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The Determinants of Creator Performance on Creative Content Platforms:

Evidence from Xiaohongshu and Bilibili

Xu Caijun

Singapore Management University (SMU) 2024





The Determinants of Creator Performance on Creative Content Platforms:

Evidence from Xiaohongshu and Bilibili

Submitted to the School of Accountancy of Singapore

Management University (SMU) SMU-ZJU

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To meet the Doctoral Degree Requirements in Business

Administration

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Singapore Management University (SMU) 2024





Declaration

I hereby declare that this thesis is my original work and has been written entirely by me.

I have appropriately noted all sources of information used in this thesis.

Previously, the thesis has never been used to obtain a degree at any university.

强利您

Xu Caijun

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18th April, 2024





Abstract

Content creation platforms, including Douyin, Kuaishou, Xiaohongshu, and Bilibili, have emerged as significant drivers of employment and economic growth within the digital economy. These platforms invigorate online engagement and offline consumption, serving as vital conduits that merge China's digital and real economies. Currently, China boasts over 10 million active content creators on its leading platforms, although their earnings are markedly uneven. While some top-tier creators garner substantial profits, the majority in the mid to lower tiers grapple with profit generation and encounter challenges in enhancing their creative performance. Against this background, this study delves into the antecedents of creative performance. By examining data and contexts from two prominent Chinese content creation platforms, Xiaohongshu and Bilibili, the study unfolds through three sequential sub-studies that focus on the work characteristics, the personal styles of the creators, and the incubation strategies employed by multi-channel networks (MCNs), respectively. This approach uncovers the antecedents and the underlying mechanisms that could heighten content creators' performance.

In sub-study 1, we analyzed the works published by creators with over 10,000 followers within the knowledge section from January 2021 to January 2022 (n=247,972). To construct a novelty index from work tags, we employed the Markov chain Monte Carlo (MCMC) algorithm. Our regression analysis revealed a positive U-shaped relationship between work novelty and three





variables: views, likes, and comments. Specifically, as novelty grows, these variables tend to decline first and then climb. In other words, the works that enjoy the highest popularity among viewers are either those with highly familiar themes or those that are extremely novel.

In sub-study 2, we scrutinized content spanning videos, audio, and text from creators with 10,000 followers or more within the beauty category on Bilibili, between January 2021 and January 2022. From this pool, we took a sample of 15% of the creators, resulting in 1,118 original videos produced by 129 creators. A sequence of analyses was conducted: multimodal analysis, factor analysis, and regression analysis. We distinguished six personas of bloggers within the sample: casual, energetic, professional, sweet, approachable, and good-looking. Regression outcomes pointed out that the good-looking persona has a positive impact on the number of followers, whereas the sweet persona has a positive impact on the number of bullet comments.

In sub-study 3, our attention shifted to the synergy between the incubation strategies of MCNs and the individual creative activities of content creators, exploring how this synergy aids creators in achieving breakout successes. We opted for a multi-case study approach, drawing from bloggers on Xiaohongshu and Bilibili as our subjects. Through interviews and archival research, we constructed a three-stage (development/stagnation stage—transformation stage—secondary growth stage) model outlining the collaborative framework of MCNs and key opinion leaders (KOLs) to realize breakout successes.





This study makes several theoretical contributions. First, it elucidates the influence of novelty on the creative performance of diverse types of works, addressing the gap in existing literature that often overlooks the novelty in content creation platforms. Second, the study delineates the personas of content creators and assesses their effect on creative performance, addressing the shortcomings of existing research offering a superficial and unilateral view of creators' characteristics. Third, by revealing the process of content creators and MCNs jointly achieving transformation and secondary growth, this study remedies the focus of existing research that is often confined to the short-term effects of work and creator characteristics on creative performance while overlooking the inclusion of MCN incubation strategies and the sustained advancement of creators.

Based on the insights from the three sub-studies, this study has developed three implementation schemes that include three products: the Creation Material Toolbox, the Text-Video-Audio (TVA) Model of KOL (Key Opinion Leaders) Portrait, and the Incubation Management System. These products have been applied and upgraded in enterprise practices, which contributes to enriching our theoretical outcomes.

Overall, the study's conclusions offer valuable guidance for content creators aiming to boost their creative performance, for MCNs seeking to manage and develop content creators scientifically, and for the orderly, healthy, and rational advancement of China's platform economy, particularly within the





content creation sector.





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Antecedents of Creative Performance in Content Creation Platforms:

Research Evidence Based on Xiaohongshu and Bilibili

1. Introduction

1.1 Background

In recent years, the expansion of the netizen community and the growing diversity of user scenarios on internet platforms have been boosting the digital economy's contributions to China's national economic strength. According to the 51st China Statistical Report on Internet Development (Report for short) released by the China Internet Network Information Center (CNNIC), the number of Chinese netizens reached 1.067 billion in December 2022—an increase of 35.49 million since December 2021—with the internet availability rate reaching 75.6%. The user base engaging with online videos (including short videos), climbed to 1.031 billion—a hike of 55.86 million from December 2021—and represents 96.5% of the country's total netizen count. Within this bracket, the count of short video viewers soared to 1.012 billion, marking an upsurge of 77.7 million since December 2021 and making up 94.8% of total netizens. The average monthly time spent by users engaging with short videos has surged to 53.2 hours. Consequently, the short video sector has eclipsed instant messaging to become the category commanding the longest user engagement time, capturing 25.7% of the aggregate online duration¹.

¹ https://cnnic.cn/NMediaFile/2023/0322/MAIN16794576367190GBA2HA1KQ.pdf





Per the *Plan for Digital Economy Development during 14th Five-Year Plan* (2021-25) Period released by the State Council, the digital economy's core industries added value in 2020 comprised 7.8% of China's GDP², indicating that the digital economy provides a robust drive toward sustainable economic and societal progression. The internet platforms are experiencing booming development as manifested by the competitive surge in innovative business formats and models; by the accelerated integration of digital technology across multiple industries; by thriving e-commerce; by the widespread adoption of mobile payments; and by a shift toward online education, remote meetings, eshopping, and live streaming as part of everyday routines. Within the digital economy, content creation platforms, including Douyin, Xiaohongshu, and Bilibili, have emerged as significant drivers of employment and economic growth. These platforms invigorate online engagement and offline consumption, serving as vital conduits that merge China's digital and real economies.

The influencer economy, a pivotal part of the digital economy, encapsulates a new economic model that harnesses the power of the internet—particularly through mobile online communication and social media platform promotion—to amass significant social attention and build expansive follower bases for targeted marketing. This model yields a vast marketplace centered on buzzworthy intellectual property (IP), resulting in a full-fledged influencer industry

² https://www.gov.cn/zhengce/content/2022-01/12/content 5667817.htm





chain. At its core, it is premised on the monetization of attention. Social media influencers are KOLs. In this study, KOLs are defined as content creators. The term KOLs is a marketing concept, typically referring to individuals who possess more product knowledge that is more accurate, hold the trust and acceptance of specific groups, and exert considerable sway over these groups' purchasing decisions.

The rise of new media has catalyzed the creation of numerous emergent professions, with multi-platform content creators experiencing a notable surge. The transformation of internet technology has not only reshaped media formats and content paradigms but also altered the portrait of the creator community. In the era of portal websites, content creators were predominantly mainstream media outlets and official websites of governments and enterprises. Information dissemination in this phase was characterized by authority and centralization, with online communication and user consumption dominated by Professionally Generated Content (PGC). In the era of internet represented by Weibo and WeChat, amateur users increasingly become the principal agents of content creation. In the mobile internet era, the proliferation of short video and livestreaming applications has led to even more fragmented information communication. As a result, there has been a gradual transition from PGC dominance to a model where User-Generated Content (UGC) prevails, facilitating the liberation and diversity of users' expressions of content. Amidst this evolution, certain creators have cultivated their follower bases and achieved





substantial influence. The content production has acquired marketing value and commercial potential. This has given impetus to the rise of the Occupationally Generated Content (OGC) model.

Representing the new media, the internet has been a fertile ground for the emergence of new professions within the social production sphere, reshaping the conventional industry ecology and profoundly influencing the career development of the younger generation. Data from Ocean Mathematics indicates that as of June 2022, Douyin creators with over 10,000 followers had grown to 3.2 million—a 48% year-on-year (YoY) increase—demonstrating robust growth on an already substantial base. Regarding portrait structure, there has been an uptick in the number of male creators with over 10,000 followers, with a balanced gender distribution. Additionally, a significant proportion of creators with over 10,000 followers are aged between 31 and 40, predominantly from the post-80s and post-90s cohorts³. According to Xiaohongshu's latest data, the platform boasts over 200 million monthly active users, with the post-90s generation constituting 72% of this community, and half residing in first-tier and second-tier cities. The platform is host to over 43 million content sharers⁴. By the end of 2021, Bilibili's average number of monthly active uploaders hit 2.7 million, marking a 61% increase YoY. The primary age bracket for Bilibili creators is 24-30, but there has been a notable 80% increase in creators aged

³ https://trendinsight.oceanengine.com/arithmetic-report/detail/773

⁴ https://guoji.pro/Home/MarketingInfo?marketingId=28





over 31⁵. In 2021, over 20 million Kuaishou users garnered income in various forms, with 60% hailing from lower-tier and mid-tier cities. As of June 2022, the number of Kuaishou creators with over 10,000 followers exceeded 2 million⁶. The great successes of social media influencers or internet creators like Li Ziqi and Li Jiaqi (Austin Li) have played a wide social demonstration effect, refreshing the employment outlook among the youth. A 2017 survey released by xinhuanet.com revealed the emergent professions most coveted by the post-95s generation, ranking from the most to least desirable as streamer, social media influencer, dubbing specialist, makeup artist, cosplayer, and game reviewer. Notably, streamers and social media influencers combined accounted for 54%⁷, significantly outpacing other emergent professions.

The shifting employment outlook among the youth underscores that the internet as a breeding ground for emergent professions appeals to digital natives of the younger generation. Over the past three years, the creator number on leading content creation platforms like Douyin, Kuaishou, Xiaohongshu, and Bilibili has seen a shift from explosive growth to a more stable state with refined and high-quality content operations. Notably, each platform's user community, city-tier presence, engagement level, and view preferences exhibit stark contrasts. These platforms display varying degrees of user retention across different user communities, gradually cultivating unique business models

⁵ https://www.bilibili.com/read/cv14332832/

⁶ https://www.yangtse.com/zncontent/2381628.html

⁷ http://www.xinhuanet.com//politics/2017-04/24/c 1120860496.htm





tailored to their respective users. Concurrently, a diverse array of creators are enticed to produce content on these platforms persistently and delve into commercialization avenues.

Brands and advertisers, recognizing short video and live streaming platforms as new business avenues, have fully realized the effectiveness of collaborating with KOLs for online communication with platform users. As entities in the upstream of the industry chain, they leverage KOLs' short videos or live streams as mediums to showcase advertisements or conduct live streaming marketing, subsequently remunerating marketing fees to MCNs, social media influencers, or the platforms. The term "MCN" originates from the YouTube ecosystem, the world's largest video search and sharing platform. An MCN is an organization that works with video platforms to offer assistance and development services to account owners in areas such as product, programming, funding, cross-promotion, partner management, digital rights management, sales, and audience development, in exchange for a percentage of the ad revenue from the account⁸. In China, MCNs deliver a suite of services to KOLs, including contracted incubation, content strategy, publicity and promotion, follower base management, and business collaborations. They assist KOLs in maintaining content creation, bolstering their follower numbers, amplifying their commercial value, and enabling consistent monetization. MCNs serve as a critical juncture bridging content platforms, commercial brands, and KOLs,

⁸ https://en.wikipedia.org/wiki/Multi-channel network





connecting various facets from upstream to downstream. They distribute premium content to audiences, amplify brand messaging, and secure income streams for KOLs.

The content creation industry is grappling with several management challenges. First, the disparity in creators' incomes, characterized by the "80/20 rule," is notably stark. A small fraction of top-tier IPs—with followers exceeding 500,000 on Xiaohongshu, 1 million on Bilibili, and 5 million on Douyin—command significant earning potential. For instance, social media influencer Li Ziqi has amassed tens of millions of followers and yields an annual profit of around RMB 160 million⁹. Mid-tier IPs—with followers between 100,000 to 200,000 on Xiaohongshu, 100,000 to 500,000 on Bilibili, and 1 million to 3 million on Douyin—can earn on average about RMB 1 million annually. Meanwhile, numerous content creators who fail to reach the middle tier struggle to generate profit, even those with follower counts in the tens of millions. For the majority of content creators, their income is not stable, with many individual creators experiencing periods where financial outflows exceed earnings. Additionally, most content creators below the middle tier encounter bottlenecks in their career paths.

Second, variances exist in the positioning and user preferences across prominent Chinese platforms, leading to diverse content distribution rules and swift changes. These factors considerably constrain content creators,

⁹ https://j.eastday.com/p/1578441444011727





influencing both the direction of their content creation and the timing of monetization. Content creation is a creative spiritual production activity, during which creators need to derive spiritual enjoyment. However, amid the intensifying competition within the internet content industry, it becomes imperative to address social concerns such as how creators can consistently deliver high-quality content, capture follower interest, achieve long-term commercial viability, and maintain their mental health.

Third, the landscape of China's MCNs has undergone a rapid expansion, with the count now exceeding 20,000¹⁰. In the early stages of the industry, there was a rampant growth, with MCNs varying in quality, and industry malpractices gradually coming to light. During their KOL scouting and incubation processes, MCNs often opt for accounts with personas and established follower bases. However, the chances of developing top-tier IPs remain exceedingly slim. For instance, if an account fails to maintain the trend of breakout successes within a trial phase, MCNs may disengage or divert their focus to new candidates. While MCNs face financial and operational pressures, the lack of long-term vision and comprehensive training for contracted creators can have detrimental effects on these creators' career trajectories. The industry players should contemplate this critical issue: How can we make content creation a legitimate career path? MCNs must craft explicit pathways for growth and diverse monetization

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https://www.topklout.com/static/pdf/web/viewer.html?file=https%3A%2F%2Fimg.topklout.com%2Fwebsite%2Freport%2F64364a1585cca.pdf%3Fr%3DFri%20Sep%2015%202023%2017%3A16%3A18%20GMT%2B0800%20(China%20Standard%20Time)





strategies in practice. This approach may be decisive in determining the longevity of MCNs in the form of a company and their ability to re-attract investment after entering the phase characterized by competition for existing market share.

1.2 Research Topics

This study examines the key antecedents influencing creators' creative performance on content creation platforms and their effect mechanisms. Specifically, it endeavors to investigate how factors such as the characteristics of works published by KOLs, their unique personal styles, and MCNs' incubation strategies—creative assistance, the development of a creator's image and persona, and the management of profitability strategies—impact the creative performance of content creators.

In the context of the digital economy, thriving content creation platforms have sparked an influencer economy wave, emerging as a new catalyst for both consumer stimulation and employment generation. Nonetheless, a void in organizational support and guidance for platform creators (KOLs) often results in highly volatile creative performance and income stability. Consequently, KOLs face a notably low likelihood of sustained career success on these platforms. This study is primarily motivated by the desire to bolster my company's management through theoretical exploration, aiming to offer scientific insights that would facilitate the effective nurturing of potential KOLs. Moreover, the company's database system provides a robust data backbone for





the study, while our extensive industry expertise yields practical reference for research design. These elements enhance the study's feasibility and support scientific, rigorous, and practical research.

1.3 Theoretical Objectives

The purpose of this study is threefold.

First, it scrutinizes work characteristics and assesses the impact of these characteristics on work performance (such as the accumulation of likes and comments) via data analyses of multi-tagged KOLs' works, identifying antecedents that can enhance creative performance at the work level.

Second, it concentrates on the personal style of creators. Utilizing multimodal data, it models and portrays creators' styles, subsequently using regression analysis to discern which styles are most favorable to creative performance.

Lastly, it explores MCNs' incubation strategies and probes into how MCNs and content creators can cooperate to foster an underlying mechanism that facilitates breakout successes (achieving an evolution beyond traditional creation models and toward continued growth), thus providing a theoretical framework for the enduring advancement and success of content creators.

1.4 Practice Objectives

This study aims to develop and examine KOLs' work and personal characteristics as well as their MCNs' incubation strategies. It establishes a





moderated mediation model where user engagement behavior impacts KOLs' success. We organize the model into three stratified levels based on their significance.

The first level encompasses the short-term elements, which allow KOLs to make timely adjustments during their content creation based on platform characteristics and user needs. These elements enable them to optimize their content as well as their strategies for driving traffic. Mastery of these dynamic and constant elements contributes to shaping a distinct and adaptable KOL persona and value proposition. The creation time of each KOL is limited, and users' time and energy are also limited. Only by properly allocating limited time and energy to the long-term persona shaping of KOLs and short-term strategy adjustments can the public transcend their preconceived notions about KOLs' characteristics within a limited timeframe.

The second level involves identifying the most advantageous core elements, namely KOLs' personality traits and their personal styles presented on platforms, also referred to as long-term elements. These elements possess enduring value, instrumental in cultivating a clear perception among users. Such elements form the foundational aspect of a KOL's business operation, namely the persona.

The third level pertains to MCNs' incubation strategies. As platform traffic benefits reach their zenith, user expectations for both the frequency and quality of content updates on creative platforms are mounting. Achieving goals such as long-term production of high-caliber content, engagement with trending topics





on platforms, and gaining wider visibility and larger followership can be a challenging task for KOLs to tackle solo. Such endeavors necessitate collaborative efforts from creative teams. On the one hand, with changing platform traffic and fast-evolving hot topics, maintaining stable and exceptional data performance and expanding the follower base consistently via wellestablished personas require the backing of diverse content creation teams, such as writers, directors, editors, and visual designers. On the other hand, the everincreasing population of platform-wide KOLs calls for transcending reliance on self-operated commercial resources to ensure sustainable monetization. Strong business promotion teams and robust brand resources are necessary for steady commercial monetization. In the incubation phase, MCNs assist KOLs in establishing personas, selecting tags, planning content, analyzing data performance, and identifying growth opportunities. This support enables KOLs to efficiently capitalize on opportunities for expanding their follower base and fostering breakout successes, which in turn facilitate MCNs' advancement. All these significantly impact KOLs' growth performance. This entire growth process is multifaceted and subject to numerous subjective factors. Therefore, through this research, our company establishes the Xingcheng Index System that empowers and oversees the entire creative process—from work and persona to team execution—thereby enhancing the overall efficiency of creators on content platforms.

Ultimately, based on theoretical findings, this study develops a digital and





intelligent KOL incubation system that covers all facets and phases of the KOL incubation cycle digitally and undergoes continuous optimization and upgrade throughout various incubation events.

As we step into an era where content creation is universal, it is imperative that the process matures toward better quality, boosted efficiency, and a more transparent trajectory for growth. This digital and intelligent incubation system provides an indispensable tool for industry players and individuals to navigate their career paths and attain commercial triumph. It offers solutions for real-time analysis and response to multifaceted dynamic shifts across different platforms, communities, and trending topics, bolstering the sustainable development of content creators, the broader industry, and MCNs.





2. Literature Review

Traditional marketing theories predominantly view consumers as passive recipients of marketing messages, leading to a predominantly one-sided communication channel. This approach restricts consumers' ability to provide feedback or seek clarification on marketed content. As information recipients, consumers only receive the information that marketers deem necessary. Conversely, current content-driven social platforms allow fans to access a wide array of marketing information anytime and actively engage in marketing. This creates a decentralized network of information diffusion, enabling consumers to exert influence not only on one another but also on brands and interconnected content. Clearly, consumers who are satisfied with a brand, product, service, or content are likely to recommend it to another consumer. The current user social and communication paradigms have fundamentally reshaped how consumers interact. Content endorsements now serve as a novel instrument for consumers to recommend products and services. For more effective content marketing outcomes, marketers use multi-dimensional methods involving platforms, creators, and content to amplify users' access to information.

The foundation for analyzing the nexus between a KOL's success model and commercial value lies in comprehending the public's inclinations and habits in content consumption. According to the findings of Katz et al. (1974) in their paper titled "Utilization of Mass Communication by the Individual," mass media fulfills the public's social needs and desires for socializing. Therefore, on





various platforms, different content logic and presentation forms act as mediums of distinct modes to facilitate users' engagement. These mediums ultimately cater to the users' socializing needs, with other outcomes possibly being unintentional. Consequently, the use of social media is not driven by the specific needs of the public. In an age where new media is advancing rapidly, people harbor certain expectations and a sense of curiosity toward mass media. They connect with and participate in these media through a variety of approaches to discover their needs and find satisfaction in this interactive process.

To grasp the underlying logic driving the widespread utilization of content-driven social platforms, this study delves into the research surrounding content creation-type KOLs' professional triumphs on these platforms—evidenced by data such as their follower count and their works' likes, comments, and shares, as well as commercial value. The literature review focuses on three aspects: work characteristics, creator characteristics, and their MCNs' incubation strategies. Gaps within the existing research are pointed out, and our research design is proposed.

2.1 Research on the Influence of Work Characteristics on Creative Performance

Content can be disseminated through text, graphics, audio, video, and other forms, with video further categorized into short, medium, and long formats. Each form caters to distinct consumer preferences. Take Xiaohongshu as an example. In its initial stages, the platform predominantly utilized images and





text to disseminate information. This approach enabled consumers to gain the information they sought more directly. Accompanying descriptive text has the added benefit of extending users' engagement time after capturing their attention.

In addition, factors such as shooting style, topic selection, props, special effects, and background music significantly influence viewer reception. Among these elements, topic selection is a pivotal component of short-form video content. Each social media influencer often engages in a unique field, style, and content structure. For instance, the structural organization of video content can be crucial on different platforms due to algorithmics-based dissemination logic that evaluates content completion rate and engagement rate. Algorithms are defined as a set of rules for executing calculations and processing data to solve specific problems or calculate¹¹. Content completion rate refers to the percentage of users who watch the video (or read graphics and text) from the beginning to the end, over a certain period, compared to the total number of users who have initiated watching (or reading). Engagement rate is a metric that indicates the level of interaction—reflected in likes, comments, and shares between content released by KOLs and its viewers. Both the content completion rate and the engagement rate are critical indicators for the algorithmics-based dissemination logic. For creators, properly formatting their videos to optimize content completion rate becomes essential.

11 https://en.wikipedia.org/wiki/Algorithm





From the standpoint of work characteristics, existing research has identified that both informational and emotional characteristics substantially influence creators' work performance. The visual appeal (Ki & Kim, 2019; Argyris et al., 2020), hedonic value (Hughes et al., 2019; Gross & Wangenheim, 2022), informativeness (Ki et al., 2020; Magno, 2017; Lou & Yuan, 2019), uniqueness (Casaló, 2018; Gentina et al., 2014), and warmth and competence cues (Roccapriore & Pollock, 2022) are important antecedents that affect data such as shares, comments, and likes. Specifically, a questionnaire study by Ki and Kim (2019) found that the visual appeal of works posted by creators on Instagram is positively correlated with users' positive attitude toward creators' taste and subsequent purchase intention, while the informativeness embodied in works is positively correlated with users' positive attitude toward creators' views and subsequent purchase intention. Argyris et al. (2020) collected more than 45,000 images related to social media usage behaviors over 26 months and automatically classified each image through deep learning algorithms. Their research shows that visual congruence affects user engagement. Creators should carefully analyze and identify the salient visual characteristics that their target viewers share.

The findings of Ki et al. (2020) corroborate previous assertions that the informativeness contained within creators' works is a vital antecedent affecting users' emotional attachment to creators and their subsequent purchase intention.

Magno's (2017) study underscores that average consumers, who may lack





specialized knowledge, often find it challenging to navigate the complexity of cultural products. In this context, cultural blogs can serve as a conduit to simplify complexity. A key element in this relationship is consumer engagement, which arises when creators provide content that is not only of high quality but also engenders happiness. Establishing such trust-based emotional attachment encourages consumers to trust and follow the recommendations made by creators. The research by Lou and Yuan (2019) confirms that the informational value of creators' content stimulates users' trust toward creators' posts for brand promotions while influencing their purchasing intentions. Social media users regard creators as reliable sources of quality information, and their trust and purchase intention are heightened by the informational value of the content provided by these creators.

In addition to the appeal and information provided by works, their hedonic value and uniqueness also have a significant impact on work performance. Hughes et al. (2019) posited that the hedonic value offered by works posted by creators on Facebook has a pronounced positive impact on encouraging user trial behaviors, even more so than on augmenting product awareness. Gross and Wangenheim (2022) indicated that sponsored content can deliver heightened levels of hedonic value to consumers, thereby fostering positive engagement on social media. Creators dedicate more effort, time, and ideas to sponsored content, culminating in richer content and higher hedonic value for social media users.

Casaló (2018), through a questionnaire survey of 808 Instagram users,





shows that if creators hope that users regard them as opinion leaders, the uniqueness and originality of their works are crucial factors. Gentina et al. (2014) performed a questionnaire survey on 1,142 young people (549 girls and 593 boys) across 37 classes in urban areas of Northern France, discovering that the uniqueness displayed in creators' works is a significant factor in attracting young male viewers. Roccapriore's and Pollock's (2022) publication in the Academy of Management Journal shows the use of the multimode communication theory to present and validate the relationship between the works with different characteristics released by creators on social media platforms and various user interaction behaviors. Their analysis of 488 Instagram fitness and nutrition bloggers' work content and outcomes revealed that image information characteristics are positively related to user attention behaviors. In addition, textual information exhibits a stronger positive link with user commenting behaviors. Furthermore, competence cues featured in works correspond positively with user attention behaviors, while warmth cues featured in works are more likely to have a more positive impact on users' positive comments.

2.2 Research on the Influence of Creator Characteristics on Creative Performance

For short video content creators, personal charisma and professional expertise are essential in establishing trust with their viewers. In the current "social media influencer 4.0" era, creators' personality traits can leave a strong





impression on viewers in just a few seconds of video. The readability of such videos is significantly better than that of text and images, allowing for the rapid establishment of cognitive recognition as if one were meeting the influencer in person.

While viewers can directly perceive the appearance and designed personality of a content creator, it would be overly simplistic to assume that appearance alone sets the threshold for becoming a social media influencer. More critical are the distinct characteristics or memorable points that creators establish to connect with users and foster viewer appeal. The ascent to prominence for top KOLs on content-driven social platforms is not an overnight occurrence. For example, Papi Jiang, a graduate of the Department of Acting, Central Academy of Drama and an early social media influencer on Weibo, devoted substantial time to developing short videos before rising to fame. Similarly, "Hello, sir! I'm He," a leading blogger specializing in the digital domain on Bilibili, went viral because of a 5G-related video. However, before his fame, he consistently uploaded more than 20 episodes at a rate of 1 or 2 videos per month, initially garnering only tens of thousands of views each. Behind every overnight success story, there lies a long period of perseverance and dedication.

From the perspective of creator characteristics, existing research has found that the personal traits of creators profoundly influence users' attitudes and perceptions toward brands, thereby affecting users' purchase intentions. Among





these traits, the credibility of creators (Breves et al., 2019; Reinikainen et al., 2020), attractiveness (Torres et al., 2019), professionalism (Hughes et al., 2019; Ki & Kim, 2019), popularity (Hill et al., 2017), and homogeneity (Lee & Watkins, 2016; Ki & Kim, 2019) are important antecedents that influence user cognition. The published literature suggests that the credibility of content creators exerts a substantial direct influence on users' attitudes and behavioral intentions toward brands. Choosing highly credible influencers, or at least creating high-credibility posts, can help enhance brand image and potential users' behavioral intentions (Breves et al., 2019). Reinikainen et al. (2020) investigated that a parasocial relationship with social media creators can encourage followers to leave comments and thereby boost a creator's credibility among other viewers. When social media creators successfully foster a positive community and establish emotional attachment with their followers, it can culminate in a transfer of followers' trust in the brand.

Beyond credibility, factors such as a creator's attractiveness and perceived similarity to users also affect users' attitudes and behaviors. Torres et al. (2019) conducted a questionnaire survey with 307 users, revealing that the attractiveness of creators—including preference and familiarity—and the alignment between the creator and the brand can influence users' attitudes toward the brand and purchase intentions. Hughes et al. (2019) utilized data from 1,830 sponsored blog posts by 595 bloggers from September 2012 to December 2016, finding that consumers are inclined to heed the





recommendations of people perceived as highly professional during the initial stages of their decision-making process. However, when it comes to the actual purchase stage, consumers may either seek advice from less specialized (potentially more homogeneous) sources or even more specialized ones. Ki and Kim (2019) carried out qualitative research, which found that a social media creator's ability to plan and produce well-crafted content is a key factor in garnering user affection and forming an emotional attachment to the viewers. Thoroughly informational content provided by creators meets users' ability needs in a significant and positive way. Hill et al. (2017) discovered that the number of video bloggers' subscribers can be an indicator of their popularity. They found that video bloggers with higher popularity can evoke a stronger perception of credibility and professionalism, as well as a higher purchase intention among users, compared to their less popular counterparts. Lee and Watkins (2016) conducted research, indicating that the similarity between creators and users fosters the establishment of parasocial interactions, which can subsequently lead to users' positive brand evaluations. Ki and Kim (2019) found that the greater the ability of social media creators to fulfill their followers' needs for imagination, relationships, and ability, the stronger the emotional attachment established with their followers.

2.3 Limitations of Existing Research and Directions of Future Research

Through a review of the literature, it has been observed that the antecedents of KOLs' professional success on content-driven social platforms can generally





be categorized into three areas by examining the effects of KOLs' content characteristics, creator styles, and platform characteristics on their performance or metrics such as views, likes, and comments. While existing studies have furnished substantial evidence for comprehending KOLs' professional success, there are two deficiencies that future research needs to address.

In general, the existing studies have the following three theoretical limitations that need to be further explored.

First, the existing research has ignored the influence of novelty on the creator's creative performance. From the perspective of essential attribute, content creative platforms encourage novelty. Originality is one of the core characteristics of works on the platform and also plays an important role in arousing users' curiosity and interest. Future research needs to systematically explore the relationship between novelty and creative performance.

Second, existing research into the depiction of a creator's style is often superficial and unilateral, failing to capture characteristics like style and tone that are critical in practice. For instance, numerous existing studies rely on self-report questionnaires or user ratings to gauge the impact of a creator's credibility, appearance attractiveness, and personality on creative performance (Breves et al., 2019; Fink et al., 2020; Sakib et al., 2020). Yet, these superficial and unilateral assessments fall short of aiding scholars and practitioners to comprehend how a creator's overall characteristics like "tone" or "style" correlate with their creative performance. Future research should transcend the





constraints of questionnaire-based methods, provide a holistic overview of creators' styles, and investigate the correlation between varied styles and their creative performance.

Third, existing research has predominantly focused on how the work characteristics and the creator's style affect creative performance while overlooking the role MCNs' incubation strategies play in creative performance. Such research often employs short-term metrics such as shares, comments, and likes as dependent variables, not giving due weight to long-term performance as manifested by commercial value and creators' breakout successes—defined as transcending existing creative styles and themes for sustained growth. In the practical realm of content creation platforms, creators routinely encounter creative standstills, necessitating the help of MCNs for breakout successes and ongoing creative performance. Future research should analyze and elucidate this process.

Moreover, methodologically, existing research predominantly relies on surveys with small sample sizes, and the few large-sample studies conducted are often too broad in theory, diminishing their effectiveness in addressing pertinent theoretical queries. Therefore, there is an imperative need for future research to leverage quantitative and qualitative methods, harness big data, and combine thorough interview materials, to resolve theoretical queries pertinent to this emergent field in an all-round way.





3. Main Contents of the Study

Given the deficiencies identified, this study aims to investigate how work characteristics, creator styles, and incubation management strategies employed by MCNs impact platform user engagement behaviors. Moreover, it examines how these behaviors contribute to the underlying mechanism of creators' creative performance. Drawing on existing literature, we divide user engagement into short-term performance like followings, content completion rate, views, and likes, as well as long-term growth performance such as commercial value and breakout success. In three sub-studies, we will explore how work characteristics, creator styles, and MCNs' incubation strategies impact creators' creative performance. The research questions, objectives, and methods for each sub-study are outlined below.

3.1 Research Questions and Objectives of Sub-studies

3.1.1 Sub-study 1: study on the influence of work novelty on views, likes, and comments

Research question: What is the relationship between work novelty and corresponding data on views, likes, and comments?

Research objective: Utilizing a big data analysis of non-interventional platform data, this sub-study aims to elucidate the varied effects of work novelty on the views, likes, and comments a piece of work receives.

3.1.2 Sub-study 2: study on the relationship between creator style portrait





and creative performance based on multimodal modeling

Research question: Which personal styles of creators are associated with higher creative performance?

Research objective: Employing multimodal modeling to conduct research and regression analysis on KOL portraits, this sub-study aims to delineate creator styles and uncover the disparities in creative performance among creators with varying styles.

3.1.3 Sub-study 3: study on the influence of MCN management strategies on breakout successes of KOLs

Research question: How do MCNs' incubation management strategies assist creators to overcome creative bottlenecks and achieve sustainable growth?

Research objective: By synthesizing case analyses of archival data with interview data, this sub-study aims to explain how MCNs' management strategies align with creators' personal development during their process of making breakout successes.

3.2 Research Methods

The project is expected to be conducted through diverse methods, including:

Data mining combined with machine learning: Utilizing a self-developed social media data service platform, this project will gather content update data from popular social platforms, including Xiaohongshu, Douyin, and Bilibili.





Subsequently, it will mine relevant data and attribution variables by deconstructing and exploring factors associated with high-quality content demonstrating strong data performance.

Multimodal modeling: This method involves conducting a clustering analysis of content to deconstruct the content dimension and subdivide it into distinct domains. It focuses on identifying and studying typical KOLs in respective content domains to explore pertinent attributional factors that come into play during content creation. Machine learning techniques will be deployed to conduct a cluster analysis of audio features, video features, and facial image features to uncover the underlying personal styles and personality traits of these KOLs.

Regression analysis: Utilizing big data methods and multimodal modeling, the study developed portraits of creator styles. Regression analysis was used to explain the influence of these characteristics and styles on key indexes of creative performance.

Case study: Through the dissection and analysis of phased phenomenal cases, this study investigated the outcomes from various angles. It categorized and dismantled the success factors of KOLs, breaking down the complex elements behind KOL success into simpler components with research methods such as factor analysis and correlation analysis for respective analyses.





4. Sub-study 1: Study on the Influence of Work Novelty on Views, Likes, and Comments

4.1 Research Background

With the onset of the mobile internet era and the rapid advancement of information technology, content creation platforms that focus on graphics, audio, and videos have emerged, quickly attracting the attention of ordinary users. These platforms not only provide users with a wealth of information and imaginative works but also exert a significant influence on social and economic activities. Unlike traditional media platforms, content creation platforms can gather a large number of people, who have diverse interests and do not know each other, to participate in work creation. These individuals serve dual roles as consumers and creators of platform content (Faraj et al., 2011). As Andy Warhol said, "In the future, everyone will be world-famous for 15 minutes." The emergence of various content creation platforms has provided ordinary people with the opportunity to showcase themselves and to seek attention and recognition.

According to a survey by Tech.co¹², as of 2022, the number of individuals using various content creation platforms globally reached 4.74 billion, marking an increase of 190 million in 2022. It is estimated that the global user base will expand to over 5.85 billion by 2027. Global e-commerce sales on social media

¹² https://tech.co/digital-marketing/social-media-trends;





platforms are estimated to reach USD 992 billion in 2022, USD 1.3 trillion in 2023, USD 1.6 trillion in 2024, and USD 2.1 trillion in 2025. 55% of users purchased products through social media, and 87% claimed that social media helped them make purchase decisions. 57% of users have increased their shopping frequency since the breakout of the COVID-19 pandemic. It is expected that more platforms will implement e-commerce functions.

Overseas content creation platforms are thriving, with various high-quality works gaining widespread distribution and creators earning substantial income. Based on data from Statista, BroadbandSearch, and official disclosures¹³: Facebook reported more than 2.96 billion monthly active users in 2022, with users spending an average of 33 minutes per day on the platform. Instagram had 2 billion monthly active users in 2022, with the average daily time spent by users reaching 29 minutes. Twitter saw 368 million daily active users in 2022, with the average daily time spent by users surging from 11 minutes in 2021 to 31 minutes in 2022. YouTube, the world's largest video website, accommodated 2.56 billion monthly active users in 2022, with users watching 1 billion hours of videos every day on the platform. TikTok became the most engaged social media app in Q2 2022, with users spending about 95 minutes a day on it. As of that time, TikTok had 3 billion downloads and 1 billion daily active users across

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worldwide/#:~:text=As%200f%20December%202022%2C%20Twitter's,five%20percent%20compared%20to%202022; https://www.statista.com/statistics/1322876/social-media-apps-time-spent-global/:

¹³ https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/; https://www.statista.com/statistics/303681/twitter-users-worldwide/#:~:text=As%20of%20December%202022%2C%20Twitter's,five%20percent%20

https://www.broadbandsearch.net/blog/average-daily-time-on-social-media#post-navigation-7; https://blog.youtube/news-and-events/you-know-whats-cool-billion-hours/;





the globe, with 80 million monthly active users in the United States. Content creation platforms provide a shortcut to wealth and fame for ordinary users. Unlike the way popular idols, well-known singers, and top athletes become famous, the mobile internet offers creators from all walks of life the opportunity to share their lives and gain wealth and fame. In 2022, *Forbes*¹⁴ launched its inaugural "Top Creator list," highlighting 50 creators with exceptional influence on content creation platforms. According to *Forbes*, these creators have amassed over 1.9 billion followers across various platforms and collectively earned USD 570 million in revenue in 2021. Additionally, the average age of these influential creators is only 31. Creators active on content creation platforms, such as Jimmy Donaldson (MrBeast), Charli D'Amelio, Huda Kattan, Khaby Lame, and Félix Lengyel (xQc) have leveraged platforms like Instagram, TikTok, YouTube, Snapchat, and Twitch to generate substantial revenue, with each earning USD 10 million or more.

In China, all kinds of content creation platforms are also developing rapidly. Based on the statistics from gonyn.com¹⁵, the market size of China's social media platforms expanded significantly from RMB 42.17 billion in 2015 to RMB 192.65 billion in 2021. Specifically, the advertising business scale on social media platforms increased from RMB 14 billion in 2015 to RMB 98.1 billion in 2021, and the revenue from value-added services and the gaming sector on these platforms grew from RMB 28.2 billion in 2015 to RMB 94.5

14 https://www.forbeschina.com/innovation/61746

¹⁵ https://www.gonyn.com/industry/1135197.html





billion in 2021. Douyin, a short video content creation platform that has emerged in recent years, had over 600 million monthly active users in 2022. As reported by LatePost¹⁶, ByteDance, the parent company of Douyin, achieved advertising revenue of RMB 330 billion in China in 2022. This figure included RMB 120 billion generated from e-commerce business and over RMB 130 billion from live-streaming user tipping. Bilibili¹⁷ is the most popular community-based video platform among young people. The platform has 326 million monthly active users, an average daily time spent by users of 96 minutes, and over 3.9 billion daily video views. Besides, the average number of monthly active video creators on Bilibili exceeds 3.8 million, with their average monthly contributions amounting to 17.6 million. In 2022, Bilibili's annual advertising revenue reached RMB 5.1 billion. Xiaohongshu, a social platform where young people share their lifestyles, has emerged in recent years. Users on the platform record beautiful moments from their lives and share interesting and useful lifestyle content through pictures, texts, short videos, live streaming, and other forms of content. According to QuestMobile's 2022 Mobile Internet Development Yearbook¹⁸, the average monthly active users on Xiaohongshu exceeded 160 million in 2022, with the average daily time spent by users reaching 66 minutes.

In this seemingly prosperous future, the production and dissemination of

16 https://mp.weixin.qq.com/s/O2XYOoYnE7gBJJDkG2DYzw

¹⁷ https://finance.sina.com.cn/tech/roll/2023-03-02/doc-imyinptp7867560.shtml

https://www.questmobile.com.cn/research/report/1605048980592496642; https://www.questmobile.com.cn/research/report/1607619125026328578





creative works on various content creation platforms are facing increasing challenges. Platforms are implementing rules to restrict creators due to legal requirements, regulations, and commercialization. Consequently, there is a lack of novelty and diversity in works, and content homogeneity becomes increasingly prominent. Due to the pursuit of hot topics and hit works (hit works refer to those that surpass a certain standard of exposure and user interaction), creators tend to imitate more popular works, resulting in a prevalence of homogeneous and mainstream content for users. What type of work can generate more network traffic and attract more attention and affection from people across different platforms? Is it an innovative creation or a mediocre one that aligns with trending topics? Addressing this issue is crucial for enhancing incentives for creators and augmenting the vitality of content creation platforms.

4.2 Theoretical Analysis and Hypothesis

Novelty is considered a key feature influencing the popularity and user interaction of works, as it entails the ability to introduce fresh ideas, perspectives, or solutions. In the study of work characteristics, novelty is frequently seen as an antecedent variable that can impact creative output. Exploring the novelty of works can enhance our comprehension of how novelty shapes the interactions between creators and users. In a broad sense, novelty can be defined as something "new and different," indicating that the creator's work is fresh and diverges from experience, conventions, and others' content (Stein, 1953). From the perspective of semantic distance, novelty can also be quantified by assessing





the semantic distance between two concept nodes. The greater the semantic distance, the more unique the connection between two concept nodes, thus indicating a higher level of novelty (Zunino et al., 2019). Hence, in this study, we adhere to the previous definitions and view novelty as a quality that characterizes the relationship between concepts, namely the level of novelty in connections between conceptual elements used in creative works (Criscuolo et al., 2017; Zunino et al., 2019).

The extent of novelty can significantly impact users' curiosity. Individuals willingly engage in environments that pique their curiosity because the process of satisfying curiosity is enjoyable. They will venture to engage with stimuli that spark curiosity because the anticipated joy of obtaining information compensates for the suppressed feeling of curiosity itself (Loewenstein, 1994). Curiosity possesses a compelling draw. Motivated by curiosity, individuals may exhibit irrational and impulsive behaviors and consume non-instrumental information (FitzGibbon et al., 2020). Based on this premise, two types of information are more likely to capture users' attention and recognition: First, highly uncertain information tends to trigger individuals' curiosity and inclination to explore, thus making it easier to captivate users' interest. Humans possess an innate drive to resolve uncertainty, regardless of the outcome. Second, immediately available information is more intriguing. When information is readily and immediately available, individuals are more inclined to invest their time and effort in paying attention to and absorbing such information





(FitzGibbon et al., 2020; Hsee & Ruan, 2016).

According to this theory, both ends of the information novelty spectrum tend to capture individual attention more effectively. Extremely high novelty signifies a significant level of uncertainty, thus readily piquing individuals' curiosity. However, extremely low novelty denotes information that is immediately accessible, easily comprehensible, and highly pertinent, and therefore, individuals are more inclined to focus on and embrace it. Consequently, the two types of information are the most effortlessly noticed and embraced by individuals.

Highly novel information typically harbors unfamiliar and intriguing elements, thereby capturing the significant interest of people. This theory is often validated by the phenomenon of "viral videos" rapidly circulating on social media platforms. These videos often have a high degree of novelty by showcasing rare, bizarre, or astonishing scenarios. These videos often spread rapidly in a short period because people are drawn to plots that are different from their daily lives. People engage with these videos by sharing, commenting, and discussing them to satiate their curiosity and for entertainment. Novel information breaks through existing cognitive boundaries, sparking people's curiosity, and they hope to learn more details to fill their knowledge gaps. The allure of novelty lies in its ability to quench people's thirst for novelty and exploration.

Conversely, information featuring extremely low novelty pertains to





content that is very familiar and prevalent. This type of information is typically straightforward to grasp as it correlates with our existing knowledge and experience, for instance, guidance on everyday health habits. Such information often encapsulates fundamental health guidelines like maintaining a balanced diet, engaging in regular exercise, and ensuring adequate sleep. These guidelines have been disseminated widely and evolved into common knowledge, lacking the surprise factor that might incite curiosity. Nevertheless, individuals remain receptive to this information because it resonates with their life experience, values, and cognitive framework. People are more inclined to embrace information that aligns with their existing knowledge and experience, as it minimizes cognitive dissonance. In this case, individuals are more willing to invest time in learning because the process of acquiring such information is relatively straightforward.

Furthermore, in the digital era, the prevalence of information overload facilitates the heightened visibility of high-novelty and low-novelty information. Among copious amounts of information, extremely novel and distinct information finds it easier to capture attention. At the same time, information overload can induce feelings of fatigue. In such cases, processing familiar and easily comprehensible low-novelty information can offer psychological reassurance and contentment. Hence, both extremes of information novelty serve as distinct opportunities to attract people's attention amid the environment of information overload.





Hypothesis: Novelty has a positive U-shaped impact on the quantity of views, likes, and comments. This implies that as novelty increases, the views, likes, and comments on works initially decrease before rising again. Works with extremely high and low levels of novelty are the most likely to receive more views, likes, and comments.

4.3 Methods and Results

4.3.1 Data collection

Sample profile: To evaluate the above hypothesis, we utilized the "knowledge section" on Bilibili as the research context and focused on all works released by creators with over 10,000 followers on Bilibili from January 2021 to January 2022. The "knowledge section" encompasses various categories like science popularization, social sciences, and humanities. Being notably professional, it features characteristics of mass education, with content novelty as a pivotal feature. Samples within the same section have more comparability compared to those from the entire platform. In the end, we identified 247,972 works from 7,310 creators for analysis. The collected data comprises the creators' gender, the total number of followers, and the views, likes, and comments of their works, as well as their tag content and quantity.

Calculation of key indicators: Novelty is a key predictor variable of this study. On the Bilibili platform, KOLs often tag their works before and after the content to gain more exposure that is more precise, and these tags are usually





highly refined representations of the content. Building on this practice, with the approach from Uzzi et al. (2013) as outlined in their *Science* publication, we assess the novelty of works by examining the relative frequency of the tag pairs for each piece of work. Specifically, we calculate two key elements: (i) The observed frequency of any given tag pair, and (ii) The frequency of these pairs randomly selected from the tag data. By comparing the observed frequency with the expected one, we can derive a standardized z-score, a measure indicating the level of novelty for any given tag pair. We utilize Python 3.7 to perform data calculations, proceeding through the following steps:

- (1) Select all tags for each piece of work and consider every possible pair.
- (2) Analyze the overall situation of tag pair combinations for all works and determine the frequency of occurrence for any tag pair.
- (3) Consider the probability distribution of each tag pair appearing under random sampling. Specifically, we use the Markov Chain Monte Carlo (MCMC) algorithm to construct a random pairing network of tags from all works in Bilibili's database, thus determining the frequency of any two tags' pair under random conditions.
- (4) Compare the observed frequency with the frequency distribution generated by the random pairing network. To evaluate the novelty of each tag pair, we introduce a standardized index, the z-score.

$$z = (obs - exp)/\sigma$$

Specifically, obs indicates the frequency of tag pairs observed in (2). exp





and σ represent the average value and standard deviation of the frequency of tag pairs obtained by the network's random selections in (3), respectively. A z-score below 0 indicates that a tag pair occurs less frequently in the observed data than the randomly expected data, suggesting the work is relatively "novel."

(5) Each piece of work may have multiple tags, creating numerous tag pairs.

The novelty of a piece of work can be determined by calculating the average z-score from all its possible tag pairs.

For instance, the observed frequency of the tags "art" and "masculine man" co-occurring is n1 and the average frequency of their co-occurrence in 10 random networks is n2, with a variance of σ . If n1 < n2 and the z-score < 0, the tag pair is rare compared with what might occur by chance, indicating a higher level of novelty.

4.3.2 Regression model and hypothesis testing

This study focuses on the predictive influence of novelty on the outcomes of works, and the theoretical model diagram is presented below.

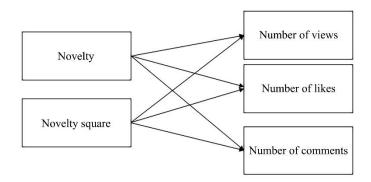


Figure 4.1 Theoretical Model Diagram

This study employed Stata 15 software for regression analysis to test the





model's results. We controlled the fixed effects of creator level, months when works are released, and sub-categories in the "knowledge section" where the works pertain. The regression results are shown in the following figure.

4.3.3 Results of the regression model

Based on the views, likes, or comments of works as dependent variables, there is a positive U-shaped relationship between novelty and these outcome variables.

The regression coefficients are shown in Table 4.1 below.

Table 4.1 Regression Analysis Results41

Variable	Views		Likes		Comments	
	b	SE	b	SE	b SE	
Novelty	-1.81***	.32	-1.40***	.28	66* .27	
Novelty ²	1.55***	.19	1.15***	.17	.59*** .16	
Tag number of works	.01***	.01	.01***	.00	.01*** .01	
Creator fixed effects	Yes		Yes		Yes	
Month fixed effects	Yes	Yes		Yes		
Sub-category fixed effects	Yes		Yes		Yes	

(Note: N = 247,972; * p < .05; *** p < .01; *** p < .001; non-standardized regression coefficients are presented in the table; dependent variables are logarithmic)

According to the regression results above, we plotted three dependent variables non-linearly, as illustrated in the following figure. As evident from the figure below, there is a positive U-shaped effect between novelty and three





outcome variables.

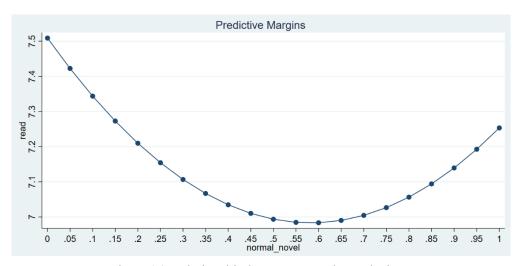


Figure 4.2 Relationship between Novelty and Views

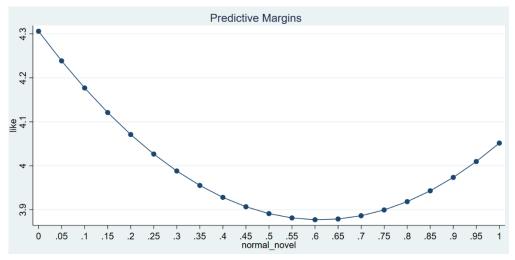


Figure 4.3 Relationship between Novelty and Likes

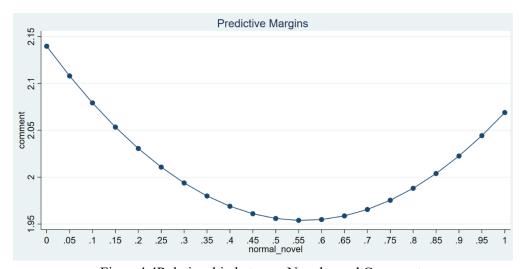


Figure 4.4 Relationship between Novelty and Comments





4.3.4 Practical implications

As a core feature of content creation, novelty is a key factor determining the popularity and user interaction level of KOLs' works, reflecting their ability to innovate. Utilizing big data analysis of many KOLs' works on Bilibili, this study uncovered the predictive effect of novelty on metrics such as work views, likes, and comments, offering significant reference value for KOLs' content creation.

Tags of KOLs provide a high-level summary of works, and a work features multiple tags. The novelty of works can be assessed through the relative frequency of tag pairs. We analyzed the views, likes, comments, and tags of 247,972 works from 7,310 creators in the "knowledge section" on Bilibili, each with over 10,000 followers. We calculated the frequency of observed tag pairs, collected that of randomly paired tags, and compared the two frequencies. A standardized index, the z-score, was used to evaluate the novelty of tag pairs. Regression analysis was performed using views, likes, and comments as dependent variables to explore the relationship between novelty and these outcome variables. The final results indicate a positive U-shaped effect between novelty and three variables: views, likes, and comments. These research findings offer valuable guidance for KOLs' content creation and the development of content creation tools.

5. Sub-study 2: Study on the Relationship between Creator Style Portrait and Creative Performance Based on Multimodal Modeling

5.1 Research Background

In recent years, with the rise of social media and digital platforms, the prevalence of China's KOLs (also known as "social media influencers"), and the number and earnings of creators on social content creation platforms have exhibited a rapid upward trend. The community of creators has seen a substantial increase over the past four years. In 2020, the total number of creators with over 10,000 followers on China's content creation platforms was about 9 million. This number surged to 11 million in 2021 and exceeded 13 million in 2022. The growth rate of creators with over 100,000 followers reached 327% in 2020-2022¹⁹. Creators on various content creation platforms are flourishing, and the role of "social media influencers" is becoming increasingly coveted by college students. According to statistics from wutongguo.com, a job search platform for college students, nearly 36% of post-95s graduates aspired to become live streamers or social media influencers in 2018. This figure jumped to around 44% in 2019²⁰. This indicates that being a "social media influencer" is no longer merely a buzzword. It has transformed into an industry seen as a preferred career path by many young individuals and

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https://www.topklout.com/static/pdf/web/viewer.html?file=https%3A%2F%2Fimg.topklout.com%2Fwebsite%2Freport%2F6423b67345a10.pdf%3Fr%3DSat%20Sep%2016%202023%2010%3A49%3A32%20GMT%2B0800%20(China%20Standard%20Time)

²⁰ https://www.vicai.com/news/100989150.html

is garnering increasing interest from the youth. In reality, the number of people engaged in the influencer economy may be even greater than we anticipate. In 2020, the Ministry of Human Resources and Social Security of the People's Republic of China officially recognized "internet marketer" as a new profession, defining it as individuals who leverage the interactivity and credibility of the internet to market and promote enterprise products on digital information platforms²¹. According to this definition, professions such as e-commerce live streamers and short video bloggers are internet marketers. The industry has been expanding at a monthly growth rate of 8.8%, amassing over 800 million users 18. These creators have attracted a large number of fans and followers by posting content such as short videos, microblogs, and blogs, and conducting livesteaming shows on various content creation platforms. Descriptions such as "rich," "interesting," "attractive," and "young" are frequently associated with social media influencers. The diverse narratives of social media influencers have contributed to the glamour enveloping this profession.

However, with the number of creators surpassing 10 million and social media influencers being highly sought after as a profession, there still exists a severe polarization in the living and income levels of creators. Heads of MCNs with years of experience in the industry have reached a consensus that a small number of top creators dominate the industry, capturing the lion's share of online

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http://www.mohrss.gov.cn/SYrlzyhshbzb/zcfg/SYzhengqiuyijian/202106/W020210617509883434278.pdf

traffic and income. The industry is evolving at a rapid pace, far from being within a stable and healthy ecosystem. Take Douyin as an example. The prevailing view among many MCNs regarding nurturing KOLs is anchored on a three-month standard trial-and-error period. MCNs will only invest more resources when a KOL garners great attention and online traffic in this period. Conversely, if a KOL fails to achieve the anticipated results or garner sufficient attention in the first three months, he/she will be deemed unlikely to succeed even with subsequent efforts¹⁸. This observation was corroborated by the 2020 Report on Research on Douyin's KOL Ecology²² from Caasdata, which revealed that over 80% of accounts on Douyin flopped after operating for three months. In an interview, Lu Jiamin, the COO of Ishan Media, stated, "To manage accounts successfully, we must be 'fast, accurate, and aggressive'. We should enter the market quickly, establish accurate positioning and persona, and produce in-depth content."18 The social media influencer industry, with its exceedingly high turnover rate, is in a perpetual cycle of innovation due to users' insatiable appetite for new content. Top social media influencers (KOLs who attract a large number of followers, wield considerable influence, and enjoy the most exposure on content creation platforms) lure in new talent with their standout presence and impressive earnings. However, content creation platforms undergo rapid transformation. Top social media influencers also navigate a slippery path and pay close attention to online traffic and engagement

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²² https://www.cbndata.com/report/2549/detail?isReading=report&page=1

metrics, which places them in a high-pressure environment.

MCNs, as catalysts in the cultivation of social media influencers, develop specialized selection criteria based on their rich experience across various domains. While an appealing appearance and persona can pique user interest quickly, standing out from countless social media influencers and establishing an influential IP requires consideration of multiple dimensions. Chenfan²³, an MCN, disclosed that they seldom sign amateurs directly. Instead, they keep an eye on rising stars in the market and leverage their personnel's industry experience to assess the potential of KOLs from several dimensions. This includes evaluating the size and loyalty of their followers, their appeal and potential popularity, their content creation abilities, and their interaction with followers. Erka Media¹⁸ takes a holistic approach when assessing the potential and partnership possibilities of KOLs. It considers the background—such as work and life experience, professional knowledge, learning capacity, and adaptability—of KOLs. Moreover, it delves into their true motivations, exploring their original intentions for entering the industry and their plans for personal growth. The assessment also involves evaluating the professional aptitude of KOLs, including the awareness of trending topics, distinctive viewpoints, content creation skills (such as writing, filming, and editing), and on-camera skills. Furthermore, Erka Media scrutinizes KOLs' value orientations, such as the decisions they have made at different stages of growth, their

²³ https://mp.weixin.gq.com/s/3RLcDVSUA37mgrM3zMZloA

resilience under stress, and their attitude towards deferred gratification. Only after conducting a thorough and multi-dimensional assessment of KOLs will Erka Media decide on whether to cooperate with them and cultivate them.

MCNs share a common understanding that fostering a KOL's image requires a complete and consistent system for content output. This involves the unity of content, persona, and image presentation to cultivate a distinctive personal style. We chose to analyze three top-tier KOLs who have consistently experienced high growth across the network. Despite belonging to different fields and niches, they exhibit distinct inherent and highly stylized characteristics. First, Yi Mengling, affectionately dubbed the "perfect innocentsexy combination" by her followers, commands over 22 million followers across various content creation platforms. Originally a Taobao model, she rose quickly to fame on Douyin by strategically positioning herself as an embodiment of the "innocent-sexy aesthetics." This clear-cut personal branding aligns with the aesthetic preferences of the modern youth, enabling her to garner millions of followers in a short time. Yi Mengling has a knack for generating buzz on social media. For example, her "lose 2.5 kilograms in 7 days" weight loss challenge sparked hot discussions. Each viral moment has enhanced her public visibility. More importantly, Yi demonstrates a keen understanding of netizen psychology. Her attire, speech, and deportment align with the affection needs of the youth. At present, when authenticity is celebrated, she presents herself unguardedly; when fashion feels oppressive to women, she exhibits ease

in self-expression. Yi has effectively amplified her allure, cementing "Yi Mengling" as a unique brand etched in the hearts of many followers. Second, Li Ziqi, often regarded as a "mysterious force from China," leverages her distinctive video content to champion traditional Chinese culture on a global stage. Her works primarily focus on rural life, traditional craftsmanship, and cuisine, showcasing the simple and beautiful aspects of Chinese rural living. Meticulous editing with melodious music conjures a tranquil and cozy ambiance, captivating viewers yearning for simplicity in life. She personally participates in the production process without deliberate packaging or hype, displaying a genuine and natural side. Through elements like family, traditional festivals, and craftsmanship, she evokes the affection of viewers toward their hometowns and traditional cultures. Li Ziqi shows us the charm of Eastern living. Through her unique style, she is spreading Chinese culture globally and connecting with followers emotionally through her videos. Finally, Papi Jiang, hailed as "A Beautiful and Talented Woman," has risen to prominence in China as a creator of short comedic videos. Her works, which touch on societal hotspots and everyday narratives, delve into the absurdity and awkwardness of life with exaggerated performances. Rapid-fire editing and carefully crafted scripts render her videos hilarious and impactful. Papi Jiang excels at expressing many of the embarrassments and troubles that viewers have experienced through selfdeprecation and reflection, creating resonance and emotional connections with her viewers. Signature razor-sharp humor blended with a relatable charm has

cemented Papi Jiang as one of China's most beloved video creators.

Therefore, in the practical context, this study is dedicated to addressing two critical questions: How can we objectively and comprehensively depict the personal style of creators? What is the relationship between creators' styles and their commercial performance?

5.2 Research Topics

Content creators exhibit notable stylistic differences across various content creation platforms. In practice, MCNs implement differentiated management strategies based on creators' personalities or IP (Intellectual Property) characteristics (IP characteristics refer to the uniqueness of KOLs that can continuously captivate users' attention). However, quantifying and objectively evaluating a creator's personal style and using big data technology to define and assess creator styles more objectively is a challenging issue that urgently needs to be addressed, both in practice and in research. Another question receiving much attention is which style of creators are more favored by advertisers and can generate higher commercial performance.

In several existing studies, it has been identified that creators attract users and secure user endorsement by signaling their competence and providing indicators of warmth. Theoretical research further suggests that competence and warmth cues are two pivotal dimensions through which individuals assess others (Rosenberg et al., 1968; Eagly, 1987; Abele & Wojciszke, 2014). Fiske et al. (2007) introduced a framework centered on competence and warmth. Building

upon this, and in line with the research on multimode communication by Roccapriore and Pollock (2022), it becomes evident that on content creation platforms, creators convey the two signals through various methods, including text and imagery, to captivate users' attention and encourage comments. Specifically, the warmth signal is exemplified by emotional language in the content, reflecting the creators' friendliness and genuineness. The competence signal is conveyed through the professional knowledge, abilities, intelligence, and other attributes of creators to enhance the informational characteristics of their credibility (Roccapriore & Pollock, 2022). Similarly, research in the fields of information systems and marketing has indicated that creators' performance is closely related to the emotional and informational characteristics embedded in their works.

While some papers have tried to probe this issue, they often approach this multi-dimensional problem from a narrow perspective, thus failing to articulate its multi-dimensional nature. Although existing studies have made some contributions, their constrained research angles prevent them from delving deeply into the core of the problem and providing a comprehensive and systematic depiction. Pictures, sounds, and texts can reflect the styles of creators from distinct angles. In terms of pictures, creators' aesthetic sensibilities and stylistic preferences are mirrored in the choices they make about camera angles, compositional techniques, and the application of colors. From the perspective of sounds, creators' employment of sound—such as the decision to use a musical

backdrop, the selection of music genres, and dubbing modes—carries a wealth of stylistic information. Lastly, texts are the most direct manifestation of style. The language styles and linguistic habits of creators serve as critical indicators for style characterization. The three elements play a crucial role in defining a creator's unique style. Analyzing only one element does not provide a comprehensive assessment of a creator's stylistic characteristics. A thorough evaluation that integrates three elements is thus necessary for a multidimensional and well-rounded depiction of a creator's style. Since each of the three elements—picture, sound, and text—is vital for style recognition, we should leverage the multi-source and heterogeneous information these elements offer to effectively depict creators' stylistic features from various perspectives to achieve accurate style recognition. Research on quantifying and evaluating the personal styles of creators using big data, as well as determining which style of creators possess higher commercial value, is currently limited. Addressing these issues is also one of the goals that this study aims to achieve.

5.3 Overview of Research Methods

This study employed multimodal modeling and cluster/factor analysis to address the first research question, "How to portray a creator's style ('tone')," and then applied regression analysis to answer the second research question, "What is the relationship between different styles and their creative performance?" The details regarding study samples, analysis process, and study results are outlined as follows.

5.4 Study Samples

Samples were taken from videos, audio, and text created by beauty content creators with over 10,000 followers on Bilibili between January 2021 and January 2022.

We used a rigorous sample identification process for sample verification. Specifically, we initially computed that the average proportion of works in the category with the highest creator share was 79% across all platform samples from that period. Subsequently, we examined the top creator category, choosing those with the highest percentage of "beauty" content as our study samples (with an average share of 82% in the top category). Finally, following this approach, we focused on 829 creators and 28,705 videos.

Considering the substantial computing power needed for video modal processing and the extensive computational time involved, we ultimately decided to randomly sample creators. After adjusting for both the sample size and the number of days needed for calculation, we chose to analyze 1,118 video works from 15% of creators (129 in total).

5.5 Research Thought

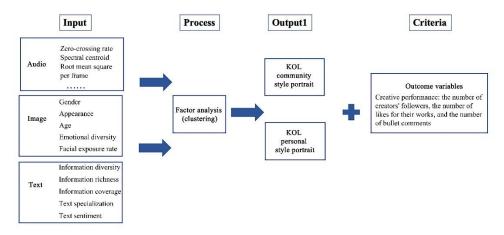


Figure 5.1 Multi-modal Data Analysis Process51

5.6 Feature Calculation Process

Based on the above samples, we calculated the features through the following processes and tools.

5.6.1 Text features

The snowNLP tool was employed for processing. Initially, the text content was segmented, and subsequently, indicators like information richness, professionalism, and emotional scores were calculated based on the results of word segmentation.

5.6.2 Audio features

The librosa toolkit was used for efficient and convenient audio processing, through calculating indicators including zero crossing rate (voice clarity), sound frequency features (fundamental, harmonic, and resonant frequency), sound intensity features (decibels), and tuning features (pitch, timbre, and intonation). The toolkit calculated the mean, variance, waveform factor, and peak factor for each indicator.

5.6.3 Video features

First, OpenCV was utilized to extract frames from the video, obtaining all images constituting the entire video. Subsequently, DeepFace, Keras, and the TensorFlow toolkit were applied to detect faces within each frame leveraging GPU. Upon detecting a face, metrics such as appearance score (derived from the Asian face database), gender, and facial exposure rate were then computed.

5.7 Analysis Process and Results

5.7.1 Calculation results of multimodal features

5.7.1.1 Audio features

- (1) Mel-Frequency Cepstral Coefficients (MFCC) represent the most commonly used feature in speaker recognition and voiceprint identification. They simulate the auditory properties of the human ear and can effectively capture the characteristics of speech. A high standard deviation of the MFCC typically suggests a significant variance and diversity in audio signals across time. This may be because of the inclusion of multiple sound sources in the audio or a variety of speech features, such as the speaker's pace, emotions, and speech characteristics.
- (2) Spectral Centroid (Cen) corresponds to the "brightness" of sound and is linked to the distinct sound attributes of speakers. Typically, a higher spectral centroid value signifies a brighter sound, whereas a lower value suggests a darker or bass-heavy sound.

- (3) Root Mean Square (RMS) per frame is associated with the sound's volume level and aids in distinguishing between different speakers. A higher RMS value indicates a greater volume, while a lower RMS value corresponds to a smaller volume.
- (4) Zero Crossing Rate (ZCR) is related to the speaker's vocal style, especially between silence and voiced sounds. Voiced sounds usually have a lower ZCR because vocal cord vibration produces a continuous acoustic waveform.
- (5) The Chroma Energy Normalized (CH) indicator may hold greater significance within the realm of music, yet it could also be associated with speaker characteristics in certain contexts. A higher value of this indicator generally signifies that the speaker's voice sounds clearer and brighter, portraying emotional states like pleasantness, agitation, or excitement.

5.7.1.2 Video features

- (1) age: the estimated age of a face recognized in an image.
- (2) attractiveness_score: the attractiveness or aesthetic evaluation of a face in an image.
- (3) dominant_emotion: the dominant emotion or feeling of a face in the image, such as "happiness," "sadness" and "anger." This study used the Blau index to calculate the emotional diversity of each work.
- (4) dominant_gender: the dominant gender of a face recognized in an image, "male" or "female."

(5) face ratio: the proportion of a face in an image.

5.7.1.3 Text features

- (1) DiversityContent: It measures the diversity of words in a text. The higher the indicator, the more varied and richer the word usage within the text.
- (2) CoverageContent: It quantifies the extent to which the text content covers the texts within the entire corpus.
- (3) RelevenceContent: It gauges the relevance of a text to the prevalent key semantic topics within the domain. The key semantic topics are derived through a text modeling approach.
- (4) RichnessContent: It assesses the richness of semantic topics within a text.
- (5) SentimentContent: It measures the sentiment of a text. -1 denotes a negative emotion, while 1 signifies a positive emotion.

5.7.2 Factor analysis

5.7.2.1 KMO test and Bartlett's test

The KMO test is a statistical method utilized to evaluate the applicability of a dataset and the appropriateness of sampling. It evaluates the extent of correlation between all observed variables and other variables to ascertain the suitability of factor analysis. The KMO value typically ranges between 0 and 1. The nearer the value approaches 1, the stronger the correlation among observations within the dataset, indicating suitability for factor analysis. The

closer the value is to 0, the weaker the correlation is, implying unsuitability for factor analysis. In this study, the KMO value was .591.

Bartlett's test is employed to examine whether the overall correlation between observed variables is zero. If the p-value is lower than the selected significance level (usually .05), the null hypothesis is refuted, indicating that the data are appropriate for factor analysis. The chi-square value of Bartlett's test was 27,891.011 and the p-value was .0.

In this study, with a KMO value exceeding .59 and Bartlett's test yielding a p-value close to zero, it indicates a statistically significant correlation. In other words, there is a highly substantial correlation among the observations in the dataset. This suggests that the data employed in the study are conducive to factor analysis to unveil underlying structures within the dataset.

5.7.2.2 Factor loading coefficient table

Based on business expertise, the study determined six factors, indicating six types of bloggers that can be derived from the provided samples. Table 5.1 below shows the factor loading coefficients.

It is evident from Table 5.1 that various features exhibit distinct discrimination in the loads of the six factors individually. Among them, the first factor is primarily related to text features. It signifies the features of low professionalism but high semantic richness. Overall, such bloggers' text content embodies an imaginative and fluid style, lacking a specific focused theme.

Considering the traits of beauty bloggers, we classify this style as the "casual" style.

The second factor is correlated to sound features. It demonstrates positivity with ZCR and Cen loading coefficients, indicating a prominent bright sound feature in the treble region. Considering the traits of beauty bloggers, we classify this style as the "energetic" style.

The third factor pertains to the features of multiple modes. RMS and MFCC loading coefficients are positive, ZCR's is negative, CoverageContent's is positive, and SentimentContent's is negative. This suggests that bloggers may frequently communicate in a smooth yet potent manner, featuring distinct timbre aspects, broad content coverage, and relatively consistent emotions. Considering the traits of beauty bloggers, we classify this style as the "professional" style.

The fourth factor is associated with features of multiple modes. The RMS loading coefficient is negative, CH's is positive, DiversityContent's and CoverageContent's are both negative, and the loading coefficients of attractiveness_score and dominant_emotion are positive. This implies that these bloggers exhibit greater volume but reduced clarity in their communication. They have fluctuating emotions, and a high level of attractiveness, but their textual content appears somewhat lacking. Considering the traits of beauty bloggers, we classify this style as the "sweet" style.

The fifth factor is primarily associated with the features of text and video modes. The loading coefficient for CoverageContent is negative, while those for video features such as age, attractiveness_score, and dominant_emotion are positive. dominant_gender leans towards women, and dominant_emotion tends to be more positive. Considering the traits of beauty bloggers, we classify this style as the "approachable" style.

The sixth factor is primarily related to the features of the video mode.

Among them, the loading coefficients for attractiveness_score,

dominant_emotion, and face_ratio are positive, with dominant_gender leaning

towards women. Text and audio exhibit no distinct characteristics. Considering

the traits of beauty bloggers, we classify this style as the "good-looking" style.

Table 5.1 Factor Loading Coefficients for Sub-study 2

	Casual	Energetic	Professional	Sweet	Approachable	Good-looking
ZCR-mean	04	.92	26	.21	.03	.02
MFCC-mean	.10	17	.95	07	08	03
Cen-mean	.05	.94	.09	.00	15	.01
RMS-mean	.04	.03	.76	23	08	07
CH-mean	05	.25	15	.66	.08	.12
DiversityContent	06	02	.04	49	09	.00
CoverageContent	.05	.06	.32	67	41	11
RelevenceContent	92	04	07	.14	06	.07
RichnessContent	.98	02	.07	.17	.04	03
SentimentContent	.08	06	.02	.13	.36	.04
age	.00	05	16	.07	.74	.07
attractiveness_score	06	.00	.06	.44	.33	.61
dominant_emotion	07	.04	17	.43	.47	.45
dominant_gender	01	05	.01	13	59	35
face_ratio	05	.01	10	03	.14	.88

Based on the scores of KOLs on six factors, each KOL selected the factor with the highest score as its representative style, and the number of bloggers with different styles is shown in Table 5.2.

Table 5.2 Number of Bloggers with Different Styles

Number
17
26
17
26
15
28

At the same time, we emphasized the count of followers for each blogger in the past year along with the average number of bullet comments and likes on all posts to illustrate the performance levels of bloggers with different styles as depicted below.

The mean dependent variable of all KOLs under each style is as follows:

Table 5.3 Detailed Data on the Performance Level of Bloggers by Style

Style Tag	Number (person)	fans	barrages	likes
Casual	17	107182	29521	244228
Energetic	26	42423	6503	126468
Professional	17	79838	18992	252079
Sweet	26	68535	26027	284401
Approachable	15	39523	9581	116745
Good-looking	28	81042	13110	320184

The broken line chart is shown in Figure 5.2 below:

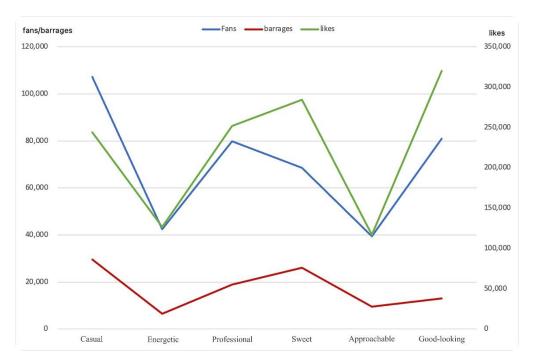


Figure 5.2 Performance Levels of Bloggers by Style

5.7.3 Regression analysis: exploring the relationship between blogger's style and performance level

After conducting factor analysis, we acquired the factor scores of each blogger for each style and utilized these scores as independent variables in regression analysis, with the blogger's work performance serving as the dependent variable. In the regression analysis, we controlled the gender of bloggers, certification type (individual or with MCN support), follower scale, and the number of works published by bloggers in a year. The correlation coefficients and regression results of variables involved in the regression analysis are shown in Table 5.4 below.

Table 5.4 Regression Analysis Results of Bloggers by Style

Variable	Number of followers		Number comm		Number of likes	
	b	SE	b	SE	b	SE
Casual	.02	.08	05	.21	.03	.11
Energetic	10	.08	26	.21	10	.11
Professional	12	.08	34	.21	14	.11
Sweet	.07	.09	.45**	.23	.02	.12
Approachable	.01	.10	.17	.25	03	.14
Good-looking	.16*	.09	16	.22	.15	.12
Gender	.01	.10	.01	.25	03	.14
Follower scale	1.53***	.18	1.73***	.45	1.45***	.25
Certification type	.33*	.17	.75*	.43	.24*	.23
Number of works	.00	.00	.00	.00	.00	.00
Constant	15.87	.75	14.18	1.90	16.55	1.03

(Note: N = 129; * p < .10; *** p < .05; *** p < .01; non-standardized regression coefficients are presented in the table; dependent variables are logarithmic.)

When considering the number of followers as the dependent variable, the regression results indicate that "good-looking style" demonstrates a positive predictive influence on the number of followers, whereas other styles show no significant relationship. This implies that appearance could be the primary competitive advantage for beauty bloggers in attracting followers.

When using the number of bullet comments as the dependent variable, the regression results reveal a notable positive correlation between "sweet style" and the number of bullet comments, with no significant correlations found for other styles. This indicates that a sweet style effectively engages the viewers in real time.

The results are not significant when the number of likes is utilized as the dependent variable. This suggests that the number of likes is probably influenced more by factors other than style, such as the content topic or platform promotion mechanisms.

5.7.4 Practical implications

By objectively and comprehensively analyzing creators' text, audio, and video materials, this study quantitatively described their styles and explored the relationship between creators' styles and business performance, offering valuable insights for practical application.

We conducted a detailed analysis of text, audio, and video content to assess the richness and professionalism of textual information, as well as emotions, appearance, and other relevant indicators. These indicators were further subjected to factor cluster analysis to depict KOL groups' and personal styles. The underlying concept of this analysis is that text content can depict the richness and professionalism of information, audio content's features like frequency, sound intensity, and tone can convey the creator's emotions, and analyzing each frame of video content can effectively reveal the creator's gender, appearance, and emotions, among other features. By utilizing the data from the aforementioned indicators, we can conduct a thorough examination of how creators' characteristics such as professionalism, appearance, personality, and emotions manifest in their unique styles. Furthermore, we can investigate the extent to which these characteristics influence the growth of the creators'

follower base.

6. Sub-study 3: Study on the Influence of MCN Management Strategies on Breakout Successes of KOLs

6.1 Research Background

Given the rapid expansion of We-media across diverse platforms and the shift towards stock competition, user preferences and traffic distribution mechanisms differ across platforms. The key to KOLs' success lies in how they can sustain commercialization, drive follower growth, expand into broader traffic circles, and effectively balance business value in this evolving landscape.

The elimination rate of KOLs during the incubation phase and the phased development of their commercial monetization capabilities follow a parabolic trajectory, necessitating breakthroughs beyond the conventional thresholds present across various follower levels (10,000/100,000/200,000/500,000). It is essential to incrementally enhance a personal brand that aligns with market demands, integrates well with the KOLs themselves, and effectively manages the personas recognized by users. During the incubation and breakout process, analyzing, mining, refining strategies, and collaborating among the three parties (market, institutions, and KOLs) present substantial challenges. The success rate of the three-party collaboration is usually low, with only a minimal proportion of KOLs successfully breaking out. Numerous screening and elimination processes are involved. Introducing tools at each stage can enhance efficiency, thereby elevating the chances of KOLs' breakout or assisting MCNs in

managing losses promptly.

Through data coding and analysis, we constructed a three-stage model depicting KOLs' breakout. This model outlines their progression through distinct phases: the development/stagnation stage, the transformation stage, and the secondary growth stage. Additionally, we highlighted the constructive measures executed by MCNs to foster advancements in each stage. The study examined four KOLs from third-party companies as case studies, who demonstrated phased breakout success and enhanced their commercial realization ability. The breakout success results not only from significant shifts in life experiences leading to enriched content and visibility but also from rapid follower growth through advertising. In addition, the optimization and transformation of institutions, validated by market acceptance, play a crucial role in attracting followers. There are instances where KOLs passively underwent platform changes, and struggled to adapt to evolving market dynamics and increased tags, leading to challenges in breakout and commercialization. MCNs preserve follower growth, advertising data, and commercial orders related to these four cases for a comprehensive analysis. In general, KOLs encounter the challenge of stereotyping their self-image during the development/stagnation period, transition from their old selves to new identities in the transformation period, and amalgamate their past and present identities in the secondary growth period. In the development/stagnation stage, MCNs comprehensively assess KOLs, extract and enhance their unique traits,

and fuse them with popular personas in the market to craft a "new identity." Subsequently, they nurture KOLs' proficiency in shooting and on-camera skills and oversee their public image perception among users. Entering the transformation period, MCNs delve deeper into KOLs' inherent identity tags to unearth additional facets of their personalities. At the same time, they leverage market trends and user preferences to assist KOLs in developing fresh character personas. In the secondary growth phase, MCNs assist KOLs in distilling and consolidating their personas by identifying the shared essence between former and current personas. They strengthen advertising initiatives, amplify KOLs' reach, offer logistical support, handle business development tasks, elevate filming standards, and craft and release content. Additionally, MCNs enhance KOLs' expressive skills, ensure seamless integration of past and present personas, and facilitate the success of KOLs' transformation journey.

6.2 Theoretical Basis

6.2.1 Identity theory

According to Zhang (2012), "identity" stems from the Latin term "idem," signifying sameness or consistency. This word evolved into "identity" in English with various meanings: to make equal or consistent, identical, or an individual's self-perception. "Identity" embodies two meanings: "sameness" and "uniqueness," unveiling the dual connection between similarities and distinctions. Identity recognition is a complex psychological process

encompassing cognition, emotion, behavioral expression, and social construction. Wang, Y. (2008) posited that identity is intricately linked to notions like category and role. The correlation between identity and identification is inseparable from the interplay between self-assessment and external evaluation by others. Social identity theory extends the concept of identity from the individual level to the group level. Identity construction is an evolving concept, with its evolution necessitating a consideration of cultural context.

To attain professional and business success, KOLs must consistently innovate and mold new identities while garnering recognition from users within the online community. In the context of social survival and personal growth, individuals must proactively nurture their social identity to progress. Social identification undergoes rapid and continual transformations. As life stages shift and desires evolve, individuals must integrate into more suitable social circles, aspire for improvement, and persistently earn social identification. This is a spiraling process of categorization, identification, and comparison. In this process, "categorization" pertains to individuals associating themselves with a specific community; "identification" signifies the belief that they possess the universal traits exhibited by all members of their community; and "comparison" involves assessing the merits, drawbacks, status, and reputation of their community in contrast to others.

6.2.2 Impression management theory

Erving Goffman put forward the famous "dramaturgy" in his book *The Presentation of Self in Everyday Life* in the 1960s, marking the initial incorporation of dramatic concepts into sociological studies. He compared life to a stage, where individuals are both performers and spectators. In different social contexts and environments, people's daily interactions resemble performances. To gain the recognition of others or society, people frequently employ information symbols like words, expressions, and actions to manage their image, thus establishing an accepted persona. Goffman refers to this process as impression management, a central concept in dramaturgy.

Qu (2020) explored the unique behaviors and performances of social media influencers through the lens of dramaturgy. The study conducts a detailed analysis of the distinctions between the forestage and backstage of social media influencers' performances. Acting as a link between these two spheres, impression management significantly influences the performance behaviors of social media influencers. Rui (2004), based on Erving Goffman's dramaturgy, expounded on the importance of performance and the use of symbols in interpersonal communication. Individuals consistently adopt specific roles and intentions in social scenarios, promoting the strategic deployment of symbols in communication to control impressions and secure favorable outcomes. With the development of internet technology and the change in media form, the influencer economy has gradually risen. As the fastest and most popular way to realize the influencer economy, live-streaming marketing by social media

influencers refers to a sales model in which social media influencers recommend and sell products during live-streaming and gain followers' trust through their appeal and performance. Effective self-presentation and performance strategies are crucial determinants for the success of social media influencer e-commerce. Wang, W. (2021) utilized Goffman's dramaturgy framework to study Li Jiaqi's live-streaming room over three months and examined the self-presentation strategy and stage performance procedure in the setting. Wan concluded that the live-streaming e-commerce sector should take cues from theatrical elements, involving developing a distinct personal style, acquiring fundamental performance techniques, cultivating effective live-streaming marketing strategies, creating social media influencer personas, and establishing effective stage performance routines. Close collaboration among all members of the live-streaming room is also essential.

6.2.3 Connection and difference between identity and persona

The notion of possessing an identity with the concepts of "id" and "backstage" is a part of identity theory. It stresses the pursuit of uniqueness in the "id"—being a distinct individual, different from others—and temporal consistency—ensuring alignment between the past and present self. "Persona" is motivated by impression management and the idea of the "foreground," focused on external viewers with ample room for adjustment and editing.

Within internet content communities, personas are frequently tailored based on the original identity of KOLs, known as the "id," which intersects with their

"new self" on social platforms, though distinctions do exist. The "id" is extracted and honed from the social context, status, personality traits, and life experiences of KOLs, then merged with the prevalent "personas" found on social platforms on the internet. Before signing contracts, MCNs will conduct a thorough evaluation of KOLs in such aspects as image and social identity, EQ, beauty quotient (BQ), eloquence, emotional management, and stress tolerance, to form an "id" file of KOLs. Table 6.1 shows the score of KOL D (EQ, IQ, and BQ).

Table 6.1 KOL D's EQ, BQ, and IQ Scoring

Table 0.1 KOL D S EQ, BQ, and TQ Scotting									
		Score	range		Score				
Scoring angle	10	7.5	5	2.5	Agent scoring	Reference coefficient	Score		
Personal memory points (special occupation qualified for bonus point/experience/appearance characteristics /special skills/featured relatives and friends)	Multiple obvious tags	Obvious tags	Some personal characteristics	No obvious personal tags	10	1.6	16		
Live audio ability (expression/fluency/logicality)	Super high	High	Medium	Low	10	1.4	14		
Appeal to viewers	Super high	High	Medium	Low	7.5	1.4	10.5		
Desire to perform Desire to share	Super high	High	Medium	Low	10	1	10		
Appearance	Super high	High	Medium	Low	7.5	1	7.5		
BQ	Super high	High	Medium	Low	5	.8	4		
EQ	Super high	High	Medium	Low	10	.8	8		
Content ability (script writing/producing and directing/ makeup/ skincare)	Super high	High	Medium	Low	10	.8	8		
IQ	Super high	High	Medium	Low	10	.6	6		
Emotional management ability/resistance to stress/tolerance for major changes	Super high	High	Medium	Low	10	.6	6		
Total score							90		

The comprehensive quality and social background position KOL D's "id" in the "excellent minority" category. Beyond reflecting this superior identity on the internet, it is essential to enhance user affinity and proximity and leverage her image to engage followers. After the contract signing, the initial "new self" created by MCNs for KOL D depicts her as a semiconductor PhD with a passion for art. Collaboratively, there arises a need to establish credibility and authenticity in the portrayal of KOL D on platforms like Xiaohongshu, thereby constructing a fresh "real self" identity.

6.2.4 Support policies of MCNs for KOLs

MCNs' support for KOLs includes teamwork (human resources) and investment (cash).

6.2.4.1 Key team positions

- (1) Agent: KOL persona positioning, content planning, platform operation, and business value promotion.
- (2) Director and editor: strategizing and choosing topics, crafting scripts, and overseeing the adjustment and enhancement of content data based on the personas and tone of KOLs.
- (3) KOL vision: designing covers, retouching pictures, and making various publicity materials according to KOL's style and platform attributes.
- (4) Advertising: real-time monitoring of advertising data, targeted interactions, and follower increase to expand the influence of KOLs.

- (5) KOL business: brand expansion, business negotiation, customer relationship maintenance, taking inquiries, screening brands and products suitable for the style of KOLs, and assisting KOLs to complete advertising matchmaking.
- (6) Product technology team: empowering digital incubation based on incubation business scenarios, gaining real-time insights into the adjustment needed by KOLs at different development stages, and improving the efficiency of content planning.

6.2.4.2 Main duties

(1) KOL incubation

According to the characteristics and highlights of different KOLs, the team is responsible for the persona setting and account planning in combination with the trend of the platform. The team identifies visual presentation issues, implements visual optimization for KOLs, and continuously enhances account content, encompassing live oral wording, topics, and topic selection directions. It also regularly reviews and analyzes data and integrates relevant problems for feedback to KOLs.

By leveraging platform insights, the team grasps the rules and operational protocols of each content platform while monitoring current trends in real time. It also innovates topic selections based on platform operational protocols and KOL account planning, curates topic ideas, writes content scripts or outlines, and offers shooting recommendations such as lighting, composition, makeup,

background, and styling. It takes charge of reviewing shooting materials, collaborating with editors on video key points, liaising with designers for cover production and cases, and enhancing cover visual optimization.

(2) KOL monetization

The team comprehends, analyzes, and summarizes the market situation and the types of platform monetization content, adjusts bloggers' content promptly, enhances the commercial value of accounts, enriches the categories of KOL commercial advertising, and improves monetization efficiency.

In combination with persona setting and customer needs, it assists KOLs with effective product screening. In addition, the team analyzes abstracts, extracts key information, conceptualizes relevant topic creativity, and drafts scripts under the blogger's plan. It oversees the entire process, from shooting and editing to cover design and other content output for advertisements, ensuring the effectiveness of the advertising campaign. Moreover, it strives to enhance brand satisfaction, persistently reinvest, and accumulate resources for long-term and sustainable commercialization goals.

6.3 Research Methods

6.3.1 Research object

This study focuses on four KOLs from MCNs as the research subjects. Each of them has undergone an incubation period of two to three years, leading to significant breakout and follower growth. Nonetheless, there are variations in

the time taken to achieve breakout and the level of sustainable success in commercialization. Table 6.2 shows the basic information about the images and social identities of the four KOLs.

Table 6.2 Basic Information on KOLs

KOL		KOL A	KOL B	KOL C	KOL D
	Skin	Dry skin/large pore/keratosis pilaris	Mixed oily skin	Dry skin	Mixed skin
	Face shape	Flat Asian face/much non- feature areas of the face/ long brow to nose area/oval face /chubby cheek	Diamond-shaped face	Long face/long philtrum/short chin	Round face, pointed chin
	Eyebrows	General	Natural wild eyebrows	Elongated eyebrows	Slightly adjusted
Image archive	Eyes	Smaller/medial canthus/round eyes	Perennial blue cosmetic contact lenses/long almond-shaped eyes	Elongated/double-fold eyelids	Double-fold eyelids
	Nose	Low nasal bridge	Plastic surgery/beautiful	General	General
	Mouth	Cherry lips	European and American style	General	General
	Hairstyle	Medium length/no bangs/like to wear a wig	Blond hair	Long curly hair	Short and slightly curly hair
	Complexion	Fair skin with warm undertones 1	Tan	Fair skin with warm undertones 1	Fair skin with warm undertones 2
	Height and weight	158 cm/48 kg/small fellow/proportional physique	172cm/54kg	163cm/50kg	161cm/48kg
	Personality	Outgoing and straightforward	Outward/social butterfly	Little social anxiety/rigorous	Outgoing/talkative/dominant
Social identity	Language	Sweet style mixed with a little Northeast dialect of China	English/Chinese	Chinese/English	Chinese/English/French
	Special skills	Imitated makeup	Workout	Workout/outfit	Art appreciation

Featured friends and relatives	/	Italian boyfriend	Two good friends	Witty father/mother/assistant
Pet	Rabbit	Dog	Dog	Parents keep a dog
Relationship	Boyfriend/not on camera	Almost one-year relationship	/	Unmarried/occasional relationship/currently single
Makeup skills	Excellent	Good	Poor	Makeup base/concealer/eyebrows/lipstick
Current residence	Jiangsu/Shenyang	Shanghai	Beijing/Shenzhen	Shanghai
Characteristic cultures	/	Overseas study	Overseas study	Culture of France
Audio	Sweetie/approachable	Strong tone	General	General
Occupation	Formerly a construction engineer	Blogger	Blogger	A senior executive in a French semiconductor company
Busy degree	Free	Full-time	Relatively busy	Relatively busy
Free time	Watching TV series/shopping	Rich life arrangements/free	Workout	Visiting exhibitions
Live oral wording	Strong recommendation ability	Good recommendation ability	Very strong recommendation ability	Introducing slowly and in detail

6.3.2 Data collection

This study mainly collected data through incubation data retention and first-hand interviews. First, data collection for this study began with acquiring the incubation data of KOLs. This data encompasses the updating of historical works, interaction data, follower growth data, advertising data, cost of increasing followers, business income, business type, and other relevant aspects. Based on these incubation data, we created a growth cycle curve for the KOLs, identified key breakout points at each stage, examined the collaboration efficiency between both parties, and subsequently analyzed the data for each stage. Second, we meticulously examined certain documentation within MCNs' KOL incubation process, including planning schemes for persona design and management documents during the incubation period.

Furthermore, we gathered data through semi-structured interviews with the incubation teams of these four KOLs, predominantly engaging studio directors, agents, producer-directors, and business executives. The agents primarily delved into transformations in KOLs' personas, psychological states, and cross-professional collaborations (business/director/editor/design/executive). Producer-directors primarily focused on content section design, interactive work performances, and follower growth status. The main data sources for this study are shown in Table 6.3.

Table 6.3 Main Data Sources of the Study63

Table 0.5 Main Data Sources of the Studyos								
	Number of surveys	Interview duration	Recorded words	Number of interviewees	Interviewee	Interview content		
First-hand data	5	450 minutes	About 30,000	5	Studio directors, agents, producer-directors, business executives	KOL's signing and incubation experience, exploring of KOL tags, persona planning, content section planning, creation process, adjustment of incubation strategies, KOL's psychological state, teamwork, and change trend of and insight into content creation platforms		
	Theme	Number	Words	Material acquis	ition			
	Third-party data purchased by the company	/	/	Weekly follower growth, advertising, work updates, interaction, and other data				
Second-hand data	Planning scheme of KOL persona	45	About 100,000	Agent, producer-director, and editor working documents of the studio where the KOL works				
	Management documents during the incubation of KOLs	100	About 200,000		ts related to follower increase data, re of KOLs during their incubation perior	•		

6.3.3 Data analysis

The coding analysis in this study was conducted in three stages, during which we screened and refined the original data.

6.4 Research Findings

This study demonstrated each component in Figure 6.1 of the model by integrating interview content with objective data. We illustrated the process of shaping the KOL persona at various stages (in both directions), delved into the primary functions and key roles of MCNs, and explored the key drivers behind the positive partnership between KOLs and MCNs. For instance, during the second stage, the adaptability of KOLs' self-perception proved to be indispensable.

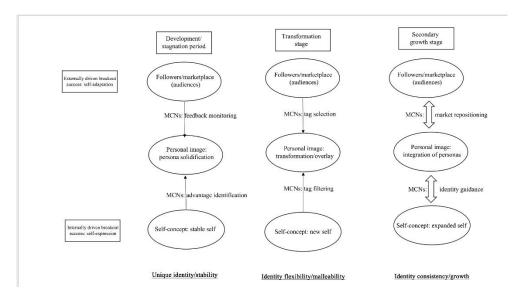


Figure 6.1 Sub-study 3 Model

First, we outlined four cases of KOLs.

For KOL A, the interviewee is KOL A's producer-director, M. KOL A signed the contract in March 2020. At that time, KOL A had held a steady job

for two years after graduating from an ordinary university, led a simple lifestyle, and possessed exceptional makeup skills. Figure 6.2 shows the follower growth of KOL A on all platforms in recent two years.

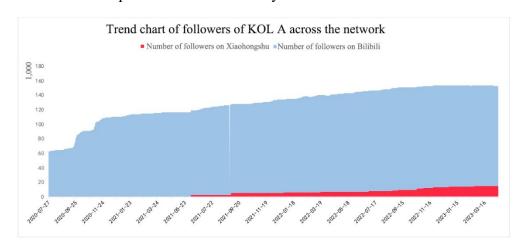


Figure 6.2 Follower Growth Trend of KOL A on All Platforms in Recent Two Years KOL B's agent N is the interviewee. KOL B signed a contract in September 2019 while still pursuing a college degree. KOL B hails from a privileged background and exudes a vibrant and lively personality. In May 2022, KOL B studied in the United Kingdom. Figure 6.3 shows the follower growth of KOL

B on all platforms in recent two years.

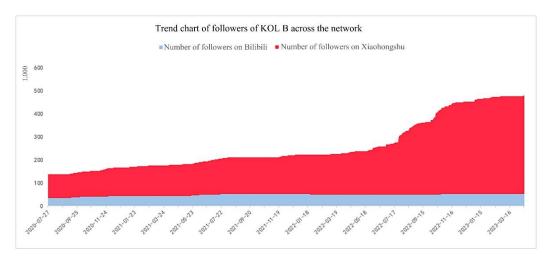


Figure 6.3 Follower Growth Trend of KOL B on All Platforms in Recent Two Years

As for KOL C, Agent K is the interviewee. KOL C signed a contract in

January 2020. KOL C applied for the Master of Philosophy program but

dropped out of school. Coming from a family plagued by parental discord and a lack of affection, KOLC excels in impactful writing and exudes a high-energy presence, but confronts certain mental health challenges. Figure 6.4 shows the follower growth of KOLC on all platforms in recent two years.

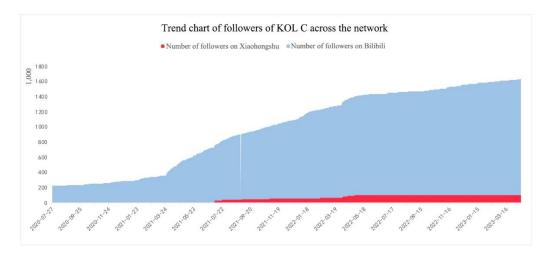


Figure 6.4 Follower Growth Trend of KOL C on All Platforms in Recent Two Years

As for KOL D, Agent K is the interviewee. KOL D signed a contract in

November 2020. KOL D was once an executive at a foreign semiconductor

enterprise and holds a doctoral degree from a French university. KOL D has

published multiple books. Figure 6.5 shows the follower growth of KOL D on

all platforms in recent two years.

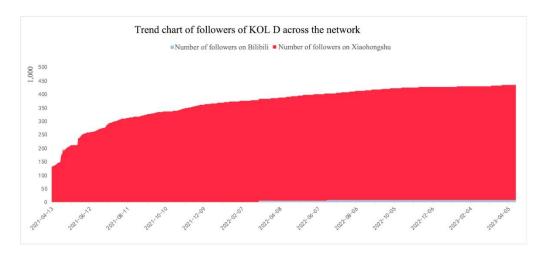


Figure 6.5 Follower Growth Trend of KOL D on All Platforms in Recent Two Years

6.4.1 Development/stagnation stage

During the initial stage, MCNs search for account owners with the potential to transform into quality KOLs and initiate contract negotiations. Before signing agreements, they gather diverse information about account owners via screenings and interviews, among other methods. Subsequently, they assess these individuals' "ego" based on their experience, evaluate the uniqueness and consistency of their identities, and forecast their likelihood of successful incubation and commercialization. Table 6.4 shows KOL A's EQ, BQ, and IQ Scoring

Table 6.4 KOL A's EQ, BQ, and IQ Scoring

		Score	range		Score		
Scoring angle	10	7.5	5	2.5	Agent scoring	Reference coefficient	Score
Personal memory points (special occupation qualified for bonus point/experience/appearance characteristics/special skills/featured relatives and friends)	Multiple obvious tags	Obvious tags	Some personal characteristics	No obvious personal tags	7.5	1.6	12
Live audio ability (Expression/fluency/logicality)	Super high	High	Medium	Low	5	1.4	7
Appeal to viewers	Super high	High	Medium	Low	5	1.4	7
Desire to perform/desire to share	Super high	High	Medium	Low	7.5	1	7.5
Appearance	Super high	High	Medium	Low	7.5	1	7.5
BQ	Super high	High	Medium	Low	7.5	.8	6
EQ	Super high	High	Medium	Low	7.5	.8	6
Content ability (script writing/directing/makeup/skincare)	Super high	High	Medium	Low	5	.8	4
IQ	Super high	High	Medium	Low	5	.6	3
Emotional management ability/resistance to stress/tolerance for major changes	Super high	High	Medium	Low	7.5	.6	4.5
Total score						64.5	

In the scoring table, personal feature tags, live oral wording, and viewer appeal carry more weight. Table 9 indicates that KOL A's pre-signature overall evaluation score is 64.5 (no signing if the score is less than 60; satisfactory at 70; excellent potential at 80 and above). While signing a contract, KOL A exhibited a low score and lacked distinct tags, but excelled at makeup.

During the development/stagnation period, KOLs often extract certain tags from their self-concept as their personas on platforms. MCNs also analyze external markets to offer KOLs trending tags that resonate with both followers and the market. Together, these tags form the self-images that KOLs present on platforms. However, as time goes on, KOLs' personas may encounter a dilemma and draw in fewer new followers.

Specifically, on platforms, KOLs frequently incorporate certain self-concept tags into their personas. KOL A's experience indicates that her initial persona on the platform is strongly tied to her strengths. Regarding this matter, Director M of KOL A highlighted during discussions on her initial cognitive positioning, "She has uploaded three or four imitated makeup videos, with the imitated makeup of Cheng Xiao being particularly well-received. The data was quite positive, leading us to sign the contract upon discovering her imitated makeup skills as a distinctive advantage. The first video we collaborated on was a recreation of Lisa's makeup that went viral, receiving 1 million views." Agent N of KOL B noted, "KOL B, known for her mix of a European and American style and a yellow-black skin tone, saw great success with both makeup and

opinion-based videos on Xiaohongshu after joining us." Similarly, KOL D's journey emphasizes how her early persona was influenced by her strong comprehensive qualities and advantages. As an art enthusiast and semiconductor expert, KOL D, a senior executive at a foreign semiconductor firm, epitomizes the "outstanding minority" in daily life. Another KOL C's main focus is fashionable dressing. Due to excellent expression and dressing abilities, as well as outstanding physical condition, KOL C has steadily gained followers during the development period, which reached 300,000. The uniqueness exhibited by various KOLs based on their initial tags and personas may stem from their unique talent or established identities, helping draw attention from followers on platforms.

In a rapidly evolving market, MCNs must monitor market dynamics like shifts in platform traffic and varying growth rates across platforms. They should guide KOLs to adjust to changing market trends and hot topics, empowering them to offer tags that resonate more with followers and the market. Agent N of KOLB mentioned, "In 2020-2021, we mainly adapted to the trends on platforms to create videos, focusing more on informative content. At that time, Xiaohongshu favored makeup tutorial content. In 2021, the primary focus was on cosmetics, with makeup videos being one of the most popular content types on the Xiaohongshu platform. As a result, the first phase of gaining followers was relatively successful." KOL C trended on Weibo multiple times by discussing intriguing social topics like family background. KOL C's agency

team demonstrated a keen understanding of market trends and advised her to enhance the content output related to values such as family, love, and personal growth. The value output from a fashion blogger also provided KOL C with additional tags and persona materials to utilize.

Over time, KOLs' personas may become solidified, leading to challenges in attracting new followers. The solidification of persona is also evident in the case of KOL D. According to her agent K, "The monthly increase in followers has been steady after a particular artistic creation, which is positive. However, she is getting close to a bottleneck as the growth rate of followers is slowing down. This bottleneck could stem from two factors. First, there may be limitations within the art market, and she might have already covered all relevant aspects. Second, there is a finite number of engaging topics to discuss. While she predominantly focuses on renowned paintings and artists, these subjects are limited, and she has already covered most of the prominent ones." The agent of KOL A recalled, "KOL A, born in 1996, is now 27 years old and solely focuses on beauty makeup, which limits her content. Additionally, it is often believed that being solely a beauty blogger after the age of 25 may see bottlenecks. As a result, it is essential to assist bloggers aged 25 and above in finding more suitable tags. At that point, our internal team provided her with various strategies, urging her to diversify her content areas to include lifestyle topics. This shift aims to provide followers with an insight into her daily life, ultimately boosting followers' loyalty." Agent K of KOL C expressed, "Being a

top blogger on Bilibili, she faced a decline in the platform's commercialization towards the second half of 2021. Simultaneously, the platform shifted its traffic away from the fashion sector, leading to challenges in gaining more followers and monetizing content."

In general, at the development/stagnation phase, KOLs' personas stem from two primary sources. First, MCNs tailor specific tags based on their inherent qualities or traits to embody personas across key social media platforms. Second, MCN agencies monitor the market in real time, skillfully identifying tags that are popular with fans and the market. Together, these tags form the personas they present on platforms. However, as their careers progress, their personas have grown more fixed. Repeatedly recycling their initial tags and personas, KOLs struggle to introduce fresh ideas, leading to a bottleneck in their ability to attract broader viewers. The issue of KOL persona solidification and follower growth bottlenecks becomes pronounced.

6.4.2 Transformation stage

In the transformation stage, KOLs seek to move beyond their existing confined circle and surpass the previous constraints and boundaries. Through initial collaborations, MCNs gain a deeper understanding of KOLs, enabling them to delve further into their identity tags and uncover additional peculiarities. They assist KOLs in identifying fresh tags that offer greater growth potential, aligning with market shifts and follower preferences. During this period, MCNs will ramp up their investments and support to help KOLs garner increased

attention and influence within new domains. The transformation stage represents a journey from "ego" to a "new self," a process that requires collaboration, exploration, and consolidation. In this stage, KOLs change their personas by superimposing new tags.

In the process of transformation, based on a deeper understanding of KOLs and combined with market and follower preferences, MCNs help KOLs discover more identity tags and traits and find broader development space. The agent of KOL A confirmed this point, "In the second half of 2021, we actively drove the transition of the KOL to Xiaohongshu. We believe that Xiaohongshu is a more commercially viable platform, enabling her to create more compelling personas and content tags." The agent of KOLB also revealed that KOLB began studying abroad in May 2022. KOL B's travel videos showcasing various European countries have generated significant buzz. The content's newfound freshness and diversity have led to a significant transformation, boosting KOL B's creative inspiration as well. Upon receiving positive feedback from the market, MCNs swiftly craft additional personas and operational strategies tailored to the unique attributes of the KOL at this stage. In this process, MCN agencies not only need to extract new tags from the market that may be compatible with KOLs but also filter out characteristics from KOLs' selfconcepts that are not suitable for further exposure. KOL B's agent pointed out, "During a period, KOL B had a strong preference for a very flashy but tacky cover style and insisted that all covers during that period should be like that. In

reality, however, it wasn't very appealing, and her content tone became very low, which might negatively impact the selection of advertisers." At this time, MCNs need to advise KOLs on eliminating unsuitable elements to enhance visibility. Similarly, the agent of KOL D said, "Since June 2022, we have noticed the issue of a singular type of content. Subsequent planning for her famed painting explanations now makes up less than a quarter of her updated content. Furthermore, I suggested making changes in the content, incorporating some value-driven messages in explaining renowned art pieces, such as encouraging women not to feel anxious about weight and promoting female independence. The remaining three quarters focus on sharing fine goods, recounting her overseas life experiences, and more. With her extensive personal background, ample knowledge base, and high social standing, she has a wealth of stories to share."

The investment and support of MCNs can help KOLs gain greater attention and influence in new fields. The agent of KOL C revealed, "Starting from June 2021, there would be a fixed monthly investment. At that time, she was already the best among all the Bilibili KOLs of the company, so we decided to promote her to a blogger with millions of followers. By December 2021, the number of her followers rose to 1 million and she became a top uploader on Bilibili." The agent of KOL D also mentioned that MCNs will guide KOLs in many aspects to better adapt to their followers, "KOL D started without wearing makeup, shot very close to the screen with a full-face view. In addition, she had a preference

for colorful clothing. Initially, her voice lacked its current pleasant tone and her facial expressions appeared uncomfortable, stiff, and stressful. During this time, the operation team would suggest improvements such as speech accents. I made her practice for many video uploads, and she literally rehearsed some scripts hundreds of times. Regarding her current on-screen outfits, we always make sure to confirm in advance for each video shoot that she will primarily wear soft-colored clothing to soften her earlier impression of being forceful or difficult to approach." The comprehensive investment from the MCN agency accelerated the growth of the KOL's followers, offering valuable advice in various details to present a perfect image to the viewers. The KOL gained greater influence during this period, achieving the effect of breaking out of her previous circle.

The transformation process from "ego" to "new self" needs to be completed through cooperation, exploration, and consolidation. If KOLs cannot cooperate well with MCNs and trust each other or step out of their comfort zones in this process, their commercial value will inevitably decrease. KOL A was reluctant to try Xiaohongshu and did not update content frequently according to her agent. However, other KOLs performed well in follower acquisition and commercial performance on the Xiaohongshu platform during the same period. KOLs, who are sensitive to data, may become anxious once their performance on a new platform is not ideal, which in turn affects their enthusiasm for content updates. KOL A was content with the status quo and lacked self-motivation,

leading to her poor performance on the new platform and failure to complete the process of creating a "new self." According to the agent of KOL B, "KOL B will correct and make improvements immediately as soon as she is aware of any negative aspects." In the transformation process, KOLs constantly adjust their tags according to user feedback, thus solidifying their personas. One of the responsibilities of MCNs is to cultivate KOLs. If KOLs do not accept the cultivation, it may be difficult for them to continue the cooperation. If KOLs can shape themselves, MCNs can seize the opportunity to promote their transformation. KOL C exhibits distinct personas in social media and real life and is willing to dramatize herself in front of followers. She gained high attention for expressing her opinions on hot social topics and speaking out for groups who have faced similar experiences as her. Drawing from her own unfortunate family background and past experiences, she encouraged her fans to live positively, portraying the image of an independent woman throughout her videos. However, she could not cooperate well with the team and had difficulty in managing her emotions. She had a bad attitude towards team members and showed a limited willingness to coordinate with brands' customization requirements. The KOL was very dominant and rarely agreed to the selection of topics by the producer-director, making collaboration difficult. Conflicts escalated later on when the influencer threatened to terminate the contract. KOL C has attracted millions of followers and become a top uploader on Bilibili thanks to her huge topicality and good follower stickiness. However,

her poor collaboration with MCNs hindered her potential for receiving highvalue business orders. Although she has made breakout successes on Bilibili,
her transformation came to an abrupt end as she terminated the contract, along
with a decline in the platform's commercial value. Through our communication
with the agent of KOL D, we learned that KOL D embraced the differences
between her persona on social media and her real identity, showing no fear of
the differences and even accepting them wholeheartedly. To increase traffic data,
she was willing to embrace any tags designed by the content team and also
accepted the artistic processing of content, provided that her followers did not
show any dislike. With diverse tags, KOL D had strong awareness and showed
active action to create a new identity. Moreover, she collaborated well with the
whole team throughout the transformation process. Thanks to these efforts, she
has performed satisfactorily in follower growth and commercialization.

In short, in the transformation process, KOLs and MCNs need to work closely together to complete the transformation of KOLs from "ego" to "new self." MCNs need to have an in-depth understanding of KOLs and help them identify new tags and traits according to market changes. Furthermore, they should help them gain greater influence in new fields through investments and support. KOLs need to step out of their comfort zones to accept suggestions from MCNs and the market, constantly adjusting their tags and personas. If KOLs cannot cooperate well with MCNs and are unwilling to make changes, it is difficult for them to complete the transformation. KOL A did not accept the

recommendation of MCNs to shift her energy to Xiaohongshu, failing to obtain ideal results on the new platform and create a "new self." KOL B just made changes while encountering problems, but once she became aware of some problems, she would make immediate improvements to gradually solidify her persona. KOL C featured a high topicality, but she lacked effective collaboration with MCNs. Although she has become a top uploader on Bilibili, her commercial value has declined, and she has yet to complete the transformation successfully. KOL D fearlessly embraced the differences between her persona on social media and her real identity and easily accepted any suggestions from MCNs, succeeding in completing the transformation. KOLs need to break away from conventional stereotypes and collaborate closely with MCNs to adjust their tags and personas. Only by doing so, can they complete the transformation from "ego" to "new self."

6.4.3 Secondary growth stage

KOLs have developed new personas after completing the transformation. According to the self-identity theory, individuals have always pursued the consistency of their self-identity. That is to say, KOLs should forge a link between new personas and previous ones in a bid to maintain a consistent self-concept and image. Therefore, in the secondary growth stage, KOLs need to integrate their new personas with previous ones. This integration is vital in ensuring that they present a consistent and unified image to both themselves and their followers. During this period, MCNs abstract and summarize the personas

of KOLs to identify the core common to both new and previous personas and accurately match users. Moreover, they guide KOLs toward a deeper self-understanding through advanced cognitive processes.

The process from "ego" to "new self" is dynamic. KOLs may develop a new persona different from the previous one. Those who can swiftly integrate new and previous personas are likely to discover a secondary growth path more quickly. In the beginning, KOL A was a beauty blogger known for posting videos about her favorite imitated makeup. However, due to the decreasing commercial value of the original platform, MCNs advised KOL A to add a new persona as a life blogger and create life-related content to provide an opportunity for followers to know about her daily life, thus enhancing the stickiness of her followers. However, KOL A was anxious about data instability during the transformation period. Confined in her comfort zone, she gained merely 10,000 new followers on Xiaohongshu over nearly two years and failed to achieve secondary growth due to weak commercial value and a lack of continuous content creation. In December 2022, KOL B completed the secondary growth from a domestic college student beauty blogger to a blogger for dining and entertainment in her overseas study, with the number of her followers rising to 400,000 from 200,000. In the secondary growth stage, she aspired to learn skincare courses to enhance her professionalism in this field. Additionally, she also expected further development in the fashion industry. KOL C has made breakout successes on Bilibili, but the platform later ceased to divert more traffic

to the fashion category, and its commercial value declined. Despite signing with a new MCN following the termination of her previous contract, she did not maintain a consistent content update on the Xiaohongshu platform. Consequently, the number of her followers did not rise significantly, impeding her secondary growth. KOL D originally acted as an art blogger and later gradually diversified her content to include topics such as encouraging women to be independent and sharing overseas life and experiences. Now, she has developed diversified forms of oral marketing and solidified her strength, quickly winning users' recognition. In the future, she will also introduce her main business as a senior executive at a semiconductor enterprise. Combined with her identity as a native of Shanghai, she will diversify her persona and usher in secondary growth.

"Ego" and "new self" also have unchanging parts, and KOLs' new and old personas have many similarities in the core. For example, KOL B has changed her content scenarios from China to European countries and content themes from beauty and skincare to overseas life sharing, but her core of "being full of energy and vibrant" remains unchanged. She is willing to learn professional knowledge about beauty and skincare and accept pertinent opinions from her team. Her outgoing and positive personality and a good sense of aesthetics have also helped her win the favor of more followers. KOL D has constantly diversified her persona based on the characteristics of being with "a positive attitude to seek changes and strong executive power." She actively collaborates

with the team and broadens the types and directions of content. She dedicates effort to embracing the team's suggestions, carefully studies video scripts to correct accents, adjusts her attire to fit the video styles, and accepts artistic modifications. Due to her awareness of shaping a new persona and strong executive power, she has acquired a growing number of followers and exhibited good commercial performance.

In the process of incubating KOLs, MCNs need to pay close attention to the core of their personas and construct suitable personas for them based on the core. Additionally, MCNs should take various measures to support KOLs in acquiring followers and maximizing their commercial value. The agents of KOLs candidly admitted, "We understand that the thoughts of KOLs are different from those of regular working people; some KOLs may find it challenging to fulfill clear and straightforward requirements." Because most bloggers have never done traditional jobs, their world is different from ours. It takes a long time for MCNs' staff and bloggers to communicate and coordinate with each other. During the boom in KOL numbers a few years ago, most KOLs were signed with MCNs. As a result, they became accustomed to receiving services from others, with many things being taken care of without their involvement. This situation can lead to a lack of thinking abilities among KOLs. At this point, MCNs play a vital role, as the working teams need to guide and help KOLs bring out their core essence, establish appropriate personas, and integrate new and old personas at different stages of their careers. This integration helps KOLs

maintain a consistent overall identity. For example, KOL B's team has continuously cultivated her ability to produce high-quality content. Additionally, the team often works together with her to analyze and review market trends and content data. Once MCNs realize the increasing popularity of the content published by KOLs, they will boost advertising to expand KOLs' influence. MCNs also encourage KOLs to diversify their personas and content regarding lovers-related topics. Thus, KOLs can broaden their content directions and provide an opportunity for their followers to know about them from multiple perspectives, thereby enhancing the stickiness of their followers. MCNs are in charge of the commercial development in the incubation process of KOLs, allowing KOLs to focus on content creation. KOL D and her work team have collaborated to discover new popular works and strive to make breakout successes. They have implemented comprehensive enhancements to their accounts, including optimizing shooting settings, adjusting lighting, and updating equipment, supported by professional shooting teams dedicated to improving the quality of pictures. Meanwhile, KOL D's expression ability in terms of tone and facial expression as well as in front of the camera has also been trained.

In short, KOLs need to accept the new persona in the secondary growth stage to complete the integration of their old and new personas, ensuring their consistency in the eyes of their followers and thereby achieving new development. Given the common core between "ego" and "new self," MCNs

need to help KOLs identify the common core of new and old personas and guide them toward a deeper self-understanding through advanced cognitive processes, fostering the integration of new and old personas. By doing so, KOLs can achieve secondary growth. MCNs play an important role in various development stages of KOLs, providing them with more resources and logistical support. This empowers KOLs to expand their follower base and enhance their commercial value.

6.5 Conclusion and Discussion

This paper mainly presents the collaborative framework of MCNs and KOLs to realize breakout successes in the core links in KOLs' incubation. Specifically, the core links mainly encompass the three stages: the development-stagnation stage, the transformation stage, and the secondary growth stage. Additionally, the paper also discusses the division of labor and cooperation among three parties: the market, MCNs, and KOLs. The main contributions of this study are reflected in the following three aspects.

First, it proposes a three-stage model for KOL incubation. In each stage, MCNs play an important role in helping KOLs realize breakout successes. The first stage is the development and stagnation stage. KOLs usually make breakout successes from a nobody in a specific segment relying on their identity accumulation (KOL D has depended on her identity as a doctorate in art history) or skills (KOL A excels in imitated makeup). In the process of KOL growth, MCNs need to provide KOLs with guidance and help on techniques for shooting,

presenting themselves in front of the camera, and managing their image in users' minds. After KOLs have acquired a certain number of users in their segment, they may encounter bottlenecks in the growth of followers. At this time, the second stage starts, which is the transformation stage. This stage is aimed at breaking through small circles. During this phase, after collaborating with KOLs from scratch, MCNs dig deeper into the KOLs' "ego" identity labels, uncovering more of their qualities. By combining market trends and user preferences, MCNs help KOLs find broader avenues. For example, KOL C, originally a fashion blogger who gained 300,000 followers in this niche, discovered the social topics of original family and romantic experiences and identified with a broader audience under the independent women label. With million-yuan-level advertising investments from the MCN in the second stage, she consolidated her "new self," moving into the third phase. The third stage is the secondary growth stage, to verify whether the "new self" established in the second stage has been recognized. A more intuitive judgment is the growth rate of followers and the expansion of user profiles. By examining the content word clouds of several KOLs in three stages (see Appendix figures 7.4–7.13), we can see the changing trends. Furthermore, a review of the content word clouds that have garnered significant interaction can reveal the extent to which the "new self" has been recognized.

Second, a complete "ego archive" and a comprehensive quality evaluation form have been established for KOLs. The persona positioning of KOLs

determines the attributes of their followers. Before signing a contract with KOLs, MCNs conduct a thorough assessment of the basic information and comprehensive qualities of KOLs from different dimensions and establish a complete "ego archive." They aim to identify suitable personas for KOLs who meet their contracting standards to attract platform users. By following the sectional content set by MCNs, KOLs gradually establish their personas, and their work attracts users with different interests and preferences. Simultaneously, KOLs need to assess whether there is room for optimization in their content through interactive data from their works. They can determine if their personas are acknowledged by the target audience based on their follower growth. Being acknowledged by a larger and more loyal audience signifies that a KOL holds higher commercial value among that demographic.

Third, this study collects data on the growth of followers, advertising, and commercial orders of the four KOLs during their incubation process to comprehensively track the process of their breakout successes. Facing general users, followers, and the market, whether KOLs are favored by followers and whether they conform to the mainstream trend of the market (platform) has a great impact on their follower expansion and commercial value. However, there are several giant internet platforms in China, each with its own unique mechanism for traffic distribution. These mechanisms are highly dynamic. MCNs need to be acutely aware of these dynamic changes and gather perspectives from various platforms to stay abreast of the trends in incubating

KOLs. The rise or fall of the market (platform) has a decisive impact on the incubation of KOLs. In this process, MCNs continuously monitor and gather the data performance of KOLs to scientifically guide them for adjustments in work content and personas through data analysis. The aim is to maximize their commercial value when the number of their followers increases.

6.6 Practical Implications

This study has practical implications for KOL incubation. First, it established a three-stage incubation model by deconstructing the important links in the KOL incubation process, drawing insights from actual cases. KOL incubation involves many parties and is subject to highly dynamic changes, presenting a low probability of making breakout successes. Therefore, all involved parties need to perform above the industry average in various links and keenly amplify the content that can bring dividends to effectively attract followers and boost traffic in their segments, securing a higher probability of making breakout successes. In different links, it is necessary to explore different personas of KOLs and allocate appropriate resources to collaborate with KOLs, assisting them in achieving breakout successes. Second, MCNs established a complete basic information archive and a comprehensive quality evaluation form for KOLs, guiding them in establishing their personas. They assisted KOLs in establishing appropriate personas based on their comprehensive information and creating tailored works to attract followers with different interests and hobbies from different circles. They consistently gathered

feedback when KOLs achieved recognition from the market and followers to improve the archives of KOLs for persona adjustment. Finally, MCNs gathered all-round data performance of KOLs throughout the incubation to guide them in creating works, developing personas, and pursuing higher commercial value. After dissecting and gaining insights from the circumstances of fierce competition in the MCN industry, saturation of KOLs, and tight budgets of brands, we selected core nodes in business scenarios for SaaS empowerment and established a multi-party monitoring mechanism for real-time monitoring of KOLs' breakout successes. This enabled us to swiftly respond to adjust content orientations and identity personas and leverage hot topics and industry trends for incubation empowerment.

7. Conclusion and Discussion

As the number of internet users in China grows and user scenarios diversify, the contribution value of the digital economy to the national economy is steadily rising, providing a strong impetus for socio-economic growth. In this process, emerging business formats and development models have flourished. The integration and promotion of digital technology with new production and life models such as online learning, remote conferencing, online shopping, and livestreaming have accelerated. E-commerce is booming, mobile payment has gained widespread acceptance, and various internet content creation platforms are growing. The rise of short videos has driven a rapid increase in user engagement time. As part of the digital economy, various content creation platforms have emerged, such as Douyin, Kuaishou, Xiaohongshu, and Bilibili. These platforms have not only stimulated employment but also become new engines for driving economic growth. As part of the digital economy, the influencer economy has formed a large follower base and the targeted marketing market through the promotion of the internet and social platforms, building a complete industry chain for social media influencers. This has spurred the emergence of new professions, attracting young people to become creators of various content creation platforms and influencing their career choices.

However, the content creation industry also faces a series of management difficulties. First, there is a significant imbalance in overall income distribution.

Although top-tier IPs gain decent profits, a large number of middle- and low-

tier ²⁴ creators face a dilemma of making profits, which makes it difficult for them to maintain content creation. Second, the distinct positioning of various platforms results in limitations for creators in the creation direction and monetization cycle. Finally, the rapid growth in the number of MCNs has brought challenges to the industry. The short-sighted selection and incubation methods of MCNs impact the career development of creators.

It is key to solving these challenges by focusing on the long-term planning and comprehensive cultivation of creators, as well as clarifying pathways for advancement and diversifying ways for monetization. This requires that MCNs think carefully to secure their long-term survival and attractiveness to investors in the stage characterized by competition for existing market share. The continued development of the digital economy will generate new career forms and business models, exerting a profound impact on society. Improving content creation industry management can drive sustainable development in the digital economy, contributing significantly to economic and social prosperity.

In response to the above challenges, this study designs and puts forward three research questions from the perspective of works, creators' styles, and MCNs' incubation strategies. The three questions examine the impact of work novelty on the data regarding views, likes, and comments of works, the relationship between multimodal modeling-based creator style profile and

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²⁴Top-tier KOLs: with more than 500,000 followers on Xiaohongshu, more than 1 million on Bilibili, and more than 5 million on Douyin; mid-tier KOLs: with 100,000-200,000 followers on Xiaohongshu, 100,000-500,000 on Bilibili, and 1-3 million on Douyin; low-tier KOLs: with 10,000-100,000 followers on Xiaohongshu, 10,000-100,000 on Bilibili, and 0.1-1 million on Douyin

creative performance, and the management strategies adopted by MCNs to foster KOLs' breakout successes. With a focus on content creators from Bilibili and Xiaohongshu, this study gives answers by comprehensively using data mining combined with machine learning, multimodal modeling, case studies, and other research methods.

7.1 Main Findings of the Study

Specifically, sub-study I analyzed all works released by creators with more than 10,000 followers within the knowledge section from January 2021 to January 2022 and finally identified 247,972 works of 7,310 creators as samples to obtain data such as their gender, the number of followers, the number of views, likes, and comments, and the content and quantity of tags. The aim was to conduct a novelty analysis of the works based on the relative frequency of tag combinations found in the works. We found that novelty of works has a positive U-shaped relationship with the variables of views, likes, and comments. That is, as novelty increases, the number of views, likes, and comments initially decreases before increasing, validating our hypothesis. This sub-study preliminarily revealed the impact of work characteristics on the interactions between creators and users and demonstrated the significant role of work novelty in garnering views, likes, and comments.

Sub-study 2 employed the multimodal modeling method to study and conduct regression analysis of KOLs' profiles, aiming to explore the influence of creators' styles on their commercial value. In this study, we selected 829

creators in the beauty category on Bilibili with over 10,000 followers and analyzed all their video, audio, and text content from January 2021 to January 2022, totaling 28,705 videos. Due to the high computational power and lengthy processing time required for video modal processing, we randomly sampled 15% of the creators (129 in total) and analyzed 1,118 videos. Through multimodal modeling of works and clustering factor analysis of creators' styles, we distinguished six personas of bloggers within the samples: casual, energetic, professional, sweet, approachable, and good-looking. The final regression analysis results revealed that the good-looking persona had a positive impact on the growth of followers, indicating that appearance may be the core factor for beauty bloggers to attract followers, whereas the sweet persona had a positive impact on the growth of bullet comments, indicating that sweet creators are more likely to attract viewers for interactions. Through this sub-study, we could quantitatively describe creators' styles based on data and further explore the relationship between creators' styles and creative performance.

Sub-study 3 integrated internal KOL management records and case studies within MCNs, aiming to explore how MCNs' KOL incubation management strategies helped creators break through creative bottlenecks and facilitated their growth. Through the case studies of four KOLs incubated by MCNs, along with interviews with studio directors, KOLs' agents, and producer-directors, this substudy sorted out and examined the management files and KOLs' data during the KOL incubation process. Furthermore, it summarized a three-stage model,

namely the development/stagnation stage, the transformation stage, and the secondary growth stage, illustrating the trajectory KOLs experienced to realize breakout successes. In the development/stagnation stage, supported by MCNs, KOLs accumulated from scratch a certain number of followers based on their own identity or skills and then encountered bottlenecks. During the transformation stage, MCNs assisted KOLs in establishing new personas to expand their reach and break through bottlenecks. During the secondary growth stage, KOLs' new personas gained recognition in the market, leading to the rapid growth of their followers and the expansion of user profiles. In the three stages, MCNs gradually established complete incubation archives and comprehensive quality evaluation forms for KOLs, serving as a foundation for guiding subsequent KOL signing and incubation. This sub-study described the process regarding how MCNs' incubation management strategies facilitated the growth of KOLs, enabling them to achieve breakout successes and overcome bottlenecks. It also outlined the synergy between MCNs' strategies and the development of KOLs.

7.2 Theoretical Significance

First, this study elucidates the influence of work novelty on the creative performance of diverse types, addressing the gap in existing literature that often overlooks the novelty of works on content creation platforms. From its attributes, a content creation platform is seen as an advocate for original works, with novelty being one of the key features of original works, playing an important

role in piquing user curiosity and interest. The existing research on the creative performance of content creation platforms has paid attention to the impact of various emotional and informational characteristics of works on creative performance (Gross & Wangenheim, 2022; Hughes et al., 2019; Ki et al., 2020; Lou & Yuan, 2019; Magno, 2017), but it overlooks the significance of novelty as a key feature. This study explores the novelty of works based on work tags and verifies the influence of novelty on comments, likes, and views, bridging the gap in existing research.

Second, this study comprehensively delineates the "styles" of content creators and validates their impact on creative performance, addressing the superficial and one-sided characterization of creator features in existing research. Existing research has mostly utilized methods such as report questionnaires or user ratings to measure the impact of creator features such as credibility, appearance attractiveness, and personality on creative performance (e.g., Breves et al., 2019; Fink et al., 2020; Sakib et al., 2020). Yet, these superficial and unilateral assessments fall short of aiding scholars and practitioners to comprehend how a creator's overall characteristics like "tone" or "style" correlate with their creative performance. This study creatively adopts a multimodal modeling method to provide a holistic overview of creators' personal styles and investigate the correlations between these styles and their creative performance.

Third, by revealing the process of content creators and MCNs jointly

achieving transformation and secondary growth, this study remedies the gap in existing research that is often confined to the short-term effects of characteristics of works and creators on creative performance while overlooking the inclusion of MCN incubation management strategies and the sustained growth of creators. In the practical realm of content creation platforms, creators routinely encounter creative standstills, necessitating the help of MCNs for breakout successes and ongoing creative performance. Through case studies, interview data, and archival data, we have constructed a three-stage model outlining the collaborative framework of MCNs and creation creators to achieve breakout successes, providing a basis for the academic community to understand this issue.

7.3 Practical Significance

As an important part of the digital economy, the influencer economy has gradually become a new driving force for national economic development. In the process of development, the influencer economy has provided diverse career choices for ordinary people, enabling them to showcase their creative potential on various content creation platforms. They exert an increasingly important social influence and, as a result, obtain greater commercial benefits. Therefore, this study is of great practical significance to numerous KOLs emerging in the market. Additionally, the practical results of this study are also conducive to MCNs' efforts to incubate and manage KOLs more scientifically and achieve win-win cooperation with KOLs.

7.3.1 Product scheme of sub-study I: recommended creation material tools

Figure 7.1 shows the recommended creation material tools for KOLs, aiming to help KOLs find creative inspiration during their content creation and offer insights into trending topics on the platform and corresponding suggestions. In addition to presenting the basic data such as the number of followers and works, this scheme also lists KOLs' video production plans, allowing them to understand their content production progress and planning in links such as "lipstick swatch," "star imitated makeup," and "product review."

In the note summary module, KOLs' historical creation content is integrated and divided into primary categories by content type, including entertainment, art, fashion, beauty, emotion, appearance attractiveness, and tourism. Each primary category can be further divided into more detailed secondary categories. For example, the primary category of "beauty" includes secondary categories such as cosmetics, imitated makeup, and skincare. In this module, KOLs' all works in the selected category are listed, with data on views and interactions displayed.

This product offers insights into the latest trendy topics and keywords across creative platforms within nearly 30 days to help KOLs focus on trendy topics in the market and tailor user content directions accordingly. The system recommends keyword combinations for KOLs according to the trendy topics in the market. KOLs can select keywords that align with their content strategies,

and the combination of keywords will show a novelty score, along with a display of similar content produced by other KOLs. For example, under the "lipstick swatch" content plan, if you select the keyword combination of "lipstick swatch + Korean series in autumn and winter," the system calculates that the novelty score of this combination is .33 (the score range is 0-1), higher than that of 28% of the content on the platform. At the same time, the system also presents the content produced by other KOLs under similar keyword combinations, including novelty score, and data on views, interaction, creator nickname, and number of followers.

The practical significance of this sub-study is to provide digital tools for KOLs' content creation. By facilitating their access to trendy topics on content platforms, these tools also help them quantitatively analyze the novelty of works, offering KOLs with the direction and inspiration for the next content creation.



Figure 7.1 Product Interface of Recommended Creation Material Tools

7.3.2 Product scheme of sub-study 2: TVA Model of KOL Portrait

The interface presented in Figure 7.2 shows the function of our product to

deeply disassemble and analyze the video content of KOLs. Under different topics, this product displays recent videos created by KOLs, including key information such as titles, cover pictures, and release time, alongside relevant data regarding views, likes, and comments. This data serves as a tool to comprehensively assess the basic performance of the videos created by KOLs. Additionally, the product also features the company's self-developed Xingcheng Index System, enabling users to compare and benchmark the location of KOLs, thereby having a more comprehensive understanding of the tiers of KOLs.

In the quantitative analysis of video content, we introduced the TVA Model to break down videos into three key modules: Text, Video, and Audio modules. By using this model, we compared the performance indicator data of the selected KOLs with the average value of benchmarked KOLs, aiming to guide KOLs' subsequent video creation and give them some feedback.

First, the Text module conducted word segmentation on the oral expressions of KOLs by extracting their verbal text information contained within the videos. Through quantitative calculation, we identified key indicators such as the richness of information expressed by KOLs, emotional engagement, and professionalism in product introduction. Then, we compared these indicators with the average value of video text information of benchmarked KOLs, offering insights for improvement.

Second, the Video module processed the complete images obtained by extracting frames from KOLs' videos to detect faces and calculate their age,

facial exposure rate, and appearance attractiveness. By analyzing the images as a whole, we calculated the dominant emotions conveyed in the videos. This enabled us to gauge the appeal of the videos to users from multiple perspectives and offer targeted suggestions for improvement to KOLs.

Finally, the Audio module calculated the mean value, variance, and peak value for multiple indicators such as ZCR, sound frequency, sound intensity, and tuning features of the audio information in KOLs' videos. We quantified the voice characteristics of different KOLs by capturing their audio details and compared them with those of other KOLs. Combined with video content data, we can deeply explore the ways of expression favored by followers and provide suggestions for improvement for KOLs.

As a practical tool explored in daily business, the TVA Model comprehensively assesses video performance from three aspects: Text, Video, and Audio. If the Text index of the selected KOLs is higher than that of the benchmarked KOLs, it indicates that the content created by the selected KOLs is of higher quality, demonstrates greater expertise, and has a higher potential for popularity among users. If there is a certain gap between the Video index of the selected KOLs and the data of the benchmarked KOLs, we suggest that the selected ones improve the image quality and emotional expression in the following video content. If their Audio index is similar to that of the benchmarked KOLs, we suggest that they maintain the current sound status and details in the video. This comprehensive analysis helps KOLs better understand

their advantages and room for improvement in creation, explore user preferences, and increase followers.

This sub-study shows how to use big data analytics to reveal creators' personal styles and examines the relationship between these personal styles and the number of followers acquired. This quantitative analysis method provides a meaningful, replicable, comprehensive, and objective approach for practical applications.



Figure 7.2 Interface of TVA Model-based KOL Creative Content Analysis Product

7.3.3 Product scheme of sub-study 3: KOL incubation management system

Figure 7.3 illustrates our KOL incubation management system based on multi-dimensional data such as KOL archives, creative content, public domain topics, and business value. The system is designed to oversee KOLs' growth and monetize their content. As shown in Figure 7.3, the product provides multiple dimensions that enable users to quantify the performance of KOLs in an all-

around way. These dimensions include incubation overview, "ego" archives, segment management, content analysis, work analysis, follower profiles, resource import, and reputation monitoring.

Basic indicators such as the number of followers, works, and likes, constituting the basic data of KOLs, are updated daily for real-time monitoring of their performance and the growth of their followers. Additionally, we establish the Xingcheng Index System as a KOL incubation model, including five major indicators: popular text index, follower value, follower growth index, creation index, and commercial value. Through the comparison with the average value of the benchmarked KOLs, these indicators provide a visual overview of KOLs' incubation over a selectable period, aiding KOLs in identifying their strengths and directions for improvement. Among them, the commercial value and follower growth index possess greater significance in terms of weight. The commercial value is calculated by collecting the monthly business orders of Xiaohongshu's Pugongying platform, taking into consideration factors such as KOLs' number of monthly business orders, average order price, and income from a single follower. The follower growth index reflects the number and trend of active followers acquired by KOLs within nearly 30 days. The key indicator of the popularity text index is the popularity rate measuring the ability of bloggers to create popular texts. Popular texts refer to those works surpassing a specific standard in terms of interaction data. The popularity text rate is defined as the proportion of works that meet the standard for popularity to the total

number of works within a given timeframe. If a blogger has a high popularity text rate, it means that his creation is more likely to trigger widespread interactions and exposure across social media platforms. The creation index measures KOLs' content creation level, which is related to data such as content update frequency, engagement rate, and content completion rate.

The incubation overview module shows the actual and estimated number of followers, alongside fluctuations in the Xingcheng Index System, from August 2020 to October 2023, vividly depicting the incubation and growth process of KOLs over this period. In the development/stagnation period, KOLs' actual number of followers and Xingcheng Index increased rapidly due to their unique "ego" personas, including the initially recognized personal tags, identities, and skills. However, once KOLs acquired a certain number of followers relying on their initial personas, their growth tended to stagnate, with a deceleration in follower acquisition, alongside a decline in the number of business orders and the value of the Xingcheng Index. Subsequently, in the transformation stage, MCNs and KOLs cooperated to explore new personas, helping KOLs create a "new self" to attract attention in broader fields. During this stage, KOLs saw slow growth in follower base, variability in the number of business orders, and fluctuations in the Xingcheng Index. Despite that, there was an overall upward trend. During the secondary growth stage, KOLs' new personas and characteristics gained recognition among followers in the market, leading to a significant evolution of user profiles. This breakthrough accelerated

the overall growth rate of their followers, improved their commercial value, and increased their Xingcheng Index value.

To help KOLs achieve breakout success, the system collected public domain topic opportunities and trendy content recommendations over nearly 30 days to help KOLs obtain the latest market topics and trends, stay abreast of market trends, and achieve maximum breakthroughs. Finally, the system listed KOLs' recent business order resources, evaluated their value realization, and tracked negative keywords on platforms to provide early warning for their creative content.

The practical significance of this sub-study is to establish a KOL incubation model and visualize the incubation process to monitor KOLs' growth throughout the process so that KOLs can respond quickly to the market, adjust their content and personas, and achieve effective follower increase.



Figure 7.3 Product Interface of KOL Incubation Management System

7.4 Limitations

This study has three limitations that require further exploration and resolution in future research.

First, the study's conclusions have limited applicability. Among them, substudy 1 focused on samples in the knowledge section on Bilibili, and its conclusions might apply only to platforms specializing in knowledge-based creativity. Sub-study 2, based on modeling KOL styles in the beauty section of Bilibili, featured extractions and style naming are all based on the unique context of the beauty section. In fact, there are many content creation platforms and categories in China. Future research can collect samples from other platforms, focusing on categories such as scientific innovation, art, travel, and life, to verify the applicability of our findings.

Second, this study collected data from the perspective of creators and MCNs, ignoring the perspective of users. However, users are also vital stakeholders in the platform ecosystem. Future research can further collect data from the perspective of users to build a more systematic theoretical model that encompasses the perspectives of users, creators, and MCNs.

Third, the study's conclusions relied predominantly on platform big data analysis and qualitative interviews, lacking questionnaires and experimental methodologies. In fact, distributing questionnaires to creators can provide deeper insights into their psychological and behavioral processes; experimental rules are conducive to the construction of causality. Future research can synthesize more diverse methods and consolidate the conclusions.

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Appendix

Table 7.1 KOL B's EQ, BQ, and IQ Scoring

Scor	re ra	inge			C		
		_			Score		
Scoring angle 10	,	7.5	5	2.5	Agen t scori ng	Referen ce coeffici ent	Sco re
Personal memory points (special occupation qualified for bonus point/experience/appearanc e characteristics /special skills/featured relatives and friends) Muli le obvi us ta	io	Obvio us tags	Some personal characteris tics	No obvio us person al tags	10	1.6	16
Live audio ability (expression/fluency/logicali ty) Superhigh		High	Medium	Low	10	1.4	14
Appeal to viewers Superhigh		High	Medium	Low	7.5	1.4	10.5
Desire to perform/desire to share Superhigh		High	Medium	Low	10	1	10
Appearance Superhigh		High	Medium	Low	10	1	10
BQ Superhigh		High	Medium	Low	7.5	.8	6
EQ Super high		High	Medium	Low	5	.8	4
Content ability (script writing/directing/makeup/s kincare)		High	Medium	Low	5	.8	4
IQ Supo high		High	Medium	Low	7.5	.6	4.5
Emotional management ability/ Super resistance to stress/ high tolerance for major changes		High	Medium	Low	7.5	.6	4.5
Total score							

Table7.2KOL C's EQ, BQ, and IQ Scoring

	Score range				Score		
Scoring angle	10	7.5	5	2.5	Agen t scori ng	Referen ce coeffici ent	Sco re
Personal memory points (special occupation qualified for bonus point/experience/appearanc e characteristics /special skills/featured relatives and friends)	Multip le obvio us tags	Obvio us tags	Some personal characteris tics	No obvio us person al tags	10	1.6	16
Live audio ability (Expression/fluency/logical ity)	Super high	High	Medium	Low	10	1.4	14
Appeal to viewers	Super high	High	Medium	Low	7.5	1.4	10.5
Desire to perform/desire to share	Super high	High	Medium	Low	10	1	10
Appearance	Super high	High	Medium	Low	5	1	5
BQ	Super high	High	Medium	Low	10	.8	8
EQ	Super high	High	Medium	Low	10	.8	8
Content ability (script writing/directing/makeup/s kincare)	Super high	High	Medium	Low	10	.8	8
IQ	Super high	High	Medium	Low	10	.6	6
Emotional management ability/ resistance to stress/ tolerance for major changes	Super high	High	Medium	Low	5	.6	3
Total score							88.5





Figure 7.4 KOL A's Content Word Cloud Chart (Left) and Comment Word Cloud Chart (Right) on Xiaohongshu in the Growth Stage





Figure 7.5 KOL A's Content Word Cloud Chart (Left) and Comment Word Cloud Chart (Right) on Xiaohongshu in the Transformation Stage





Figure 7.6 KOL B's Content Word Cloud Chart (Left) and Comment Word Cloud Chart (Right) on Xiaohongshu in the Growth Stage





Figure 7.7 KOL B's Content Word Cloud Chart (left) and Comment Word Cloud Chart (Right) on Xiaohongshu in the Transformation Stage





Figure 7.8 KOL B's Content Word Cloud Chart (Left) and Comment Word Cloud Chart (Right) on Xiaohongshu in the Secondary Growth Stage





Figure 7.9 KOL C's Content Word Cloud Chart (Left) and Comment Word Cloud Chart (Right) on Xiaohongshu in the Growth Stage





Figure 7.10 KOL C's Content Word Cloud Chart (Left) and Comment Word Cloud Chart (Right) on Xiaohongshu in the Transformation Stage





Figure 7.11 KOL D's Content Word Cloud Chart (Left) and Comment Word Cloud Chart (Right) on Xiaohongshu in the Growth Stage





Figure 7.12 KOL D's Content Word Cloud Chart (Left) and Comment Word Cloud Chart (Right) on Xiaohongshu in the Transformation Stage





Figure 7.13 KOL D's Content Word Cloud Chart (Left) and Comment Word Cloud Chart (Right) on Xiaohongshu in the Secondary Growth Stage713