a key nuance: a data-driven approach can amplify creative value in highly competitive digital environments. Empirically, AI-Analytics Adoption shows a positive and significant association with Marketing Performance, consistent with (Huang & Rust, 2018; Huang & Rust, 2021; Dwivedi et al., 2021), which emphasize the role of AI in improving data-driven decision-making and marketing effectiveness.

From the perspective of data-driven marketing, AI-Analytics Adoption improves Marketing Performance because AI-supported analytics enables creators to transform audience data into actionable marketing insights, leading to more informed strategic decisions (Davenport et al., 2019; Huang & Rust, 2018). Furthermore, Content Personalization emerges as a very strong positive association with Marketing Performance, aligning with (Huang & Rust, 2018; Ribeiro et al., 2025; Ameen et al., 2021). This finding is consistent with data-driven marketing, which emphasizes that audience insights generated through analytics enable marketers and content creators to develop content that is more relevant to audience preferences, thereby improving marketing effectiveness (Davenport et al., 2019; Ameen et al., 2021; Huang & Rust, 2018). In algorithm-driven platforms such as TikTok and Instagram, relevant content is more likely to be amplified, reinforcing the idea that value in digital marketing lies not in technology alone, but in the ability to deliver meaningful and audience-oriented content.

The results also show that Engagement Optimization has a positive and significant association with Marketing Performance, consistent with (Acatrinei et al., 2025; Tafesse & Wood, 2021), which emphasize the role of interaction in enhancing visibility. This finding is also consistent with data-driven marketing, which emphasizes that analytics-assisted optimization of audience interaction enhances content visibility and overall marketing performance (Davenport et al., 2019; Tafesse & Wood, 2021; Lim et al., 2022). However, its relative contribution ($\beta = 0.216$) was lower than AI-Analytics Adoption ($\beta = 0.390$) and Content Personalization ($\beta = 0.358$) in the simultaneous regression model. Nevertheless,

Engagement Optimization remains an important independent predictor that contributes directly to Marketing Performance by strengthening audience interaction and content visibility.

Simultaneously, the findings confirm that AI-Analytics Adoption, Content Personalization, and Engagement Optimization collectively have a significant positive association with Marketing Performance, explaining 85.6% of the variance in Marketing Performance ($R^2 = 0.856$), supporting an integrated data-driven marketing approach. This aligns with (Huang & Rust, 2018; Huang & Rust, 2021; Chintalapati & Pandey, 2021), which emphasize that marketing effectiveness is maximized through the integration of data analytics, content strategy, and user interaction. These findings demonstrate that AI-Analytics Adoption, Content Personalization, and Engagement Optimization contribute to Marketing Performance through different but complementary mechanisms. AI-Analytics Adoption supports data-driven decision making, Content Personalization improves content relevance, and Engagement Optimization enhances audience interaction and content visibility, illustrating how these complementary dimensions jointly contribute to effective data-driven marketing. Overall, these findings highlight that an integrated strategy is more effective than a partial approach, reinforcing that synergy among variables is the key driver of marketing success for art-based content creators. In doing so, this study contributes to digital marketing literature by extending the understanding of AI-driven capabilities in the context of art-based content creators, a segment that remains underexplored.

Theoretical Implications

The findings provides a theoretical contribution by addressing the research gap concerning the limited integration of AI-Analytics Adoption, Content Personalization, and Engagement Optimization within a single digital marketing model, particularly for art-based content creators. The findings propose an integrated digital marketing model in which AI-Analytics Adoption, Content Personalization, and Engagement Optimization jointly contribute to Marketing Performance among art-based content creators, supported by (Huang & Rust, 2021; Dwivedi et al., 2021). Although AI-Analytics Adoption demonstrates the highest relative contribution in the simultaneous model, all three predictors independently contribute to Marketing Performance and should be interpreted as parallel dimensions rather than sequential stages. This aligns with (Bleier et al., 2018), which emphasizes content relevance, and (Lim et al., 2022), which highlights the importance of personalized experiences in value creation. Overall, the study reinforces that digital marketing success is not technologically deterministic, but depends on the integration of technology, content strategy, and user interaction. These dimensions operate complementarily without implying causal relationships among the independent variables..

Practical Implications

From a practical perspective, this study provides strategic guidance for art-based content creators in developing effective technology-based marketing strategies. The findings reveal that AI alone does not optimize Marketing Performance without strong Content Personalization. This is consistent with (Jarek & Mazurek, 2019; Bleier et al., 2018; Lim et al., 2022), which emphasize the role of personalization in improving user engagement and interaction quality. Creators should therefore prioritize understanding audience preferences and aligning content accordingly, rather than merely adopting AI tools for their own sake.

Building on this, Engagement Optimization should be considered an essential strategic component alongside AI-Analytics Adoption and Content Personalization in improving Marketing Performance. An integrated approach is recommended, where AI-Analytics Adoption, Content Personalization, and Engagement Optimization are implemented simultaneously to strengthen marketing outcomes. This highlights that competitive advantage in digital marketing lies not merely in technology adoption but in the ability to deliver audience-oriented and value-driven content strategies. By adopting this approach, art-based content creators can enhance both audience trust and monetization outcomes without eroding the authenticity that defines their artistic identity.

CONCLUSION

The purpose of this study is to examine how AI-Analytics Adoption, Content Personalization, and Engagement Optimization influence the Marketing Performance of art-based content creators on Instagram and TikTok. The findings show that all three variables are positively and significantly associated with Marketing Performance, supporting Hypothesis 1, Hypothesis 2, and Hypothesis 3 and confirming the importance of data-driven strategies in digital marketing. While Content Personalization demonstrates a strong individual association, AI-Analytics Adoption emerges as the strongest predictor in the simultaneous model, followed by Content Personalization and Engagement Optimization. Additionally, the results confirm Hypothesis 4, indicating that these variables collectively have a significant association, suggesting that they should be applied as an integrated strategy rather than independently to achieve optimal marketing outcomes.

These findings indicate that AI-Analytics Adoption, Content Personalization, and Engagement Optimization each contribute positively to improving Marketing Performance among art-based content creators. The study supports data-driven marketing theory, emphasizing that analytics-based decisions are more effective than intuition (Haleem et al., 2022; Dwivedi et al., 2021), and aligns with (Ribeiro et al., 2025), highlighting AI's role in enhancing engagement and decision-making. Furthermore, this study extends AI marketing literature by demonstrating that marketing performance is strengthened through the complementary contributions of technological capability, content relevance, and audience interaction. In the context of the creative economy, AI enhances - rather than replaces - creativity, enabling creators to deliver more relevant content. By focusing on individual creators, this research contributes a micro-level perspective on AI-driven marketing in independent creative practices.

Despite its significant findings, there are several limitations that should be acknowledged for a balanced interpretation. First, the use of a cross-sectional design restricts the ability to capture long-term causal relationships between AI adoption and marketing performance, meaning the results should be interpreted as associative rather than strictly causal. This approach also limits the observation of dynamic behavioral changes among art-based content creators over time, particularly in rapidly evolving digital environments where AI capabilities and platform algorithms continuously shift. Additionally, the use of purposive non-probability sampling limits the generalizability of the findings to the broader population of creators in Indonesia. As noted by (Hair et al., 2019), this sampling method is more suitable for exploratory research and focuses on specific respondent characteristics. Nevertheless, the geographical distribution of respondents, which includes various regions across Java as well as outer islands such as

Sumatra, Kalimantan, Sulawesi, and Bali, reduces the risk of extreme geographical bias, even though the findings remain primarily generalizable to the sub-population of creators who have adopted AI analytics tools. Consistent with the logic of purposive sampling, the study specifically targeted creators who have already adopted AI analytics tools. Consequently, the findings are primarily generalizable to this sub-population of active AI users rather than to all Indonesian creators. This is not a methodological flaw but a deliberate design choice aligned with the exploratory nature of the research, which prioritizes relevance to the research question over broad statistical representativeness (Hair et al., 2019). Future research could extend these findings by employing a comparative design that includes both adopters and non-adopters of AI analytics. Purposive sampling may overrepresent technologically literate creators, which is acknowledged as a limitation..

Measurement-related limitations should also be considered. This study relies on self-reported data, where marketing performance is assessed based on respondents' perceptions rather than objective platform metrics. Although common in digital marketing research, this approach may introduce perceptual bias and response consistency issues due to single-source measurement (Podsakoff et al., 2003; Podsakoff et al., 2024). Future research is therefore encouraged to incorporate objective indicators such as engagement, reach, or conversion data to improve measurement accuracy. Additionally, the absence of control variables - such as creator experience, audience size, and platform usage intensity - may reduce the precision of the estimated relationships and overlook important variations among creators. Moreover, the small pilot sample size (n=44) precluded exploratory factor analysis (EFA) to formally assess construct validity; although item-total correlations supported internal structure validity, future studies with larger samples should perform EFA or confirmatory factor analysis (CFA) to validate the measurement model. Including these variables in future studies would enhance the robustness and generalizability of the findings.

From a practical perspective, this study highlights that art-based content creators should use AI analytics not only for performance evaluation but also as a strategic tool for content planning and creative decision-making. AI can support visual style development, posting time optimization, and content format experimentation to enhance engagement. Audience-based content personalization emerges as the strongest driver of marketing performance, suggesting that creators must prioritize understanding audience preferences to improve both interaction quality and monetization outcomes. However, AI-analytics adoption should be implemented gradually and strategically to ensure sustainability. As emphasized by (Verhoef et al., 2021), successful digital transformation depends on aligning technology with individual capabilities and existing workflows. Therefore, AI should complement rather than replace creative processes, allowing creators to maintain artistic authenticity while benefiting from data-driven insights.

Furthermore, the findings underline the importance of accessible and user-friendly AI analytics tools to support broader adoption. Platforms and developers are encouraged to design transparent and intuitive tools that translate complex data into actionable insights, particularly for creators with limited technical expertise. From an academic perspective, future research should adopt longitudinal designs to better capture behavioral changes over time and examine the long-term impact of AI adoption.

Incorporating mediating and moderating variables, such as creativity, digital literacy, and trust in AI would further enrich the analysis. Additionally, integrating objective data sources (e.g., platform analytics) and applying mixed-method approaches can improve validity and provide a more comprehensive understanding. Addressing these aspects will strengthen empirical robustness and contribute to the advancement of data-driven marketing theory and practice in the creative economy.

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IMAGES, GRAPHS AND TABLES

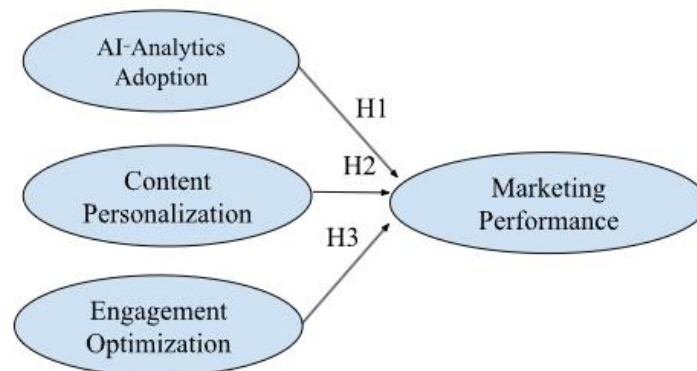


Figure 1. Model Analysis

Variable	Number of Items	Cronbach's Alpha (Point Estimate)	Reliability Category (Peterson, 1994); (Hair et al., 2019)
AI-Analytics Adoption	3	0.806	Good
Content Personalization	3	0.743	Good
Engagement Optimization	3	0.682	Fair
Marketing Performance	3	0.841	Very Good

Table 1. Reliability Results (Pilot Test ; 44 respondent)

Variable	Key Indicators	ert scale 1-5
AI-Analytics Adoption (Adapted from (Zhao et al., 2025); supported by (Davenport et al., 2019); (Chaffey & Ellis-Chadwick, 2019); (Dwivedi et al., 2021); (Mohd Amin et al., 2025))	(1) the frequency and extent to which creators utilize built-in analytics tools (e.g., TikTok Analytics, Instagram Insights) to evaluate content performance and audience engagement; (2) the degree to which creators trust in AI-generated insights when making strategic content decisions; and (3) the perceived ease of integrating AI analytics recommendations into daily content creation workflows.	I frequently use AI-based analytics tools to evaluate the performance of my TikTok content.
		I trust the results of AI analysis when making decisions related to content creation.
		Content creation feels easier for me when using recommendations from AI analytics tools.
Content Personalization Adapted from (Ki Kim et al., 2025); supported by (Koay et al., 2021); (Yadav & Rahman, 2018); (Ribeiro et al., 2025)	(1) adjustment of captions, titles, and hashtags based on AI recommendations; (2) use of AI insights to determine themes, art styles, or visual presentation; and (3) adjustment of video format or content duration based on AI recommendations.	I adjust my captions, titles, and hashtags based on recommendations from AI.
		AI helps me determine themes, styles, or visual concepts that are suitable for my content.
		I adjust the duration and type of content presentation (e.g., drawing process, speedpaint, before-after, or tutorial singkat) based on AI recommendations.
Engagement Optimization Adapted from (Osman, 2025); supported by (Lim et al., 2022); (Tafesse & Wood, 2021); (Acatrinei et al., 2025)	(1) posting content according to time recommendations generated by AI analytics tools; (2) experimenting with AI-recommended hashtags to identify those generating higher engagement; and (3) using AI analytics tools to compare engagement results across content versions.	I follow AI-recommended posting times.
		I experiment with AI-recommended hashtags to determine which ones generate the highest engagement (likes, comments, shares, or views).
		I use AI tools for performance analysis or content recommendations to experiment and compare different versions of content to see which performs more effectively.
Marketing Performance Adapted from (Khatri et al., 2026); supported by (Grewal & Roggeveen, 2020); (Liang & Gao, 2020); (Petrauskaitė, 2025); (Chaffey & Ellis-Chadwick, 2019)	(1) increase in engagement levels (likes, comments, shares) after applying AI recommendations; (2) increase in content views after following AI analytics recommendations; and (3) increase in art commission requests or monetization opportunities.	The engagement (shares, likes, comments) of my content has increased since using recommendations from AI analytics tools.
		My content views have increased after following AI recommendations.
		The number of requests of commissions or sales generated from TikTok has increased after applying AI-driven strategies.

Table 2. Measurement Instruments

Variable	Number of Items	Cronbach's Alpha (Point Estimate)	Reliability Category (Peterson, 1994); (Hair et al., 2019)
AI-Analytics Adoption (IV1)	3	0.858	Good
Content Personalization (IV2)	3	0.834	Good
Engagement Optimization (IV3)	3	0.821	Good
Marketing Performance (DV)	3	0.884	Very Good

Table 3. Reliability Results
Model Summary - Total MP

Model	R	R ²	Adjusted R ²	RMSE	R ² Change	df1	df2	p
M ₀	0.000	0.000	0.000	1.009	0.000	0	126	
M ₁	0.894	0.799	0.797	0.455	0.799	1	125	< .001

ANOVA

Model		Sum of Squares	df	Mean Square	F	p
M ₁	Regression	102.476	1	102.476	495.818	< .001
	Residual	25.835	125	0.207		
	Total	128.311	126			

Coefficients

Model		Unstandardized	Standard Error	Standardized	t	p
M ₀	(Intercept)	4.013	0.090		44.816	< .001
M ₁	(Intercept)	0.433	0.166		2.611	0.010
	TOTAL AIA	0.892	0.040	0.894	22.267	< .001

Table 4. Regression Analysis Results (H1)
Model Summary - Total MP

Model	R	R ²	Adjusted R ²	RMSE	R ² Change	df1	df2	p
M ₀	0.000	0.000	0.000	1.009	0.000	0	126	
M ₁	0.887	0.786	0.784	0.469	0.786	1	125	< .001

ANOVA

Model		Sum of Squares	df	Mean Square	F	p
M ₁	Regression	100.865	1	100.865	459.377	< .001
	Residual	27.446	125	0.220		
	Total	128.311	126			

Coefficients

Model		Unstandardized	Standard Error	Standardized	t	p
M ₀	(Intercept)	4.013	0.090		44.816	< .001
M ₁	(Intercept)	0.251	0.180		1.393	0.166
	TOTAL CP	0.931	0.043	0.887	21.433	< .001

Table 5. Regression Analysis Results (H2)
Model Summary - Total MP

Model	R	R ²	Adjusted R ²	RMSE	R ² Change	df1	df2	p
M ₀	0.000	0.000	0.000	1.009	0.000	0	126	
M ₁	0.879	0.773	0.771	0.483	0.773	1	125	< .001

ANOVA

Model		Sum of Squares	df	Mean Square	F	p
M ₁	Regression	99.203	1	99.203	426.006	< .001
	Residual	29.108	125	0.233		
	Total	128.311	126			

Coefficients

Model		Unstandardi zed	Standard Error	Standardiz ed	t	p
M₀	(Intercept)	4.013	0.090		44.816	< .001
M₁	(Intercept)	0.280	0.186		1.507	0.134
	TOTAL EO	0.941	0.046	0.879	20.640	< .001

Table 6. Regression Analysis Results (H3)

Model Summary - Total MP

Model	R	R ²	Adjuste d R ²	RMSE	R ² Change	df1	df2	p
M₀	0.000	0.000	0.000	1.009	0.000	0	126	
M₁	0.925	0.856	0.852	0.388	0.856	3	123	< .001

ANOVA

Model		Sum Squares	df	Mean Square	F	p
M₁	Regression	109.776	3	36.592	242.823	< .001
	Residual	18.535	123	0.151		
	Total	128.311	126			

Coefficients

Model		Unstandardi zed	Standard Error	Standardiz ed	t	p
M₀	(Intercept)	4.013	0.090		44.816	< .001
M₁	(Intercept)	0.016	0.154		1.105	0.916
	TOTAL AIA	0.389	0.083	0.390	4.713	< .001
	TOTAL CP	0.376	0.082	0.358	4.570	< .001
	TOTAL EO	0.231	0.092	0.216	2.501	0.014

Table 7. Regression Analysis Results (H4)