Exploring User-Created Digital Content Ecosystem: A Study of China’s Digital Celebrity Industry

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Short Paper

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Abstract

This paper explores the user-generated digital content ecosystem. User-generated content (UGC) is not new in Information Systems. Nonetheless, few research has looked in-depth the value of these content beyond marketing purposes. Considering the increasing variety of content that users can produce and the ease of distribution, the content industry has long been adapting to the disruptions, realizing that these self-generated contents can bring challenging management issues. This paper offers an analysis of the recent emergence of digital celebrities, or Wanghong in China. By adopting value co-creation as the theoretical lens, this study aims to 1) expand the contemporary understanding of UGC as the core product of digital content industry, shedding light on the economic value of self-generated content as part of creative and cultural industry, and 2) articulate the evolution of the user-generated digital content ecosystem, providing an actionable view of ecosystem strategy.

Keywords: Digital celebrity, UGC, case study, cultural and creative industry, ecosystem, value co-creation
Introduction

Digital technology is transforming the creative and cultural economy (UNDP 2013). Specifically, the content industry (including video, film, music, games, books, newspapers and other publication) has been presented with tremendous opportunities and challenges (Oestreicher-Singer and Zalmanson 2012). Beyond enabling different forms of digital content (e.g., text, image, audio and video), proliferation of technology impacts the creation, production, distribution and consumption of content, disrupting an industry that is characterized with an excess of intermediaries, high fixed costs, and high entry barriers (Caves 2000; Joost 2006). For example, more than half of the 1.65 billion digital music tracks were sold online in 2011 (Nielsen 2013), removing excess distributors and retailers. In addition to this frequently studied online mode of content distribution and consumption, technological advances introduce changes in the creation and production of content, particularly to the stakeholders in the digital content ecosystem. One of the significant changes is that users, now liberated by social computing, is able to assume not only the role of consumer but also the creator, when they produce and share various content online. Yet, IS studies of digital content ecosystem has hitherto focused on the proprietary content, thus sideling digital content ecosystem centered on the user-generated content (UGC) (OECD 2009; Oestreicher-Singer and Zalmanson 2012).

The recent emergence of digital celebrities (also known as internet celebrities, micro-celebrities, or Wanghong in Chinese) who leverage digital platforms to build a strategically intimate relationship with their fans by self-broadcasting UGC (Marwick 2015), provides an opportunity to explore the user-generated content ecosystem. In exploring this phenomenon, this study is motivated by 1) the imperative to expand our limited understanding in the value of UGC as a viable product of the digital content industry given the rise of self-generated content and 2) the afforded opportunity to unpack the ecosystem strategy of a digital content ecosystem beyond the description of actors (Adner 2017). Further details are provided in the following.

First, though extensively studied, research into UGC is limited to shed light on the digital content businesses because UGC is rarely positioned as the core product. Pre-existing IS studies often regard user-generated reviews and commentary as the primary type of UGC and the value of these self-generated content often revolves around marketing (Goes et al. 2014; Goh et al. 2013). Though important, these are different from the (economic) values that digital content industry can extract from contents. The escalating significance of UGC in constituting the core of a digital ecosystem such as that of the digital celebrity phenomenon, has rendered the existing literature “less appreciative” of the user-turned content creators. In hindsight, this may also explain why the content creators (i.e. users) are often under or uncompensated (Terada et al. 2013), even though UGC can be capitalized for its monetary potential (Susarla et al. 2012). Also, considering that UGC can be personal, unverified, prone to self-benefit and copyright-infringing compared to the proprietary content, it is an imperative to understand challenges that surface in the development of user-generated digital content industry.

Second, the study presents an opportunity to broaden our knowledge of digital ecosystem, specifically one where the actors are associated by digital contents and not a digital infrastructure. In contrast to the often-studied Apple or Alibaba ecosystem where the members are attached mainly to the digital platform owner in the multi-stakeholder ecosystem (Iansiti and Levien 2004; Van Alstyne et al. 2016), UGC is less bounded by a single digital platform for it can reside in different forms (text, audio, video) and on multiple channels (Facebook, Instagram, YouTube). There is no clear “owner” of the ecosystem platform to set the rules, control intellectual property or govern the interactions among actors. We argue that the absence of platform provider in such ecosystems can provide a natural context to go beyond the dyadic relationship between the ecosystem actors with the platform provider (Barrett et al. 2016), and further allowing us to focus on the interdependent activities, which underscore the co-evolvement, cooperation and competition among the ecosystem stakeholders. This is in line with the call for attention on the actionable perspective of the ecosystem, in addition to the actor view (Adner 2017).

In summary, compelled by the limitations of current literature in understanding the emerging phenomenon of UGDC ecosystem, this study aims to conceptualize the ecosystem strategy that will shed light on “how does a user-generated digital content ecosystem evolve?” Adopting value co-creation as the theoretical lens, an in-depth case study is conducted into China's digital celebrity, or Wanghong industry.
Literature Review

User-Generated Content

UGC refers to the “content that is created by Internet users, often through content platform” (Comninos 2013, p. 5). As technology advances, it manifests in different forms including forum posts, reviews and commentaries, blogs, podcasts, professional knowledge (e.g. Wikipedia), vlogs, self-made videos and music (Gabbiadini et al. 2013; Marwick 2015; Ye et al. 2016). With the prevalence of social computing, the users can easily create and distribute various content and develop an audience. At the same time, UGC is transforming into a viable ecosystem with commercialized potentials (Zeng and Wei 2013), rising above the traditional perceptions of UGC as a purely collaborative community (Levina and Arriaga 2014; Villi and Matikainen 2016) and the often-studied motivations of the content contributors that seek social and emotional values such as peer recognition, attention, altruism, reputation and status (Gabbiadini et al. 2013; McWilliam 2000; Shen et al. 2015).

In the existing studies, the commercialized potential or the value of UGC is often built on the audience which form the fans base for marketers. Li et al. (2016) has provided a summary of three strategies to monetize UGC: 1) advertisements, 2) affiliate marketing and 3) commissions paid by platforms (e.g., YouTube). Indeed, these are the main sources of revenue for the 12 top-paid YouTube celebrities who earned a combined of $70.5million in 2016 (Forbes 2016). What is common across these strategies is the emphasis on the extraction of UGC value from websites visits, attention or traffic, akin to the crowd in marketing. For instance, the study by Bampo et al. (2008) examines the utility value of digital content by demonstrating the impact of viral content in optimizing marketing campaigns. These studies, however, yield limited insights into how the content industry (such as entertainment and publishing industry) can extract values from UGC, for the focus is not exclusively on traffic but also the content. With UGC being positioned as the core product, the digital content industry also faces impending challenges considering UGC is personal, unverified, prone to self-benefit and copyright-infringing as compared to the proprietary content developed by professionals and experts.

In view of the lack of professional skills in this new group of content creators (which can result in the aforementioned problems), the rise of UGC has introduced a network of different stakeholders (Burns and Dolan 2014). The entrants of new stakeholders include intermediaries hosting content on distribution platforms (Oestreicher-Singer and Zalmanson 2012), firms applying big data analytics on UGC to mine customer insights (Chau and Xu 2012) and regulatory bodies revisiting the copyright and intellectual property policies. Each of them provides a different set of strategic competencies in shaping the digital content industry, with new relations formed and existing ones reconfigured (Adner 2017). The growth in stakeholders also illuminates the second motivation for our study which widens the interpretation of digital ecosystems from pre-existing analysis of platforms or digital infrastructure to digital content, thus leading us to coin the term user-generated digital content (UGDC) ecosystem.

As mentioned previously, unlike a digital ecosystem that usually grows on a digital infrastructure like Apple environment or Alibaba e-commerce platform (Tan et al. 2015), a digital content ecosystem has no clear “owner” who sets the rules, norms or governance. This paper takes the opportunity to extend the preoccupation of prior ecosystem studies’ with actor analysis (including owner), by investigating the interdependent activities which in turn offers an actionable perspective of ecosystem (Adner 2017). In recognition of the growing number of actors in UGDC and that the interdependent activities underscores the co-evolvement of ecosystem actors towards mutual benefits (Iansiti and Levien 2004; Van Alstyne et al. 2016), value co-creation is determined to be a suitable theoretical lens to understand the dynamic interrelationships and to analyze the evolution of UGDC ecosystem. Value co-creation is a framework that provides an activity-centric approach in rationalizing actors and resources as value creating themes in explaining the network of stakeholder relationships required to support the UGDC ecosystem.

Value Co-creation

Value co-creation refers to the symbiotic relationship between a firm and its stakeholders involving the alignment and integration of resources (Sarker et al. 2012). Historically, the theoretical grounding of
value creation follows the “product- and firm-centric view” (Prahalad and Ramaswamy 2004). The prescribed value is created at the final stages of production and as such the exchange of resources only incurs once the consumer receives the good (Saarijärvi et al. 2013; Vargo et al. 2008). However, the advent of the Internet has elevated the role of end users in the production process from consumers to participants, thus introducing the theoretical lens of value co-creation (Prahalad and Ramaswamy 2004). The ubiquitous communication channels such as Facebook and Twitter have enabled consumers to become the “locus of value creation and value extraction” (Prahalad and Ramaswamy 2004, p. 5). The growing importance of value co-creation has been recognized as a new business strategy by both researchers and practitioners (Chengalur-Smith et al. 2010; Zainuddin and Gonzalez 2011), extending its influence from Service Marketing and Business Management (Saarijärvi et al. 2013) into Information Systems literature.

Value co-creation has been developed in recent studies which expands the scope of stakeholders from two actors – consumers and producers to an ecosystem of actors (Walrave et al. 2017; Ye et al. 2011). This change in direction reflects an “increasing interest and concern with interdependence across organizations and activities” (Adner 2017, p. 39). By extending the lens of value co-creation beyond relational dyads, Lusch and Nambisan (2015) demonstrate the emergence of an actor-to-actor structure in a co-creating ecosystem, featuring digital technology as a prerequisite to the ecosystem’s survival. The ecosystem of actors sustains a dynamic relationship by building a roadmap for incremental value add within the product lifecycle (Zainuddin and Gonzalez 2011). Each actor brings specific expertise and capabilities to build on the inter-relational harmony (Laamanen and Skålén 2015). The ecosystem builds on dynamic relationships between a variety of stakeholders including clients, vendors, suppliers and business partners, each with a different set of end goals (Laamanen and Skålén 2015; Normann and Ramírez 1992). Over time, the collaboration between actors form joint ventures and alliances to co-create new value, reduce the cost of production and increase the rate of innovation (Das and Teng 2000; Kim et al. 2011). The overall health and longevity of relationships are rooted in the collaboration and alignment of actors and their complementary specialization to facilitate continuous value transformation (Han et al. 2012; Sarker et al. 2012). This stream of thought has materialized into the actor view of ecosystem or the ecosystem-as-affiliation or, examining the network of associated actors as a strategy (Adner 2017).

The emergence of actor-to-actor structure in the ecosystem is due to the rapid changes in information technology, forcing firms to adapt and innovate by leveraging the capabilities of other actors (Lusch and Nambisan 2015). Underpinned by the resource-based theory, the ecosystem is facilitated by a diverse group of stakeholders who contribute dissimilar expertise (Das and Teng 2000). The ecosystem builds on dynamic relationships between a variety of stakeholders including clients, vendors, suppliers and business partners, each with a different set of end goals (Laamanen and Skålén 2015; Normann and Ramírez 1992). The overall health and longevity of relationships are rooted in the collaboration and alignment of actors and their complementary specialization to facilitate continuous value transformation (Han et al. 2012; Sarker et al. 2012). Resource is also an integral part of value co-creation, defining the enablers behind creating value in a collaborative environment. The true value of both tangible and intangible resources is invoked in an interactive ecosystem as oppose to siloes of independent producers (Feldman and Horan 2011). By studying the Indian healthcare and the interrelationship between service provider, Srivastava and Shainesh (2015) propose the co-creation of value is facilitated by the exchange of three resources – knowledge, institution and technology. Knowledge is recognized as the competency in strategically applying and demonstrating a set of skills. Institution provides the social and legal constructs required to uphold the service system; and technology is the underpinning infrastructure required to support the exchange and co-creation of value. The collaborative integration between the resources embodies the key enablers supplied by a network of social and economic actors in driving new value-adding innovation.

The intersection between actors and resources in value co-creation is facilitated by an activity-centric view (Adner 2017; Barrett et al. 2015). Activity-centric view argues the interdependence of actors, predicated on the flow of value proposition, is enabled by the joint actions of “economic actors with the purpose of creating value beyond what each actor can achieve independently” (Nehgina et al. 2015, p. 223). The co-creating actions provides a network-based collaboration of interconnectivity and interactivity (Ye et al.
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To facilitate value co-creation, activity mechanisms describe how actors apply resources through a host of different methods to increase affordability and accessibility (Srivastava and Shainesh 2015). These mechanisms have been furthered by Sarker et al. (2012) exploring three activity nodes – Exchange (co-creating through an alliance form by two participants), Synergy Integration (investment into value creating by increasingly interdependent parties) and Addition (one party builds on the existing contribution of others). Activity-centric view reflects the postmodern approach where value co-creation acknowledges that the product cannot be regarded as a “finished” object (Saarijärvi et al. 2013), leading to progressive evolution within an ecosystem (Srivastava and Shainesh 2015).

Methodology

Our research adopts a qualitative case study approach to understand the intricacies and the interrelationships between multiple elements of an emerging phenomenon in UGDC ecosystem. Based on the lack of research emphasis on UGC in the digital content industry, ecosystem strategy and the recent emergence of Wanghong, an exploratory approach is appropriate for investigating interrelationships between actors and activities within the UGDC ecosystem (Pan and Tan 2011; Walsham 1995). The current ambiguity and lack of existing knowledge sets the context for our analysis, predicated on answering the “how” and “why” natured questions. The interpretive approach will form the iterative research process which enables us to discover both expected and unexpected characteristics of the UGDC ecosystem (Klein and Myers 1999).

Selecting Wanghong as the case study is rationalized through three key arguments. First, disintermediated by technology especially the social computing, the rise of Wanghong industry in China exemplifies not only the digital content industry centered on non-proprietary content but also the various monetization strategies where the content creators can the rewarded (BBC 2016). Secondly, the Wanghong’s case embodies numerous actors and resources based on the participation of multiple prerequisite actors for the industry’s exponential growth; the estimated market value of the Wanghong economy is $8.4 billion (Xinhua 2016). This provides an ideal context to examine the evolvement of a digital content ecosystem. Lastly, due to the pace of social technology advancements, the Wanghong industry has rapidly matured, germinating a propitious condition for our exploratory research.

The data was collected across multiple semi-structured interviews. Each interview increased the scope of knowledge, thus providing us with new defined leads and interview subjects. Initial contact was made with an expert who had extensive practitioner understanding and oversight of the Wanghong industry. Subsequent meetings/calls with him over a span of two months have helped us to identify an initial list of interviewees which included the critical stakeholders required to consolidate the fundamentals of the UGDC ecosystem. These interviewees include 3 Wanghongs, operation managers of 4 streaming platforms, top management/founders of 5 agencies, manager of an e-commerce giant, and secretaries of 2 digital content associations. This provided a wide cross-section of perspectives to frame a more holistic interpretation of the Wanghong ecosystem. The interviews were led by one interviewer who is a native speaker of Chinese; all interviewers had a working level proficiency in Chinese to allow for follow-up questions. The interviews were all recorded and observations were recorded in photos and notes. Secondary data (direct observation of the Wanghong’s online participation and Chinese practitioner papers), was also collected to form the initial understanding before entry and to support any key findings.

Our data analysis occurs in tandem with collection. Specifically, our data analysis closely follow the “framing” and “augmenting” cycles in Pan and Tan (2011). Narratives regarding the movement, key events and outcomes were chronicled. Later, drawing on the notion of value co-creation (i.e., resources, actors) and ecosystem evolution (e.g., processes), key events and changes were tabulated. From the summary, tentative explanations were conceived to illustrate the evolution of the ecosystem, the issues arising in each phase, which in turn drive the co-creation activities among the actors that propel the ecosystem evolvement. In the augmenting cycle, we will ensure the framing derived in the previous step is sufficiently supported by data. The two cycles will be reiterated until alignment of data, theory, and the findings is achieved (Klein and Myers 1999). Next, details of the case are provided.
Case Description

The direct translation for Wanghong is “digital celebrities” which draw parallels with Western YouTubers and Instagram bloggers. Due to China’s Internet firewall, the digitization of China’s social economy is currently being hosted on an Internet environment parallel to the rest of the world, resulting in the development of a UGDC ecosystem with unique and differentiating characteristics. The rapid pace of technological advancement and increasing consumption of China’s middle class sets the scene for the growth in the Wanghong economy. Beginning from a community of creative content producers, the economy has transformed into a functioning industry with numerous different stakeholders.

The influence of Wanghong as key opinion leaders is paramount in driving the direction of China’s UGDC. The evolution of UGDC in China follows the trend in technology as demonstrated by the advancement in digital capabilities from posting simple text for entertainment to video commentaries. The Wanghong industry is a testament to how focal points of thought leadership and creativity can be transformed into viable business models. An iconic example is Papi Jiang, a postgraduate student who recently accepted $1.8 million in investment from venture capital firms to help further her production of comical yet short video skits on controversial societal topics (AllChinaTech 2016).

The factors differentiating Wanghong and Western digital celebrities are underpinned by the maturity of viable business models. By integrating E-commerce with Wanghong content, it has provided a clear economic incentive for further development of the industry, thus increasing the overall potential of China’s Wanghong market. The E-commerce examples include online stores and gifting features on content hosting platforms. The gifting feature is becoming a mainstream monetization method with fans sending stickers of luxury brands which can be converted to monetary value in support of their favorite Wanghong celebrities. However, there are also a number of key issues linked to the sudden rise of the industry, including the explosion of platforms (mostly streaming) which host digital content (mostly videos). The rising competition between platforms has encouraged greater platform innovation but also increased the potential for platforms to become unprofitable and obsolete.

Consequently, the Wanghong industry is rapidly increasing in size with entrance of numerous stakeholders trying to capitalize on the lucrative investment returns. What started as a partnership between content creators and content distributors for purposes of distributing creativity has rapidly grown to include stakeholders such as governments, Wanghong agencies, e-commerce and venture capital firms. Table 1 shows the actors identified in our study.

| Table 1. The Actors of the User-Generated Digital Content Ecosystem |
|-----------------------|---------------------------------------------------------------|
| **Content creator**   | Users who create and share contents online                    |
| **Content consumer**  | Users who consume the digital content                          |
| **Content aggregator**| Companies that gather and distribute widely the UGC, i.e., streaming platforms |
| **Content collaborator** | Actors that provide services to connect two or more actors i.e. agencies serve as the middleman between Wanghong and platforms |
| **E-commerce player** | E-commerce operators i.e. Alibaba’s Taobao                     |
| **Government-linked association** | Actors that provide regulation-related advices and services (e.g., dispute resolution) to actors |
| **Capital Provider**  | Investors                                                      |
Preliminary Findings

Figure 1 presents the summary of our preliminary findings. The phenomenon is framed by the transition of four key phases – Content Generation, Content Creation, Content Curation and Content Commodification. Based on the themes of value co-creation, a preliminary model is theorized, demonstrating the evolution of the Wanghong economy. The initial data analysis shows that complementary actors are accumulated across each ecosystem phase, deriving specific interim outcomes based on the actor’s specialized expertise. Motivated by the issues that emerge in each phase, the ecosystem’s progression is predicated on the value co-creation mechanisms with actors that entered at the next phase, which then drive the evolution across ecosystem phases by consolidating existing value with new competencies. These preliminary findings will be further refined and verified in our study.

![Figure 1. Value Co-creation in the Evolution of User-Generated Digital Content Ecosystem](image)

**Phase 1: Content Generation**

The prerequisite actors in the Wanghong industry are the Wanghong (Content Creators) and fans (Content Consumers) who build a symbiotic relationship, based on communal objectives. Despite setting up the ecosystem groundwork, the ex-Chief Operating Officer of one of the top three streaming platforms highlighted “Prior to the engagement of platforms, there was minimal awareness to the creative content community. However, after establishing the direct broadcasting platform, the wider Internet audience started to recognize the potentials of creative content.” This demonstrated that the actors in the initial phase lacked prerequisite capabilities to promote the value of UGC. **Resource integration**, referring to basic technology and knowledge competencies were introduced by the platform actor (Content Aggregator) who consolidated and redistributed the fragmented content across various channels. This serves mutual benefits for the Wanghong, audience and platforms, where UGC value was conceived and recognized. In particular, the Wanghong is able to gather the audience on a single platform, and the platform can leverage the content in order to accumulate the network traffic.
Phase 2: Content Aggregation
The aggregation of content into recognized platforms provided greater transparency for both consumption and production which led to a rapid increase in content volume. Despite the rising popularity of Wanghong, the lack of benchmarking for quality assurance resulted in content creation which either fell into the regulatory grey area or outright breaks the law. According to the Secretary of the Shanghai Network and Gaming Association, “Due to the accelerating development in technology such as the mobile age, the government is required to impose greater governance. The association is initiated to serve as a bridge between the regulators and the companies.” Based on the ecosystem gap resulted unavoidably by a non-governed digital content generation, new functioning roles such as the government-linked association and Wanghong agencies emerged. Knowledge Mediation is imperative for co-creation of value by promoting the exchange and transfer of knowledge. For instance, the association acts as an intermediary by understanding both the policies and the industry. Through an advisory role, the new actor provides solutions that buffers arising tensions between creativity and governance, thus elevating the aggregate ecosystem value by achieving healthier content, and yet allowing space for the survival of creative content.

Phase 3: Content Curation
Due to China’s unique digital censorship and overall market size, the Content Curation phase underscores the comparative divergence of the UGDC ecosystem development between China and the global community. For instance, to legislate China’s unique live-streaming industry and ensure evidence was available for prosecution, the government and platforms provided technological and institutional resources to increase video storage capacity to a minimum of 15 days. Moreover, the associations and Wanghong agencies, acting as a knowledge intermediary to circulate information to multiple actors in the ecosystem introduces a framework of functioning roles which leads to a clearer distribution of work in the digital content ecosystem. Guided by government incentives, these functioning roles creates content with higher standards, demonstrating Knowledge Mediation as a catalyst for the ecosystem transition. However, as mentioned by a senior staff of an agency (of about 4000 potential Wanghong), “The difficulty in quantifying popularity value and the entrance of unqualified amateurs, who care less about the quality of the content in pursing quick profit, is currently the biggest threat to the industry”.

Phase 4: Content Commodification
These economic challenges (including the difficulty of quantifying the popularity value of Wanghong as influencers in marketing, translating the network traffic into revenue, converting the UGC into paid content, etc.) are presented as opportunities for new financial actors to capitalize on the unrealized benefits in the Content Commodification phase. As highlighted by a venture capitalist, “We invest in the Wanghong team based on their business acumen.” By incentivizing the ecosystem with capital as a resource and introducing e-commerce players as potential partners to translate their content into commodity, these new actors fundamentally shifts the mentality of all ecosystem actors towards business strategies and monetization. The application of capital and technology by Capital Providers and E-commerce players is conceptualized as a Process Layering mechanism, inheriting the nature of the Addition mechanism (Sarker et al. 2012) where existing UGDC values are enhanced as the priorities of the ecosystem becomes redefined by the potential outlet of capital and revenue.

Potential Contribution & Limitations
The analysis is still ongoing, while this paper proposes three potential contributions. First, this study expands the contemporary understanding of UGC as the core product of digital content industry, shedding light on the economic value of self-generated content as part of creative and cultural industry (UNDP 2013). Second, the analysis demonstrates through the progression of ecosystem development that the creation of value, particularly economic value, is not defined by a specific instance in time; instead value is aggregated over prolong periods of collaboration. Consequently, this study conceptualizes Value
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Co-Creation as an actionable view on ecosystem strategy with a temporal dimension (Adner 2017), explicating the bottlenecks faced by the digital content industry, including a lack of 1) infrastructure to host the content and community, 2) institutional settings to promote the development of a health content industry for the public and 3) knowledge to extract the economic value of UGC. Third, the role of governance and censorship of content is a catalyst for diverging development of UGDC ecosystem in China which ultimately deriving variations in legal and social values. By explicating the role of government-linked associations, this study offers a potential solution to the much-discussed issue about balancing innovation and control amidst the heightened disruptions and transitions caused by technology. Our research will continue to unearth the dynamics between the phases and the evolvement of the ecosystem given that the expansion of the industry is still continuing with more and more content being generated, increasing the complexity of the UGDC ecosystem. For example, apart from working with the merchants through e-commerce players, our brief exchange with a lawyer who share his advice through a live streaming platform revealed different types of content value extraction including channel subscription, membership, online training and digital books. Further analysis of the data is also expected to understand the potentially negative aspects of the non-proprietary digital content industry.

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