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Content Creation in the Digital Economy: A Comprehensive Exploration and Investigation of Work Environment and Content Creators' Behaviours

YIN LIANG

Content Creation in the Digital Economy:

A Comprehensive Exploration and Investigation

of Work Environment and Content Creators' Behaviours

by

Yin Liang

under the supervision by

Professor Bernd Brandl

Durham University Business School, UK

Dr Jeremy Aroles

University of York, UK

Professor Peter Hamilton

Durham University Business School, UK

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Department of Marketing and Management

Durham University

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Abstract

With the emergence and rapid spread of digital technologies, the world is undergoing a profound transformation. The digital economy that has evolved as a result has fundamentally changed and impacted every aspect of society and business, and it will undoubtedly change and reshape employment and work from various perspectives as well. Flexibility and autonomy have always been the strong attraction that the digital economy provides to workers, but behind this hidden truth is the strict control of platforms and algorithms. This thesis seeks to further deepen the understanding of working in the digital economy through a series of studies ranging from the broad to the specific, especially on the work of a particular group of content creators.

This thesis contains four studies. Study 1 is a review paper that attempts to clarify the distinction between different concepts from the digital economy on a macro level. Studies 2-4 turn the perspective to a particular group of workers in the digital economy, the content creators. Study 2 uses two quantitative studies to theorise the characteristics of working on content creative platforms by developing a typology of these platforms. The third study was a systematic review to explore the power imbalance between platform algorithms and creators in content creative platforms. The fourth study employs a quantitative study that explores the impact of the platform work environment on the creators' behaviour from an individual perspective. This series of studies makes important theoretical contributions to the field related to employment relations in the digital economy context, especially content creative platforms, from both macro and micro perspectives. In addition, this series of studies provides practical implications for content creators, platforms and policymakers.

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Declaration

I declare that this thesis was composed by myself, that the work contained herein is my own, and that this work has not been submitted for any other degree or professional qualification. The empirical work is almost entirely my own work; the collaborative contributions have been indicated clearly. Due references have been provided on all supporting literatures and resources.

Statement of Copyright

The copyright of this thesis rests with the author. No quotation from it should be published without the author's prior written consent and information derived from it should be acknowledged.

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Chapter 1. Introduction[1]

1.1 Research Background

1.1.1 Rationale for Study

Digitalisation constructs a pathway for the transformation and expansion of the 21st century market economy. Through the combined influence of advancements in Information and Communication Technologies (ICTs), societal changes, new consumption patterns, and a heightened focus on sustainable development, the digital economy has gradually emerged and thrived (Ayres and Williams, 2004, Bai and Velamuri, 2021, Schor and Fitzmaurice, 2015). The ascent of the digital economy is a highly intricate and multifaceted phenomenon.

With the emergence of Web 2.0, there has been a proliferation of mass platform-based work (Satzger et al., 2013, Greengard, 2011, Battistella and Nonino, 2013). Two-way communications have become more manageable, enabling work requesters to access information at lower costs, while both the distribution and execution of production through the Internet have become significantly easier as compared to the past (Satzger et al., 2013, Greengard, 2011, Battistella and Nonino, 2013). Platform providers transfer a majority of the costs, risks, and liabilities to the other two parties involved (Jabagi et al., 2019) through various algorithms that govern transactions, including the matching of workers and potential clients (Duggan et al., 2020, Harris, 2017, Lehdonvirta, 2018, Newlands, 2021, Tassinari and Maccarrone, 2020). Workers and platforms, as well as consumers and platforms, are interconnected through digital contracts, which serve the

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[1]   The appendix to this chapter can be found in Appendix A.

dual purpose of enhancing platforms' control over workers and reducing platforms' liabilities and obligations in the event of issues (Stewart and Stanford, 2017).

In the context of the digital economy, algorithmic systems govern all transaction-related activities occuring on and through platforms. Platforms are regarded as intermediaries, with algorithms exerting a strong influence over workers' performance, in a manner that bears resemblance to principles of Taylorism of the late 19th century. This phenomenon is commonly referred to as platform Taylorism (Duggan et al., 2020, Kittur et al., 2013). Specific, small-scale, and short-term tasks are distributed to workers by platforms, with wages determined and settled uniformly by platforms. Workers' performances are ranked based on platform feedback systems, which play a decisive role in work allocation. Platforms become exploiters, utilizing algorithms to maximize productivity (Karatzogianni and Matthews, 2020). Although the digital economy is built on flatter organizational structures, aiming to minimize layers and maximize working efficiency, the power of the tripartite party structure does not operate on complete equality. Power imbalances make it more challenging for the voices of the weakest to be heard (Duggan et al., 2020). The most common working status in the digital economy is that of independent contractors, with trade unions struggling to develop in this isolated environment (Fleming et al., 2019), leaving workers' positions precarious. Platforms restrict various aspects of workers' well-being to maximize profit (Langley and Leyshon, 2017a, Fleming et al., 2019). Platform capitalism represents an extreme perspective on the digital economy (Fleming et al., 2019). The central tenet of this ideology suggests that the emergence of platforms deteriorates working conditions (Langley and Leyshon, 2017a), as platforms exercise control over labour by dominating data to extract benefits (Srnicek, 2017).

One of the positive aspects of the digital economy is its emphasis on participation, cooperation, and sharing, which serves as a counterpoint to information and property ownership, as well as exploitation (Andro and Saleh, 2017, Frenken, 2017). The peer-to-peer market transaction model has been widely adopted due to its ease of registration and lower barriers to entry. In the digital economy market, platforms of all sizes can participate, and anyone can become a worker in the digital economy. As the pool of workers becomes increasingly crowded, the gap between supply and demand widens, resulting in a further reduction in workers' welfare (Healy et al., 2017). Additionally, wage polarization intensifies, where a minority of top-performing workers can earn significantly higher incomes than the average wage level on platforms. Undeniably, it is crucial and urgent to pay attention to job quality for workers in the digital economy. Therefore, the series of studies presented below aims to further explore the issues related to job quality for workers in the digital economy. Specifically, this series of research will approach the topic from the perspective of content creators, examining the work environment within content creative platforms and discussing issues related to the work behaviour of content creators.

1.1.2 Content Creative Platforms

As an integral component of the Digital Economy, the rapid proliferation of high-speed internet connectivity and personal computing devices (e.g., personal computers, phones, tablets) has fostered ubiquitous online interactions. Platforms create a virtual landscape for communication between individuals that transcends geographical boundaries, and thus a digital ecosystem characterized by interactivity and participation is developed. Based on the varying objectives of platforms, distinct concepts associated with content creation emerge.

A widely adopted conceptual framework encompassing a collection of platforms is known as 'social media'. Social media, founded upon the technological underpinnings of Web 2.0, centralizes user-generated content creation and interaction as the core activities for users engaging with such platforms (Kaplan & Haenlein, 2010). Given the intricacy of these platforms, Kaplan and Haenlein (2010) categorized them into six distinct types based on two dimensions: 'social presence/media richness' and 'self-presentation/self-disclosure.' The expansive definition of social media seems to underscore the prominence of user-generated content and the richness of communication. While there is an evident overlap with the concept of content creative platforms explored in this thesis series, there are differences in the specific focus of the respective concepts. Specifically, in contrast to the social media concept, the content creative platforms explored in this thesis view content creation as a labour process.. A defining characteristic of these platforms is their support for users to engage in various forms of content creation and share it on publicly accessible platforms. In light of this characteristic, platforms that solely facilitate user interaction or permit content sharing within closed virtual communities (e.g., WhatsApp) are excluded. Appendix 1 provides details regarding some content creative platforms.

Another relevant concept is that of 'influencers'. Social media influencers usually refer to content creators who have a large number of followers (Audrezet et al., 2020). They are able to understand the attitudes of their audience through content creation and therefore attract a lot of attention from brands (Harrigan et al., 2021). With the continuous advancement of digitization, a multitude of internet/online celebrities, known as 'influencers,' has emerged. A considerable body of scholars in the field of marketing has explored topics such as how to identify influencers (Harrigan et al., 2021) or compared the roles of influencers and celebrities in brand promotion (Schouten et al., 2021). In other words, the concept of influencers appears to play an indispensable role in the realm of digital

marketing activities. Although influencers are evidently a subset of content creators, the focus of this study extends beyond the attention-garnering 'influencers' group. Instead, it encompasses the broader population of content creators. This choice is driven by the research focus of this thesis, which centres on the work of content creators. Consequently, all platform users engaged in content creation should be considered, especially since the accomplished content creators who gain prominence (i.e., influencers) represent only a small fraction of the entire community of content creators. In other words, regardless of the level of visibility (number of audiences) that content creators have, once they post public content (typically including video, text, images, audio, etc.) on content creative platforms, they are considered as potential participants of the research in this thesis.

1.1.3 Working on and for Content Creative Platforms

Content creative platforms, as a unique cluster in the digital economy, encompass a wide range of goods and services broadly associated with cultural, artistic, and entertainment value (Bennett and Hennekam, 2018). This includes areas such as writing (Ertan et al., 2020), gaming (Teipen, 2008), blogging (Parry and Hracs, 2020), marketing, software development, design, architecture, urban development, and more (Bennett and Hennekam, 2018). It is important to consider the specificities of each area within the creative industries (Schorpf et al., 2017) to gain an understanding of how they fare under the auspices of the gig economy.

Working on content creative platforms presents some unique characteristics and aspects. From a worker behaviour's perspective, content can be shared for free, which can be seen as a form of pure sharing, or can be shared for rewards (monetary or non-monetary rewards), amounting to a form of pseudo-sharing. Sharing creative works on these platforms serves multiple purposes: it

expands the consumption of commodities across time and space, solidifies their position in popular culture, and fosters the development of the commons (Currah, 2007). However, the digitalization of content also makes it more susceptible to misappropriation. Information is both "non-rivalrous" and "non-excludable," meaning it can be consumed by multiple individuals sequentially or even simultaneously, and it is difficult to prevent non-paying individuals from accessing the resource (Currah, 2007). Therefore, a balance must be struck between commercialization and sharing. Excessive commodification and control can lead to the underutilization of creative works, while excessive sharing and freedom can risk the underproduction of creative works (Currah, 2007).

The working environment of content creators extends beyond a single organisation to encompass, virtually so to speak, the entire world. Despite the prevalent notion of the "end of geography" and the diminishing significance of distance in the digital age of globalization, the relationship between geography and careers remains integral to the creative industry (Alacovska et al., 2020). The resources, cultural climate, markets, potential audience, and ease of access to the Internet that large cities provide make creators more willing to create content in these cities. At the same time, the concentration of creators in big cities also attracts other creators, expecting to facilitate potential collaborations. Traditionally, workplaces serve as macro contexts that offer creative workers structural, economic, social, and symbolic resources to discover job opportunities, carry out their work, and sustain their careers. In this regard, metropolitan areas are often considered highly attractive due to their abundant labour markets, increased visibility in media coverage, and larger consumer bases (Montanari et al., 2020). However, in the early stages of their careers, creative workers may not have sufficient income to establish themselves in metropolitan areas. While these urban centres offer more opportunities, the high cost of living can burden workers and impede their ability to lead fulfilling lives. This includes enjoying good health, sufficient leisure time,

expressing care for others, and living a dignified and pain-free life. As creative workers progress in their careers, they gradually realize that success is not achieved overnight and that metropolitan living can reduce their quality of life. Some may choose to abandon creative work altogether and seek stable, high-income jobs to survive in the city, while others may migrate to smaller cities with lower living costs to continue pursuing their dreams (Alacovska et al., 2020). Both large and small cities can be regarded as potential sources of cultural, symbolic, and social stimulation from which creative workers draw inspiration when creating unique products or services (Montanari et al., 2020). The unique characteristics of the work of content creative platforms make it particularly interesting and meaningful to investigate.

Content creators rely on creativity as the main component of their work, generating products and services in the form of virtual content (Montanari et al., 2020). For Banks and Hesmondhalgh (2009), creative labour entails producing unique and distinctive goods that are primarily aesthetic and/or symbolic-expressive in nature, rather than being utilitarian or functional. Indeed, the participation of creative workers in the creative industries is often driven by factors beyond purely economic considerations. Unlike some other industries, entry into the creative field is typically not motivated by the pursuit of high salaries or stable job expectations. Instead, it attracts individuals who are passionate about their craft or have a strong desire for innovative and expressive work (Bennett and Hennekam, 2018). Creative industries provide a space for individuals to explore their artistic abilities, engage in self-expression, and pursue their creative passions. In the creative industry, traditional employment structures with a fixed income are not always the norm (Schorpf et al., 2017). Creative workers tend to prioritize the quality and integrity of their work over monetary returns. Even when their creative content is sold or utilised, they often feel a sense of ownership and pride in their contents (Nemkova et al., 2019b, Schorpf et al., 2017). Huws (2010)

argues that aspects such as the content of the work, the desire for public recognition, and personal reputation play a role in the negotiation process between creative workers and employers. This perspective is supported by a survey conducted on design professionals (Nemkova et al., 2019b). While economic needs may initially drive content creators to join digital platforms, for many of them, internal motivations take precedence. They seek a high degree of personal autonomy and strive for authentic experiences to foster their professional growth (Rosso et al., 2010). The complex work motivation of content creative workers poses challenges for platforms in terms of motivating and controlling workers.

As compared to other platform workers, the income, status, and working conditions of content creators exhibit greater diversity (Ertan et al., 2020). A significant characteristic of creative work is the presence of high-income inequality and differentiation, coupled with a considerable number of variables, such as pay components, linked to market success (Teipen, 2008). Upon initially joining the platform, most workers do not receive minimal returns, and the delayed nature of returns necessitates careful planning of their work while considering future career development. Some workers may opt to undertake additional work to ensure a stable income and alleviate the insecurity stemming from the uncertainty of their digital work's success (Wright, 2015a). For content creators on these platforms, given the oversupply of labour, many experience limited or no income. However, if workers perceive the potential for future earnings growth, they are more likely to accept their current income levels (Schorpf et al., 2017). Some creators hold the belief that their work is highly creative and anticipate substantial returns in the future. Extended periods without returns can lead to negative feelings of being underutilized and underpaid. On the other hand, some workers view creative work as a hobby pursued during their free time, deriving meanings and rewards beyond monetary compensation (Ertan et al., 2020).

Creative workers behave like entrepreneurs, with the goal of creating a personal brand based on their skills and talents (Ertan et al., 2020). They are happy to accept the centrality of work in life – long working hours being an expression of enthusiasm for work. They aim to foster a long-term relationship with audiences by maintaining strong communications throughout (Nemkova et al., 2019b). Creative workers will commercialize their capabilities and potential in the labor market and within the company. An important factors that determines the behaviour of workers in this type of work is personal reputation, which is a vital currency in project-based industries (Townley et al., 2009). One way to build a reputation is to provide free work (Wright, 2015a). In the early stage of workers entering the platform, a large amount of unpaid content will be produced, which is a means for workers to attract audiences and improve their reputation.

1.1.4 Social capital and motivation

Social capital is '*the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition*' (Bourdieu and Wacquant, 1992, p. 14). Nahapiet and Ghoshal (1998) suggest that social capital should not be limited to the relational dimension (i.e. the connections that people make with others through history or interactions), but should also be concerned with the structural (i.e. the connections between social systems and the entire network of relationships) and cognitive (i.e. the shared understanding of the meaning of intellect, facts, and so on) dimensions. The existence of social capitals implies the existence of a collective network of connections between individuals (Lin, 2000). Digitalisation has changed the ways in which individuals relate to each other and the strategies they use to do so, and platforms act as a lubricant for individuals' exchanges (Ellison et al., 2011). Digitalisation has made it easier to create social

capital by overcoming geographical boundaries (Enders et al., 2008). Platforms act as intermediaries connecting platform participants, creating opportunities that did not exist before (Lehdonvirta and Bright, 2015) and facilitating platform-based social networks (Tóth et al., 2022). In the Digital economy, there is limited transferability of different types of social capital between and outside of platforms (Tóth et al., 2022). Most platforms use algorithms to limit direct communication between users outside of the platform, as well as rating systems to limit the transferability of user reputations between platforms. This is a huge difference from traditional employment relationships and can have a negative impact on potential long-term collaborations.

Content creative platforms bring together content creators to create new value (Enders et al., 2008). Through content creative platforms, creators can connect with potential contacts or strangers and create great potential for online networking. Platform users can create information (active engagement) or get information (passive engagement) through the platforms and keep in touch with other users, thereby increasing social capital (Burke et al., 2011; Shao and Pan, 2019). Similar to other types of platforms in the digital economy, content creative platforms control the social capital of creators through algorithms. on the one hand, algorithms can guide creators to publish the platform's preferred content by controlling the visibility of the content. On the other hand, content is algorithmically distributed to different platform users, creating a bridge between heterogeneous platform users. However, since there is no one-to-one interaction on content creative platforms, these platforms are also unique in that content creators can use the same content they have created on different platforms, which will also increase the transferability of the content to a certain extent.

Shao and Pan (2019) showed in a Chinese context that accumulating social capital is one of the potential triggers for active engagement by platform users. In fact, the triggers influencing content creators to create content are very complex. Some content creators view content creation as a hobby or self-expression rather than a way to gain financial rewards (Lee et al., 2023), and some creators view it as part of their professional development and are committed to using their content for commercial purposes (Riboni, 2017). In practice, the creative motivations of content creators can be more complex, both horizontally and vertically. Specifically, content creators may be motivated by both intrinsic motivation and extrinsic motivation when creating content; or creators may initially join the platform for intrinsic motivation, but over time the visibility of the content created by the creators increases, thus giving the creators the possibility of relying on the content for financial rewards, and subsequent content creation by creators is partly driven by financial factors (extrinsic). This may be related to the objectives of content creators. Professionally oriented content creators will cite reputation and trust as key factors for success (Lee et al., 2023). It is important and interesting to explore the balance of intrinsic and extrinsic motivations of content creators.

1.1.5 Algorithm and content creative platform users

Similar to other platforms in the digital economy, algorithms likewise have a profound impact on content creative platform users.Platforms analyse data from platform users by observing them and using this to generating personalised content visible to platform users (Graham and Henman, 2019; Hampton, 2016; Wilson-Barnao, 2017). Thus, platform users are both observing and being observed (Hampton, 2016). Content creative platforms use a range of strategies to rank content creators and manipulate the visibility of content based on that. Typically, more popular content

receives greater visibility (Proferes and Summers, 2019), which is known as popularity bias. However, popularity bias is inconsistent, which means that in some cases unpopular content also receives " abnormally" high visibility, while other factors (e.g., characteristics of the content or the behaviour of the creator) may also affect visibility (Aggrawal and Arora, 2019).

There is an unavoidable asymmetry between observing and being observed by platform users, and thus the understanding of visibility needs to be complicated (Blagaard et al., 2017).Visibility is fundamentally intertwined with power and technology, and it is not only related to whether content is visible, but also how it is visible (i.e., the constraints on content visibility) (Brighenti, 2010; Neumayer et al., 2021). Through the use of algorithms, platforms have the privilege of controlling the visibility of content creative platforms. By partially disclosing certain facts about the algorithms, the platform undermines the confidence of content creators in their understanding of certain algorithms, thus enabling the possibility of manipulating visibility (Cotter, 2023). In fact, platforms use algorithms to create a regime. In this regime, algorithms are perceived as market rationality, and content creators plan their future behaviour through the metrics provided by the algorithms in order to increase their visibility (Gilani et al., 2020; Schöps et al., 2022).

Although algorithms are difficult to understand, creators can attempt to explain algorithmic logic and workings through a backwards understanding of visibility-related metrics (Büchi et al., 2023; Cotter, 2023; Kitzie, 2019). Some folk theories are formed as a result.Content creators who understand more folk theories feel more confident about gaining greater visibility (Gaenssle and Budzinski, 2021). Creators consciously use folk theories to manipulate algorithms, but this manipulation is usually not always effective (Schwartz and Mahnke, 2021) due to a combination of the instability of folk theories and platform authority. Additionally, algorithms are not absolutely

accurate as most creators believe. However, it is interesting to note that even though creators are aware of the negative effects of algorithms, they do not exit the platform easily, but continue to use it for different motives (Schwartz and Mahnke, 2021).

1.1.6 Research Scope

Undeniably, content creation is one of the most captivating professions in the digital age. Prior to embarking on my PhD research, I served as a content creator on various Chinese platforms (e.g., Red, Weibo, and Bilibili), where I engaged in the creation and dissemination of content. Throughout this period, I gained a profound appreciation of the intriguing, intricate, and uncertain nature of content creation-related work. Despite appearing as the driving force behind the content creation process, over time, I unconsciously adhered to a certain "platform ideology." Although my motivation for content creation was not driven by rewards but rather by assisting others, I found myself compelled to optimize my content based on algorithmic preferences to ensure a greater chance of reaching a wider potential audience. Simultaneously, to maintain a regular uploading schedule (to satisfy both the audience and the hidden demands of algorithms), I found myself constantly surrounded by the pressures of work. Content creative platforms create a unique virtual space filled with possibilities but also challenges for creators.

Upon closely examining relevant literature, I discovered a dearth of systematic research exploring the work of content creators, particularly in terms of theorizing the characteristics of this platform work environment, explaining ideological development, and investigating the impact of the platform-specific work environment on creators' behaviours. The motivation behind initiating this series of studies is to explore the distinctive characteristics of content creators' work environment

and examine which features influence creators' behaviours. Therefore, the two main overarching research questions for this series of studies can be summarized as follows:

- *What are the characteristics of the digital work environment for content creators?*
- *How do work characteristics influence the behaviour of content creators?*

As depicted in Figure 1.1, the series of studies conducted in the context of this PhD can be divided into four parts, moving from broad to narrow. To examine the work environment of content creative platforms, the initial study explored the broader context of the digital economy. Subsequently, the focus of the research shifted to content creative platforms specifically and endeavoured to theorize the characteristics of these platforms by developing a typology. The third study focused on power imbalances within the work environment of content creative platforms, particularly the imbalance between content creators and platform algorithms. The first three studies essentially aimed to address the first overarching research question, namely *What are the characteristics of the work environment for content creators?* Thus doing, the first three studies laid the groundwork for investigating individual-related behaviours in the context of work. The final study concluded by examining the impact of platform work environment characteristics on creators' work behaviours, addressing the second research question, namely *How do work characteristics influence the behaviour of content creators?* The specific research questions explored in each study will be presented in the following section.

Deciphering the ideology behind
the digital economy

1. What is the difference of terms (namely crowdsourcing, sharing economy, gig economy and platform economy) under platform capitalism?
2. How can the divergence of these four terms be explained?

Outlining the macro structure of
content creative platforms

3. What are the features and categories of Content creative platforms?
4. What is the difference in the nature of content creators in different types of content creative platforms when it comes to content production?

Exploring the inequality of
power at work on content
creative platforms

5. How does algorithmic power shape the working features of content creators?

Focusing on the behaviour of
creators in relation to the
working characteristic of
content creative platforms

6. How does the quality of working life in content creative platforms affect the behaviour of content creators engaging in side-hustling?

Figure 1.1 Research Scope

1.1.7 Research Logic

At the beginning of the research, it was crucial to clarify the concepts related to the digital economy. This provided a comprehensive research background and helped to understand work in the digital economy. Studies pertaining to the digital economy often rely on exemplification rather than intentional definition; this is because the future of work is dynamic, and strict boundaries for each concept are non-existent (Huws et al., 2017). The absence of precise boundaries poses a challenge in developing an understanding of the digital economy. Therefore, the first aspect of this research aimed to differentiate between the four most prominent concepts in research on platform capitalism: the gig economy, the sharing economy, crowdsourcing, and the platform economy. Given the shared characteristics among these concepts, the primary and initial task of this study in the

platform economy was to establish a clear understanding of the specificities of the platform economy. This enabled a better description, grounding, simplification, and identification of research related to the digital economy (Codagnone, 2019). After summarizing previous research on the digital economy, the first topic of this research sought to compare and distinguish the four concepts. Additionally, significant attention is given to discussing the ideology behind the work in the digital economy. Specifically, this study raised two questions:

1. *What are the key characteristics of four key concepts (namely crowdsourcing, sharing economy, gig economy and platform economy) connected to platform capitalism?*

2. *How can the divergence between these four concepts be explained?*

This study delved into the complex neoliberal discourse that underlies platform capitalism. The core idea of neoliberalism is that entrepreneurship and private property, facilitated by a system based on free trade and free markets, can enhance human well-being (Fleming et al., 2019). Unrestricted markets are considered the most efficient systems in terms of resource allocation (Fitzmaurice et al., 2020), inevitably promoting digital inclusion. Governments should minimize their intervention in the market to ensure that platforms do not engage in market competition based on political signals (Fleming et al., 2019). This ensures creative autonomy, allowing platforms from all industries to enter the market, where both work requesters and workers can be organizations and individuals. However, these positive signals are built on the neglect of the core issue that plagues platform capitalism, namely, unstable work conditions (Montgomery and Baglioni, 2021). The equality between workers and platforms remains a utopian vision.

Due to the exponential growth of content creative platforms and the unique nature of work performed by content creators (as compared to other platforms), studying the quality of work in

content creation on content creative platforms is of great importance. Parry and Hracs (2020) have developed a typology for work-related blogging based on motivations, structures, and experiences, but it does not fully represent the entire landscape of digital content creative platforms (notably overlooking key platforms, such as live video streaming platforms). Therefore, it is meaningful to develop a typology for digital content creative workers. In the second part of this research, I aimed to provide a comprehensive overview of content creative platforms, taking into account the perspective of content creators' work. This study therefore sought to sketch the characteristics and classification of content creative platforms and the way creators identify their content creation related works, raising the following two questions:

3. *What are the key features and categories of content creative platforms?*
4. *What is the difference in the nature of content creation in various types of content creative platforms?*

Usually, employment in creative industries is celebrated as flexible, liberating and 'cool'. However, more detailed analysis of creative work suggests that the autonomous creative worker enjoying a 'boundaryless career' replete with excitement, flexibility and prestige appears less than convincing (Wright, 2015a). Similar to other platform workers, content creative workers face tremendous pressure. Creative workers cannot work with regular working hours; they often face long working hours, continuous availability, and pressure from weekend work (Wright, 2015a). For creative workers, time is a necessary and critical factor for creativity. However, time pressure limits the imagination of creative workers (Nemkova et al., 2019b). For example, influencers need to maintain regular updates to attract potential users and obtain platform resources. The generation of imagination is irregular, which leads to workers sometimes needed to be forced to complete the

content in insufficient time, which increases pressure and affects the quality of the content. In addition, platforms always set up a series of upgrades, badges or experience systems/algorithms to control workers. These systems/algorithms encourage freelancers to take specific actions, such as completing specific content projects, replying to comments on time, or publishing content regularly and consistently (Schorpf et al., 2017).

It is evident that platform capitalism also exists within content creative platforms. These platforms manipulate the visibility of the content produced by creators through complex and opaque algorithms, thereby exerting control over the work of content creators. Content creative platforms stand out from other platforms by giving creators a higher level of autonomy and the opportunity to participate in discussions about algorithms within virtual communities. This dynamic may create an illusion for creators that they can develop a reverse understanding of algorithms and effectively use them. Therefore, despite our exploration and discussion of platform capitalism in the digital economy in the first part of the research, it is meaningful and necessary to further investigate the complex and unique relationship between creators and algorithms within content creative platforms. Hence, the third part of this research series employed a systematic review methodology to elucidate the intricate relationship between creators and algorithms in content creative platforms, in order to understand this relationship from the perspective of power. Through a systematic review of relevant literatures, I sought to address the following question:

5. *How does algorithmic power shape the working features of content creators?*

After gaining a systematic understanding of the work environment on content creative platforms, this PhD thesis aimed to explore another core phenomenon prevalent in the gig economy within this context, namely side hustling. Amongst the many work modalities that have flourished in the

context of the gig economy, side hustling – platform-mediated, remunerated work activities conducted alongside full-time employment – has increasingly been gaining in popularity (Sessions et al., 2021). Specifically, this study aimed to investigate how factors related to the quality of working life, under the umbrella of job quality, influence creators' side-hustling behaviour. Job quality in content creative platforms has its own distinct characteristics. It encompasses both external (such as labour compensation and rewards) and internal meaning, which refers to autonomy, creativity, and other factors (Nemkova et al., 2019b). Within the domain of job quality, the fourth stage of the research aimed to investigate how the factors associated with the quality of working life can be employed to provide insights into the occurrence of side hustles on content creative platforms.

Quality of working life was an important research topic in the 1960s and 1970s. Although research on the quality of working life is now more fragmented, Grote and Guest (2017) suggest that a renewed focus on the quality of working life is essential as it can improve our understanding of the context, policy and practice of contemporary workers' wellbeing. Walton (1973), a leading academic in the field, identified eight 'conceptual categories' to describe the quality of working life, including adequate and fair compensation; a safe and healthy working environment; development of human capacities; growth and security; social integration; constitutionalism; consideration of the total living space; and social relevance. Grote and Guest (2017) revised the model of Walton (1973) to shift the focus of the applicable target from manufacturing to the service sector. The revised model emphasises the fragmentation of the workplace and the prevalence of individual initiative faced by the service sector in today's society. Grote and Guest (2017) added two new criteria, namely individual proactivity and flexible working. Individual proactivity emphasizes that the organization provides employees with sufficient autonomy to control their

activities without transferring all work responsibilities to them. It is motivated by employees' desire for autonomy and the benefits of exercising personal initiative (Parker et al., 2010). Flexible working, on the other hand, allows employees to organize their own work time and space. In particular, the fourth part of the research primarily focused on the influential factors of work on content creative platforms, specifically flexibility and autonomy, while also discussing other factors within the framework of quality of working life that may affect side hustle behaviour. The research question raised was as follows:

6. *How does the quality of working life in content creative platforms affect the behaviour of content creators engaging in side-hustling?*

1.1.8 The Interconnection between Studies

Figure 1.2 illustrates the intrinsic connections among the four studies encompassed in this thesis. As previously mentioned, this series of studies constitutes a process of progressively narrowing down from a broad understanding of the digital economy. However, the relationships between the studies are not characterized by simple linear correlations; instead, they are imbued with intricate mutual influences. To be specific, the research content covered in Study 1 (Chapter 2), Study 2 (Chapter 3), Study 3 (Chapter 4), and Study 4 (Chapter 5) is indicated using dashed lines in red, green, blue, and yellow, respectively, within the figure. This further visually illustrates the underlying connections between the studies.
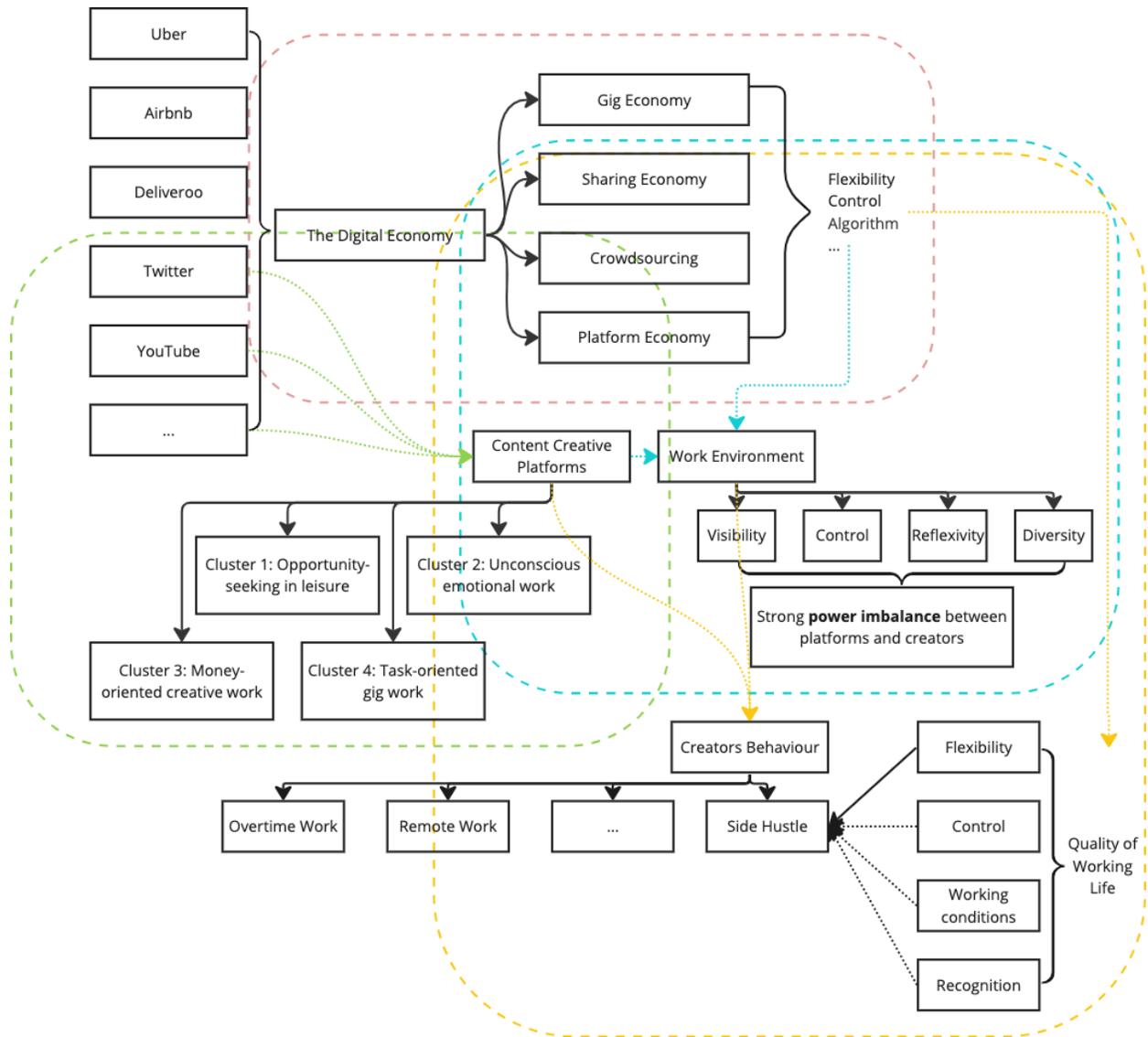
Figure 1.2 the interconnection between studies

Study 1 (in red) furnishes foundational knowledge and context pertinent to the digital economy. This includes delineating the characteristics of the digital economy, distinguishing key concepts, and elucidating the ideologies behind the concepts. This establishes a fundamental starting point for comprehending subsequent chapters. Building upon the understanding of digital platforms acquired in Study 1, I selected a specific subset of digital platforms as the focal point for my ensuing research, namely, content creative platforms. Study 2 (in green) endeavors to typologize

this category of platforms and, on this basis, seeks to expound upon the intricate nature of how content creators engage with these platforms. This serves to further address and explicate the different ideologies prevalent in the digital economy discussed in Study 1, such as platform capitalism and neoliberalism.

With a deepened understanding of content creative platforms, Study 3 (in blue) is dedicated to further exploring the work environment of this specific cluster of platforms within the digital economy, in which creators seem to have strong autonomy over the content of their work and the arrangement of their work. It delves into an exhaustive explanation of the power imbalances that exist when working on content creative platforms, which aligns with the broader background knowledge results established in Study 1. However, it underscores that these power imbalances manifest markedly differently when compared to other forms of work in the digital economy, particularly emphasising the unique role algorithms play in the work of content creators.

Finally, having elucidated the background knowledge and work environment of the digital economy, particularly content creative platforms, Study 4 (in yellow) shifts the focus to the individual. It accentuates the ever-changing nature of work in the digital economy and explores the concept of 'side hustle' nurtured within this dynamic work environment. It investigates the quality of working life within this context. Evidently, the transformations in content creators' engagement in side hustling are influenced by the complex ideologies discussed in Study 1.

1.2 Research Design Overview

This series of studies consists of one narrative review paper and three empirical papers, focusing on content creators working on digital platforms. A combination of quantitative and qualitative

research was used in this series, with online content analysis, survey and qualitative systematic review. Specifically, online content analysis was applied in the second study, survey in the second and fourth studies, and systematic review in the third study.

Given the highly heterogeneous work environment of content creative platforms, the first empirical study (Research 2) employed a combined approach of quantitative research to collect data from both platforms (online content analysis) and creators (survey). This comprehensive approach aimed to provide an in-depth portrayal of the work environment and characteristics of content creative platforms. In the second empirical study (Research 3), a qualitative systematic review was conducted to explore the relationship between creators and algorithms from the perspective of power dynamics. Lastly, the final empirical study (Research 4) used quantitative analysis (survey) to test a series of hypotheses regarding the relationship between platform characteristics and creators' side hustling activities.

Specifically, the data for online content analysis consisted of all the platforms included in the top 100 platform list for each category as listed in the Apple App Stores in the UK, the US and China in 2021. Specifically, the Apple App Store classifies platforms into 23 categories (e.g., Education, Entertainment, Lifestyle, Business), so I screened a total of 6,900 platforms, i.e. the top 100 in each of the 23 categories from the three countries. Since the Apple App Store allows multiple categories for a single platform and the same platforms exist in the platform list of the Apple App Stores in different countries, a large number of duplicates were removed. In addition, only platforms that allowed users to post content in the public online space that could be accessed by other platform users were identified as content creative platforms and taken into consideration. Finally, 143 platforms formed part of the final sample for this study. Once the samples were

identified, I collected data on each platform's characteristic and features (e.g. platform size, whether the platform offers comments/like features, etc.). The final retained samples can be found in Appendix 2. Additionally, the descriptive analysis of those platforms can be found in Appendix 3.

The survey data is used in studies 2 and 4. Data was collected from content creators living in the UK, the USA, China and other European countries. The collection of the survey data took place between January and March 2022 and was administered online through Qualtrics, with the Chinese version available to all respondents living in China and the English version available to respondents residing in the UK, USA and other European countries. The content of the questionnaire covered issues such as Qualities of the Working Life, demographic information, etc. I contacted potential respondents through the message feature of content creative platforms and invited them to fill in the survey by opening the corresponding questionnaire link (English/Chinese). In the end, the study collected 1,017 responses. Of these, 535 respondents were identified as content creators, representing approximately one-half of the total number of respondents. The descriptive analysis of survey samples can be found in Appendix 4.

In the second study, I focused solely on content creators residing in the UK, the US, and China, in line with the geographical focus of the online content analysis. However, in the fourth study, I expanded the focus to include responses from content creators residing in European countries. This broader and more diverse sample size was deemed beneficial for detecting the hypotheses examined in the fourth study. The details of the questionnaire design can be found in Appendix 5 (English version) and Appendix 6 (Mandarin version). In addition to the questions used in studies 2 and 4, the questionnaire also included measurements for the variables of Motivation, Prosocial

behaviour, Powerlessness, and Work-life balance. These data will be used in future studies as extensions of this series of research.

The qualitative systematic review data was used in the third study. In the early stages of the data collection, I identified the search keywords by reading relevant literature and discussing with other researchers, including (i) keywords related to algorithms (e.g. algorithm, etc.), and (ii) keywords related to content creators (e.g. YouTuber, etc.). The details of search codes can be found in Appendix 7. Data collection took place in October 2022. To ensure that as much of the relevant literature as possible was covered, this study used three databases, namely Scopus, Web of Science and EBSCO Business Source Ultimate. The search was then limited to business or management in peer-reviewed journals published in English, initially obtaining a total of 2,859 records. In the records, duplicates were removed and only articles published in the Chartered Association of Business School list journals were retained for quality assurance purposes. The sample size was reduced to 1,039. Subsequently, a two-round screening process was conducted. In the first round, the study determined the relevance of the articles to the theme by using the article title, abstract and keywords. Only articles that (i) clearly identified the algorithm provided by the platform as the main focus and (ii) the content creators were the research subjects or stakeholders of the article were taken into consideration. At the end of the first stage of screening, 64 articles were retained for the second round of screening. The second round of screening was based on the full text of the article. After reading the full text of the articles, the relevance of the articles was judged and a sample of 47 articles was included in the study.

1.3 Contribution Distribution

Due to the nature of this thesis being based on papers, in this section, I provide a detailed explanation of my contributions for each paper. Overall, my responsibilities covered various aspects, including research design, data collection, data analysis, and paper writing, among others. I completed the majority of the work under the guidance of my supervisors for this series of studies. The specific allocation of tasks is outlined in Table 1.1.

Table 1.1 Authors' Contribution Based on Paper

Papers	Authors in order	Relationship with thesis author	Contributions
Paper 1	Yin Liang	Thesis author	Review literatures; Research design; Write up the paper.
	Dr. Jeremy Aroles	Supervisor	Guide the research design, structure and direction; Polish up the paper.
	Professor Bernd Brandl	Supervisor	Guide the research design, structure and direction; Polish up the paper.
Paper 2	Yin Liang	Thesis author	Review literatures; Research design; Collect data; Analyse data; Write up the paper.
	Dr. Jeremy Aroles	Supervisor	Guide the research design, structure and direction; Guide for data analysis; Polish up the paper.
	Professor Bernd Brandl	Supervisor	Guide the research design, structure and direction; Guide for data analysis; Polish up the paper.
Paper 3	Yin Liang	Thesis author	Lead the project collabrated with co-authors from external institution; Review literatures; Research design; Collect data; Analyse data; Write up the paper.
	Jiaming Li	Co-author from external institution	Collect data; analyse data; write up part of the paper.
	Dr. Jeremy Aroles	Supervisor	Guide the research design, structure and direction; Guide for data analysis; Polish up the paper.
	Dr. Edward Granter	Co-author from external institution	Guide the research design, structure and direction; Guide for data analysis; Polish up the paper.
Paper 4	Yin Liang	Thesis author	Review literatures; Research design; Collect data; Analyse data; Write up the paper.

Dr. Jeremy Aroles	Supervisor	Guide the research design, structure and direction; Guide for data analysis; Polish up the paper.
Professor Bernd Brandl	Supervisor	Guide the research design, structure and direction; Guide for data analysis; Polish up the paper.

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Chapter 2. Charting Platform Capitalism: Definitions, concepts and ideologies[2]

Abstract

The term 'platform capitalism' captures a dynamic set of new work modalities that are mediated by platforms and have been brought about through advances in Information and Communication Technologies, adjustments in consumption modes and preferences, and changes in how work is conceived. Beyond work-related changes, the ascent of platform capitalism reflects wider societal, political as well as economic changes. While research on platform capitalism and its manifold manifestations abounds, there is a lack of consensus in the literature regarding its key features and characteristics. Seeking to provide conceptual clarity and to contribute to efforts of theorisation, we here analyse four main facets of platform capitalism, namely crowdsourcing, sharing economy, gig economy and platform economy. We review key definitions of each term and provide an overview of their distinctive features. This allows us to identify both similarities and differences in the framing of these four terms. We also delve into the ideologies underlying these four terms, thus providing a critique of the neophilia characterising the discourse framing platform capitalism.

Keywords: Platform capitalism; Crowdsourcing; Sharing economy; Gig economy; Platform economy; Ideology

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[2] This chapter was published in *New Technology, Work and Employment.*

2.1 Introduction

Digitalisation can certainly be seen as the fuel for the transformation and expansion of the market economy in the 21st-century (Aroles *et al.*, 2019). Under the combined effect of advances in Information and Communication Technologies (ICTs), wider societal changes, and new modes of consumption, platform capitalism gradually emerged and flourished (Srnicek, 2017a). The concept of platform capitalism, in essence, places '*the platform' at the centre of critical understandings of digital economic circulation*' (Langley and Leyson, 2017: 13). The ascent of platform capitalism is a highly complex and multifaceted phenomenon. Platform capitalism has been researched from a wealth of disciplinary – work and employment, sociology, computer science, innovation – and conceptual angles, resulting in both a proliferation of research on this topic and an adjacent relative lack of conceptual clarity. This points to a need to develop detailed and precise descriptions of the main tenets of platform capitalism.

Here, we aim to contribute to further clarifying the remits of platform capitalism by focusing on four of its main facets, namely *crowdsourcing*, *sharing economy*, *gig economy*, and *platform economy*. Although these four terms are all premised on the emergence of Web 2.0, the subsequent development of digital platforms as well as a wide array of cultural, economic, financial and political changes, they present significant differences that clearly set them apart. These differences are particularly noticeable when considering the socio-economic background and context behind their development. Yet, these terms tend to be used interchangeably, as their respective meanings are conflated. We here concur with Codagnone and Martens (2016: 17) who argue that existing definitions are mostly 'ostensive' (by pointing and exemplifying) rather than 'intentional' (connotative), thus calling for further conceptual clarity. This is a significant issue

that, we contend, limits our ability to theorise and elaborate on these facets of digital capitalism and *ad infinitum* contributes to the linguistic brouhaha that surrounds discussions on the 'new' world of work.

Clariying these terms is not only conceptually important, but is also a timely task as these feature prominently not only in academic journals, but also in practioner outlets and in the media which tends to further obfuscate their meaning. Against this background, this paper provides an overview of the four facets of platform capitalism mentioned above (namely crowdsourcing, sharing economy, gig economy and platform economy), presents their core features and highlights elements of disagreement in the literature. It then touches upon the question of ideology and critically explores the role of the discourse of novelty in the materialisation of platform capitalism. In addition, clarifying the four concepts of digital economy and exploring the ideologies behind them can also help researchers further understand algorithmic exploitation, which is an important component of platform capitalism.

2.2 Navigating through definitions and concepts: Four facets of platform capitalism

2.2.1 Crowdsourcing

The term 'crowdsourcing' was coined by Howe (2006a) to describe an emerging type of outsourcing: '*the act of taking a job traditionally performed by a designated agent (usually an employee) and outsourcing it to an undefined, generally large group of people*' (Howe, 2006b). While the term itself might be less than 20 years old, the concept of crowdsourcing is clearly not new. As early as 1714, the British government offered £20,000 to whoever could help solve the 'Longitude Problem', thus relying on the general public (Saxton *et al.*, 2013; Hossain and Kauranen, 2015). In 1884, the Oxford English Dictionary recruited some 800 readers to categorize

words (Hossain and Kauranen, 2015). In the 1990s, individuals and institutions began volunteering spare computing cycles to help solve major research projects (Greengard, 2011). With the development of ICTs, a new type of Internet-based crowdsourcing emerged, the most iconic of which being Wikipedia. Members of the public can also share, in online databases, scientific data that they collected or processed themselves – citizen science (Bonney *et al.*, 2014). These various examples show that crowdsourcing is premised on the well-established idea that crowds can solve problems beyond the capabilities of experts (Levy, 1997; Hossain and Kauranen, 2015).

The story behind the term crowdsourcing is more complex than first appears. Wolfgang von Kempelen, a highly skilled Hungarian mechanic, built in 1769 the 'Automaton Chess Player' with which he toured throughout Europe. In essence, this automaton is just an elaborate scam which relies on subtle design: a human chess master is hidden in the 'chess robot', and manipulates its actions, thus creating the illusion that the robot is an unbeatable artificial intelligence (Dudley and Tarnoczy, 1950). In fact, it is human intelligence that truly powers the automaton. This invention, called the 'Turk' or 'Mechanical Turk', inspired Amazon in the naming of to its crowdsourcing website, which unveils another facet of crowdsourcing. The concept of crowdsourcing is thus wide ranging, resulting in the development of a multitude of different definitions. Table 2.1 presents some of these definitions.

Table 2.1 Illustrative definitions of crowdsourcing

Definition	Reference
'The act of taking a job traditionally performed by a designated agent (usually an employee) and **outsourcing it to an undefined, generally large group of people** *in the form of an open call.'*	(Howe, 2006b)
'A type **of participative online activity** *in which an individual, an institution, a non-profit organization, or company proposes to a group of individuals of varying knowledge, heterogeneity, and number, via a flexible open call, the voluntary undertaking of a task.'*	(Estellés-Arolas and González-Ladrón-De-Guevara, 2012: 197)

*'The act of **outsourcing tasks originally performed inside an organisation**, or assigned externally in form of a business relationship, to an undefinably large, heterogeneous mass of potential actors. This happens by means of an open call via the Internet for the purpose of free, value creative use.'*	(Hammon and Hippner, 2012: 163)
*'**A new paradigm for performing computations** in Web-based environments by utilizing the capabilities of human workers.'*	(Satzger *et al.*, 2013: 547)
*'A **sourcing model** in which organizations use predominantly advanced Internet technologies to harness the efforts of a virtual crowd to perform specific organizational tasks.'*	(Saxton *et al.*, 2013: 5)
*'A new level of outsourcing, in that rather than offshore jobs to low-cost locations, companies can **outsource functions once performed by employees to an amorphous and generally large pool of individuals** using an open call over the Internet.'*	(Bergvall-Kåreborn and Howcroft, 2014: 215)
*'The **outsourcing of work to a large group** through an open call made possible through advances in technology.'*	(Barnes *et al.*, 2015: 17)
*'A form of outsourcing, although it typically does not require a formal contraction which is found in **outsourcing tasks to an external organization specialized in that task to perform**. Crowdsourcing is also meant to reach a wider range of people, which may sometimes be required to get a solution correctly and efficiently.'*	(Hosseini *et al.*, 2015: 44)
*'**Outsourcing, over the Internet, of tasks**, which were typically done by employees of a company, to an undefined group of potential contractors.'*	(Schörpf *et al.*, 2017: 44)
*'The practice of **soliciting work from a 'crowd'** via an open call on the Internet.'*	(Lehdonvirta, 2018: 14)

The expansion of the internet and ICTs have significantly fueled the surge of crowdsourcing; with Web 2.0, two-way communications have become easier to manage, work requesters can access information at lower costs, and production can be distributed and conducted online more easily than previously (Greengard, 2011; Battistella and Nonino, 2013; Satzger *et al.*, 2013). At the onset of the shift from outsourcing to crowdsourcing, open-source movements initiated almost a 'cultural shock' as in the majority of cases, crowds contributed to the public good for free (Kogut and Metiu, 2001; Barnes *et al.*, 2015). Crowdsourcing allows citizens' knowledge to flow into a platform. In turn, the platform acquires knowledge and access to outstanding talents without having to hire employees. This process bears similarities to the concept of open innovation

proposed by Chesbrough *et al.* (2006) who contend that the inflow of 'external knowledge' will accelerate internal innovation and further expand the market. Gassmann *et al.* (2010) pointed out that the development of ICTs has fostered open innovation, which then spread to more mainstream industries, including software and electronics (Chesbrough, 2003).

Following the large-scale application of crowdsourcing in various industries, financial compensation appeared and gradually became commonplace (Barnes *et al.*, 2015), but there was never a clear consensus as to whether crowdwork should be remunerated (Hammon and Hippner, 2012; Hossain and Kauranen, 2015), and if so, how (Felstiner, 2011). Arguably, the introduction of financial incentives changed crowdsourcing, the remits of which are debated in literature, even though comparative research has shown that crowdsourcing requesters are predominantly organizations (Satzger *et al.*, 2013; Saxton *et al.*, 2013; Hossain and Kauranen, 2015). Examples of individuals acting as requesters are very uncommon in the literature (Kleemann *et al.*, 2008). Table 2.2 provides an overview of the main features of crowdsourcing, highlighting the main conceptual differences found in the literature.

Table 2.2 Main features of crowdsourcing

	Main Features
Work	
Broad understanding	Crowdsourcing does not need an active shift from current employees (or again, contractors) to the crowd; it can start with the crowd (Howe, 2006a)
	Different levels of skills required (Felstiner, 2011)
	Human process tasks that are difficult to implement in software (Satzger *et al.*, 2013)
	A wide range of pay levels (Hammon and Hippner, 2012; Hossain and Kauranen, 2015)
Narrow understanding	A job traditionally performed by a designated agent (usually an employee) (Greengard, 2011; Satzger *et al.*, 2013; Schörpf *et al.*, 2017)
	Content creation, problem solving and corporate R&D (Brabham, 2008; Kleemann *et al.*, 2008). Usually innovation related work (Saxton *et al.*, 2013)

	Compensated at piece rate (Felstiner, 2011)
	Using workers' spare resources (Kleemann *et al.*, 2008)
Platform	
Broad understanding	Web-based environment (Brabham, 2008; Satzger *et al.*, 2013; Saxton *et al.*, 2013; Barnes *et al.*, 2015)
Narrow understanding	Web 2.0 (Hammon and Hippner, 2012)
	Intermediary (Battistella and Nonino, 2013; Hossain and Kauranen, 2015; Schörpf *et al.*, 2017); mediator (Hirth *et al.*, 2013)
Workers	
Broad understanding	Large network of potential labours (Djelassi and Decoopman, 2013)
	Open call (Djelassi and Decoopman, 2013; Barnes *et al.*, 2015)
	General public (Kleemann *et al.*, 2008)
Narrow understanding	Undefinably large, heterogeneous mass of interested internet users (Hammon and Hippner, 2012)
	Amorphous collection of individuals sitting in front of computer screens (Felstiner, 2011)
	Diversity, largeness, suitability of independent contractors (Pongratz, 2018)
	Undefined, non-professional and heterogeneous virtual crowd (Saxton *et al.*, 2013)
Requesters	
Broad understanding	Requesters are mostly companies, but other project initiators cannot be excluded (Hammon and Hippner, 2012)
Narrow understanding	Company or organisations (Satzger *et al.*, 2013; Saxton *et al.*, 2013; Hossain and Kauranen, 2015)
	Profit-oriented firm (Kleemann *et al.*, 2008)

2.2.2 Sharing Economy

The expression 'sharing economy' was coined by Lessig (2008) to emphasize the act of sharing and exchanging resources without operating a formal transfer in ownership (Puschmann and Alt, 2016). More specifically, sharing can be defined as '*the act and process of distributing what is ours to others for their use and/or the act and process of receiving or taking something from others for our use*' (Belk, 2007: 126). In that sense, it is very much premised on the notion of peer-to-peer collaboration and, by extension, peer-to-peer consumption (see *Parguel et al.*, 2017). While some have suggested that transactions in the sharing economy could happen between individuals

and businesses (Puschmann and Alt, 2016), others have argued that this would amount to micro-entrepreneurship rather than sharing (Codagnone and Martens, 2016).

Here again, the notion of sharing is not new and is premised on a much older 'quid pro quo' logic. An 'early' and well-known example is 'car-sharing', an initiative launched in 1948 in Zurich under the operation of community-based, not-for-profit cooperatives (Codagnone and Martens, 2016). As in the case of crowdsourcing, the development of ICTs played an important role in the evolution of the 'sharing economy', as it fostered new possibilities of sharing, thus materialising the so-called 'sharing turn' (Grassmuck, 2012). Changes in consumption also greatly facilitated the development of the sharing economy, most notably with a move from 'owning' to 'accessing' (Hamari *et al.*, 2015; Bai and Velamuri, 2020). Some saw in the sharing economy a way of addressing ecological and societal concerns, including carbon and eco-footprints (Hamari *et al.*, 2015; Schor and Fitzmaurice, 2015). Importantly, various framings of the concept of sharing economy have emerged (Arvidsson, 2018). Table 2.3 presents indicative definitions of the term 'sharing economy'.

Table 2.3 Illustrative definitions of the sharing economy

Definition	Reference
*'Of all the possible terms of exchange within a sharing economy, the single term that isn't appropriate is money…. as with any economy, the sharing economy is **built upon exchange**. And as with any exchange that survives over time, it must, on balance, benefit those who remain within that economy.'*	(Lessig, 2008: 78-95)
*'People coordinating the **acquisition and distribution of a resource for a fee or other compensation**'*	(Belk, 2014: 1597)
*'Consumers (or firms) granting each other temporary **access to their under-utilized physical assets** ('idle capacity'), possibly for money.'*	(Frenken *et al.*, 2015)
*'A peer-to-peer based activity of **obtaining, giving, or sharing access to goods and services**, coordinated through community- based online services.'*	(Hamari *et al.*, 2015: 2049)

'First, the new sharing economy is distinguished from previous forms of sharing by its ability to facilitate **sharing between strangers**, *rather than among kin or within communities. In contrast to monetized commodity exchange, sharing necessitates at least a modicum of social connection…. Second, practices comprising the sharing economy can be distinguished from previous forms of sharing by* **their strong reliance on digital technologies**…. *Finally, the contemporary sharing economy can be distinguished from other systems of sharing by the* **participation of high cultural capital consumers**. *Increasingly, such consumers are electing to share, rather than sharing out of necessity.'*	(Schor and Fitzmaurice, 2015: 16-18)
'The sharing economy is a very **heterogeneous group of online platforms** *that contains many new and very innovative economic and social activities that are hard to classify.'*	(Codagnone and Martens, 2016: 11)
'The economic system that uses online platforms to **connect workers and sellers with clients and consumers**, *primarily through smartphone applications.'*	(Harris, 2017: 269)
*'***A digital platform-enabled governance structure** *that aligns large-scale peer-to-peer transactions among economic actors for the episodic usage rights of decentralized private assets, which serve both private consumption and collective productive purposes.'*	(Bai and Velamuri, 2020: 3)

In recent years, new ways of sharing emerged and older ones were revisited. Following on from the 2009 recession, deploying unused assets for economic gain took on added appeal and schemes aimed at mobilising idle assets or capital exploded (Schor and Fitzmaurice, 2015). A new form of sharing – 'stranger sharing' – sprung up and developed rapidly (Schor and Fitzmaurice, 2015; Schor, 2016). In essence, it became the basis of our current understanding of the sharing economy. Schor and Fitzmaurice (2015) argue that the concept of sharing economy should also include exchanging services in which the intangible resource that individuals would lease is their time. Essentially, platforms then act as 'time banks', aiming to avoid the monetization of market transactions and making the relationship between parties more equal (Reisch and Thøgersen, 2015). Time banks date back to the 1980s; Seyfang (2004: 63) define time bank as '*a community currency, based upon time as a unit of value*'. Those platform workers who 'share' their time perform an action that is exchanged for value with work providers (Spohrer *et al.*, 2007).

Belk (2014) distinguishes between 'true-sharing' and 'pseudo-sharing'. At the onset, sharing was not for profit, thus constituting 'pure-sharing' (Lessig, 2008). With 'pure sharing', temporary access is required rather than ownership, and no compensation is offered during transactions. Departing from this type of platform, the overwhelming majority of recent sharing platforms are clearly commercially oriented (Codagnone and Martens, 2016) and therefore considered as 'pseudo-sharing'. This has led some to argue that the honeymoon of the 'sharing economy' is over (Codagnone and Martens, 2016) and that the sharing economy, as a concept, became a contradiction in itself (John and Sützl, 2016; Frenken and Schor, 2019). As such, the term 'sharing economy' is characterised by contradictory features and framings, the main features of which we present in the table below (see Table 2.4).

Table 2.4 Key features of the sharing economy

	Main Features
Resources	
Broad understanding	Both intangibles/services and tangibles/goods (Belk, 2010; Schor and Fitzmaurice, 2015; Puschmann and Alt, 2016; Newlands *et al.*, 2018)
Narrow understanding	Temporary access (Frenken *et al.*, 2015; Frenken and Schor, 2019)
	Shareable goods (Benkler, 2004)
	Physical assets (Frenken *et al.*, 2015)
	Non-monetary (Lessig, 2008)
	For a fee or other compensation (Belk, 2014; Frenken *et al.*, 2015)
Platforms	
Broad understanding	Internet (Belk, 2007; Schor and Fitzmaurice, 2015)
Narrow understanding	Intermediary (Puschmann and Alt, 2016; Frenken and Schor, 2019)
Workers	
Broad understanding	Business or individuals (Puschmann and Alt, 2016)
Narrow understanding	Individuals (Frenken *et al.*, 2015; Hamari *et al.*, 2015; Duggan *et al.*, 2020)
	Independent contractors (Newlands *et al.*, 2018)
Requesters	
Broad understanding	Business or individuals (Frenken *et al.*, 2015; Puschmann and Alt, 2016)

Narrow understanding	Individuals (Frenken *et al.*, 2015; Hamari *et al.*, 2015; Duggan *et al.*, 2020)

2.2.3 Gig Economy

The term 'gig' is a direct reference to the music industry. It dates back to 1926 and was essentially 'musicians' slang for an engagement at a single venue' (Dalzell and Victor, 2014: 986). This origin is indicative of the type of work – temporary, precarious and erratic – that the gig economy encapsulates. The expression 'gig economy' itself was coined in 2009 by the journalist Tina Brown (Brown, 2009), who is the founder and editor-in-chief of digital news site 'The Daily Beast'. The 'gig economy' is usually considered as a tripartite structured market system with digital platforms acting as intermediaries (Stewart and Stanford, 2017; Jabagi *et al.*, 2018; Duggan *et al.*, 2020; Tassinari and Maccarrone, 2020). In coordinating supply and demand, platform providers shift most of the costs, risks and liabilities to the other two parties (Jabagi *et al.*, 2018) through different algorithms that control transactions, such as matching workers and potential clients (Harris, 2017; Lepanjuuri *et al.*, 2018; Duggan *et al.*, 2020; Newlands, 2021; Tassinari and Maccarrone, 2020).

While the expression 'gig economy' is fairly new, the logic on which it is founded clearly isn't. For Kalleberg (2009), the gig economy finds its roots in precarious work. The shipping industry illustrates this point. As early as the 19th century, the rapid development of the shipping industry caused a large shortage of workers in the docks in the East End of London.
Two-thirds of dockers worked without knowing their schedule in advance owing to the flexibility of the time of entry and exit of ships. With the absence of efficient communication systems, workers had to line up outside the terminal every morning, waiting for job opportunities (Tillett, 1910). This can be seen to be the prototype of gig work (i.e. prior to the ascent of digital platforms). In the mid to late 1970s, macroeconomic policies began to intensify global price competition, and

companies started to reduce labour costs by outsourcing work to low-wage countries. In parallel, the power of trade unions has gradually decreased, and the balance of power has been continuously tilted towards employers (Kalleberg, 2009). With the development of science and technology, the emergence of new types of gig work, with the help of ICT, had thus become inevitable. Comparable with the concepts previously discussed, there are no universally accepted definitions for 'gig economy' (Lepanjuuri *et al.*, 2018; Fleming *et al.*, 2019; Woodcock, 2020); its use is as erratic as the type of work it describes (see Table 2.5)

Table 2.5 Illustrative definitions of the gig economy

Definition	Reference
*'A term that suggests that it is not only normal but **also fun to hop creatively from job to job on an ad hoc basis**.'*	(Huws *et al.*, 2018: 116)
*'**One-time jobs** where workers are employed on a particular task or for a defined period of time. A gig worker is not paid a wage or salary; does not have an implicit or explicit contract for a continuing work relationship; and does not have a predictable work schedule or predictable earnings when working.'*	(Fleming *et al.*, 2019: 493)
*'The gig-economy is an **emerging labor market wherein organizations engage independent workers for short-term contracts** ('gigs') to create virtual jobs, often by connecting workers to customers via a platform-enabled digital marketplace.'*	(Jabagi *et al.*, 2019: 192)
*'The gig economy, in which employees complete short-term, on demand work assignments (i.e., 'gigs') across a variety of, is defined by its **utilization of non-standard employees**.'*	(Schroeder *et al.*, 2019: 1)
*'A new 'gig economy' that enables both menial tasks (e.g., usability testing, image tagging) and complex endeavors (e.g., design, user testing, or consultancy work) to be broken down into **smaller tasks that can be distributed among an external workforce**.'*	(Connelly *et al.*, 2020: 1)
*'An economic system that **uses online platforms to digitally connect workers**.'*	(Duggan *et al.*, 2020: 115)
*'The notion of a 'gig' is freighted with descriptive and normative meaning. It implies not only that **the work is one-off or short-lived**, but that it should also be easy, incidental and, ideally, enjoyable.'*	(Healy *et al.*, 2020: 3)
*'Gig work is usually typified by four characteristics**: irregular work schedules**; workers providing some or all capital (e.g. mobile phones, cars, or bikes); **piece-rate work remuneration**; and **work being arranged and/or facilitated by digital platforms**.'*	(Newlands, 2021: 721)

*'The term 'gig economy' refers to the **parcelled nature of the small tasks or jobs** (the 'gigs') that individuals are contracted to carry out by companies (often platforms) adopting this **model of service provision**.'*	(Tassinari and Maccarrone, 2020: 36)
*'**A continuum of online labour from microwork to online freelancing**, including work that is transacted on platforms but delivered locally (e.g. Uber and Task Rabbit), and work that is both transacted and delivered remotely on the platforms (e.g. Upwork and Amazon Mechanical Turk).'*	(Yao, 2020: 485)

Unlike traditional employment relationships, platforms, in the overwhelming majority of cases, do no offer legal employment contracts to platform workers (Duggan et al., 2020). Workers and platforms, as well consumers and platforms, are bound together through digital, ephemeral contracts. These contracts both maximize platforms' control over workers and minimize platforms' responsibilities and obligations when problems arise (Stewart and Stanford, 2017). For instance, Deliveroo riders do not benefit from health cover when they are working; should a problem come up, they would not receive support and might thus rapidly fall into more precarity. Another point of contention is the way in which it isolates workers, as they are neither physically in contact with other workers nor are they the recipients of their own work (Ashford *et al.*, 2018). Gig workers cannot share work experience and learn from each other in a timely manner, which affects their productivity and income (Friedman, 2014). De Stefano (2015) indicates that the idea of 'human-as-a-service', which amounts to an extreme form of commodification, will be exacerbated in the gig economy because transactions, workers and customers are mostly invisible. Table 2.6 gives an overview of the main features of the gig economy found in the literature.

Table 2.6 Main features of the gig economy

	Main Features
Work	
Broad understanding	Menial tasks and complex endeavours (Connelly *et al.*, 2020)
	Most jobs are compensated on a piecework basis (Stewart and Stanford, 2017)

	One-off or short-lived, easy, incidental and, ideally enjoyable (Healy *et al.*, 2020).	
Narrow understanding	For money (Lepanjuuri *et al.*, 2018)	
	Labour (Jabagi *et al.*, 2018; Lepanjuuri *et al.*, 2018; Fleming *et al.*, 2019)	
	Irregular work schedules (Newlands, 2021)	
	Piece-rate work remuneration (Connelly *et al.*, 2020; Newlands, 2021)	
	Small tasks or jobs (Fleming *et al.*, 2019; Tassinari and Maccarrone, 2020)	
	Short-term contracts (Jabagi *et al.*, 2018; Jabagi *et al.*, 2019)	
	Labour and money are determined by a group of buyers and sellers operating within a price system (Jabagi *et al.*, 2018)	
	Labour can be virtual or physical (Jabagi *et al.*, 2018)	
Platforms		
Broad understanding	Online (Stewart and Stanford, 2017; Duggan *et al.*, 2020; Newlands, 2021)	
Narrow understanding	Intermediary (Stewart and Stanford, 2017; Jabagi *et al.*, 2018; Duggan *et al.*, 2020; Tassinari and Maccarrone, 2020)	
	Range and/or facilitate work platform (Newlands, 2021)	
Workers		
Broad understanding	Individuals or companies (Lepanjuuri *et al.*, 2018)	
Narrow understanding	Non-standard employees (Schroeder *et al.*, 2019)	
	Freelancers or one-person businesses (Lepanjuuri *et al.*, 2018)	
	Workers providing some or all capital (Stewart and Stanford, 2017; Newlands, 2020); even places of work (Stewart and Stanford, 2017)	
	Independent contractors (Bernhardt and Thomason, 2017; Newlands, 2021)	
	Individuals (Ashford *et al.*, 2018; Jabagi *et al.*, 2018; Jabagi *et al.*, 2019; Tassinari and Maccarrone, 2020)	
	Irregular work schedules (Stewart and Stanford, 2017)	
Requesters		
Broad understanding	Individuals or companies (Lepanjuuri *et al.*, 2018)	
Narrow understanding	Organisations (Jabagi *et al.*, 2019)	

2.2.4 Platform Economy

Gawer (2011) argues that the term 'platform' is rooted in engineering design, and was developed by management scholars from the three research waves of products (Wheelwright and Clark, 1992), technological systems (Bresnahan and Greenstein, 1999) and transactions (Rochet and Tirole, 2003), which accounts for the many different framings of the concept of platform. Rochet and

Tirole (2003) coined the expression 'platform economy' and argued that this new type of economy differed from 'conventional' two-sided market economy, inasmuch as it is based on a triangular relationship involving a platform, workers and customers. On that point, as well as on many others, the platform economy strongly resonates with the gig economy. Platforms own an infrastructure made of software, tools, rules and services. The main feature of platforms is the provision of an online interactive community, which facilitates interactions between users. More precisely, platforms use data to match workers and consumers based on demand and supply. Large-scale horizontal networked communications and interactions are the basis upon which the platform economy is built (Peticca-Harris *et al.*, 2020). In this respect, platform economy creates a world of possibilities and prospects, with some believing that it can make a greater social good without negative consequences, even though others feared that new technologies would result in undesirable, and perhaps unintended, effects (Kenney and Zysman, 2016). Platform economy is, in a sense, the most technologically inclined of our four terms, which makes it harder to trace historically. Table 2.7 provides an overview of common definitions from the literature.

Table 2.7 Illustrative definitions of the platform economy

Definition	Reference
*'Usually refers to **digital media firms** that connect users through two-sided platform-based marketplaces.'*	(Cockayne, 2016: 73)
*'A universal characteristic of various definitions is that they place emphasis on individuals rather than organizations as the primary economic actors: the **supply of capital and labor comes from decentralized crowds of individuals** rather than corporate or state aggregates. Another near-universal characteristic is that these **individual participants are organized by digital platforms that match suppliers and demanders** as well as perform various management-type functions, such as quality control'*	(Lehdonvirta, 2018: 569)
*'Digital platforms, which are virtual locations through which various users communicate and transact, have become **intermediaries for organizing social and economic life** at both the micro-level in terms of how work is performed and the economic structural level.'*	(Kenney and Zysman, 2019: 2)

*'The platform economy is made possible by **new kinds of horizontal, networked exchanges and interactions between users through online communities**. The platform economy is structured around 'temporary access, non-ownership models of utilizing consumer goods and services [and often rely] on the Internet, and especially Web 2.0 …'*	(Peticca-Harris *et al.*, 2020: 37)
*'The platform economy has experienced rapid growth since then and now encompasses **a wide array of digitally mediated economic transactions involving the exchange of goods and services**.'*	(Vallas and Schor, 2020: 274)

Although the term platform originally referred to mediators in the 'real' world (Shapiro, 2020), the 'platform economy' is premised on both the 'algorithm revolution' and cloud computing. Yet, in the platform economy, the platform is not just a new piece of technology, it is also a new business model in its own right. This business model is usually flatter and more participatory than models that are part of the 'traditional' economy (Morozov, 2015). By extension, the platform economy is distinctive because of its ease of participation and registration; anyone can become a supplier of the platform economy. Platform work can be completed through a few clicks (Peticca-Harris *et al.*, 2020). The ease of signing-up, direct participation and the abundance of largely unqualified tasks generate a network effect in platforms, which means that more users will essentially increase the value of platforms (Evans and Gawer, 2016), which can actually be seen as the real innovation of the 'platform economy' (Langley and Leyshon, 2017). This is a point on which the gig economy and the platform economy diverge.

Platforms have emerged as generic ecosystems able to link potential customers to anything and anyone, from private individuals to multinational corporations. The central concept within the industrial relationship – employer control (Maffie, 2020) – is reflected in platforms using algorithms that sort, rank, categorize and display content. Platforms act as multi-sided markets (Cockayne, 2016) and coordinate net-worked connectivity between customers, individuals and multinational corporations, thus performing the role of socio-technical intermediary (Gillespie,

2010; Langley and Leyshon, 2017; Lehdonvirta *et al.*, 2018) or mediator (Dijck, 2013). Technically, the platform provides software, hardware and services, a place for online social activities through coding, uses algorithms to process user data and provides users with friendly pages so that all participants understand the logic of the platform. In Table 2.8, an overview of the main features of the platform economy is provided.

Table 2.8 Main features of the platform economy

	Main Features
Work	
Narrow understanding	Temporary access (Peticca-Harris *et al.*, 2020)
	utilizing consumer goods and services (Peticca-Harris *et al.*, 2020)
Platforms	
Broad understanding	Internet (Kenney and Zysman, 2016; Kenney and Zysman, 2019; Peticca-Harris *et al.*, 2020)
Narrow understanding	Intermediary (Gillespie, 2010; Langley and Leyshon, 2017; Lehdonvirta *et al.*, 2018)
	Mediator (Dijck, 2013; Peticca-Harris *et al.*, 2020)
	Two-sided platform-based marketplaces (Cockayne, 2016)
Workers	
Narrow understanding	Individual (Peticca-Harris *et al.*, 2020)
Requesters	
Narrow understanding	Individual (Lehdonvirta *et al.*, 2018)

2.2.5 Analogies and Distinctions

As we showed, all four terms are embedded in a long history through which technological developments have played a key role in intensifying existing logics and modes of valuation (see Figure 2.1).

	1700s	1800s	1900s	2000s	2100s
Crowdsourcing	British government seeks help from the public to solve the 'longitude problem'.	The 'Automaton Chess Player' called 'The Turk' or 'the Mechanical Turk' is popular in Europe.	The Oxford English Dictionary recruited readers to categorize words. / Individuals and institutions began volunteering spare computing cycles to help solve major research projects.	Wikipedia began with its first edit.	
Sharing Economy			'Car-sharing' in Zurich under the operation of community-based, not-for-profit cooperatives.	The concept of 'time banks' emerges.	'Stranger sharing' – sprung up and developed rapidly.
Gig Economy			The term 'gig' was essentially 'musicians' slang for an engagement at a single venue'. / Dockers in the East End of London worked without knowing their schedule in advance owing to the flexibility of the time of entry and exit of ships.	Companies started to reduce labour costs by outsourcing work to low-wage countries. / 'Gig economy' was coined by the journalist Tina Brown.	
Platform Economy				The expression 'platform economy' was coined by Rochet and Tirole (2003).	

Figure 2.1 Origin of crowdsourcing, sharing economy, gig economy and platform economy

Our characterisation of the gig economy, platform economy, sharing economy and crowdsourcing allows us to highlight, in a systematic manner, the differences but also overlaps between these facets of digital capitalism. The 'platform economy' is certainly the most encompassing of all four with regards to newly evolved forms of works and technologies used, thus including platforms that are excluded by the gig economy and sharing economy, such as online retail for instance (Kenney and Zysman, 2016). The digital activities that it covers are not limited to business activities but are increasingly touching on wider political and societal concerns (Kenney and Zysman, 2016). In addition, compared with 'sharing economy' and 'gig economy', the term 'platform economy' is also used in a more neutral manner. This aside, the platform economy and gig economy converge on many different aspects and are the two closest facets of digital capitalism. In terms of types of interactions, we find, in all four, peer-to-peer (P2P), business-to-costumer (B2C) as well as business-to-person (B2P) interactions. The table below (Table 2.9) summarises the main similarities and differences between these four facets of digital capitalism.

Table 2.9 An overview of our four concepts

Features		Crowdsourcing	Sharing Economy	Gig Economy	Platform Economy
Working condition	Independent contractors	X	X	X	X
	Micro-entrepreneurship		X		
	Full-time/ Part-time employees				X
Business model	pure reseller		X		
	Two-sided market		X	X	X
Interaction type	P2P	X	X	X	X
	B2P/B2C	X	X	X	X
	B2B	X	X		
	P2B	X			
	G2G		X		
Transaction products	Services	X		X	X
	Tangible and intangible assets		X		X
Nature		Crowd intelligence	Pure sharing	Online labour outsourcing	Human effort and consumer assets monetized

2.3 Ideology and the Discourse of Novelty

As socio-technical systems relying on a neoliberal logic to operate, platforms lie at the core of the gig economy, the sharing economy, the platform economy as well as crowdsourcing. Critical views of platforms and their activities have been burgeoning over the past few years. Platforms are notably seen to limit the well-being of workers in the pursuit of profit maximisation (Langley and Leyshon, 2017; Fleming *et al.*, 2019), with platforms controlling workers through elaborate manipulations of data and code (Srnicek, 2017b). Arguably, platform capitalism can then be seen to be an extreme variant of the digital economy (Fleming *et al.*, 2019).

Many platforms have noticeably adopted the language, and pretendingly the values, of the traditional community-based sharing movement and ethos, which promote the socio-economic and environmental benefits of working with and through platforms, thus producing a form of 'idealist

discourse' (Codagnone and Martens, 2016; Schor, 2020), which is very much line with the new economy narrative (see Thrift, 2001). Advocates of those platforms encourage people to imagine platforms as utopias through altruistic slogans that are in line with market logic and the use of open-source activities for hype (Murillo *et al.*, 2017). Yet, these 'socially-oriented' platforms are not simply governed by the noble principles they articulate. Rather, as we hinted at previously, they perform and extend existing issues under the guise of novelty. The gig economy, the sharing economy, the platform economy as well as crowdsourcing are all embedded in a complex socio-historical context that tends to be overlooked or set aside in discussions pertaining to platform capitalism. Attending to key historical points related to these manifestations of digital capitalism is critical to exploring the question of novelty that frames current work endeavours.

The discourse of novelty is increasingly dominant in today's society and has become a kind of 'truth' (Brown, 2015) that attempts to conceal political and power relations. The platform's neoliberalism is not just a set of economic policies; platform participants are forced to become 'homo economicus', and their behavior is configured by the platform's sophisticated algorithms relying on market rationality (Brown, 2003). The market capacity is limited, and market rationality makes the market competition of the platform increasingly fiercer (Murillo *et al*., 2017). At the same time, in the digital economy, as the worker pool becomes overcrowded and the supply of workers gradually exceeds the demand, the welfare benefits of workers is further affected (Healy *et al.*, 2017). Equality is then just a utopian fantasy. As network effects produce platform monopoly (Kenney and Zysman, 2016; Langley and Leyshon, 2017; Vallas and Schor, 2020), it is difficult for smaller start-ups to survive in the digital economy. A few workers with high performances on a platform can get an income far higher than the average wage level of the platform, materialising the 'Piketty-effect' in the digital economy (Frenken, 2017).

Hyperbolic and positive qualifiers, such as 'interesting', 'flexible', 'revolutionary', 'ground-breaking' or 'fun', are commonly used to depict the new world of work (Aroles *et al.*, 2020). The use of such a positive terminology seems to ignore, or overlook, core issues plaguing platform capitalism, such as instability or precarity (Montgomery and Baglioni, 2020). All transaction-related activities take place within algorithmic systems. Platforms are regarded as intermediaries, and algorithms firmly control workers' performances. At different levels, platforms (or rather work activities mediated by platforms) seem to replicate a Taylorist (Duggan *et al.*, 2020) or Toyotist logic (Steinberg, 2021) as specific, small, and short-term tasks are distributed to workers by the platform, with wages uniformly set and settled. In this sense, platforms act as exploiters, using distinct algorithms to maximise productivity; exploitation did not so much disappear, but rather changed from managerial to algorithmic exploitation (Vallas and Schor, 2020). We thus need to be mindful of the dichotomization between old and new world of work created and enacted through epochalist claims of change and novelty (see du Gay, 2003).

Under the impetus of neophilia, innovation has thus become synonymous with the 'new' economy (Rhodes and Pullen, 2010). This context favours the emergence of a utopian vision of the world fuelled by ICT progress, in which work is flexible and mobile, and classes simply no longer exist (Rhodes and Pullen, 2010). This technological utopian stance finds its roots in the so-called 'California ideology', which posits that technology can make society peaceful and equal (Schor, 2020). Platforms seem to have become the promoters of the digital revolution, through which people can escape from government supervision and realize "market populism" (see Frank, 2001).

2.4 Conclusion

Platform capitalism is undoubtedly an important topic that requires careful investigation. Its popularity, as a topic of research, has led to much confusion regarding its meaning and contours. By exploring four manifestations of platform capitalism (crowdsourcing, gig economy, sharing economy and platform economy), we can reflect on some of the myths and fetishisms that surround platform capitalism. Importantly, these four facets of digital capitalism play out at the ideological level inasmuch as they convey and perform a particular vision of the world of work. Through an emphasis on transformation, innovativeness and opportunity, platform capitalism obfuscates the politics and power relations hidden behind the concepts of crowdsourcing, gig economy, sharing economy and platform economy. The themes of connectivity and exchange, central to platforms, obscure the neo-liberalist ideology that runs free at the heart of platform capitalism. The positive, or neutral, stance on those manifestations of platform capitalism seeks to detach them from their past in such a way that they are portrayed as a force for good that can challenge long-established power relations. Attending to and exploring the origin and evolution of these four facets of digital capitalism allow us to provide a critical reading of these concepts and to unpack the ideology and narratives that underlie them.

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Chapter 3. Typologizing Content Creation on Digital Platforms[3]

Abstract

Worldwide, a growing number of individuals are engaging with content creative platforms in a professional manner. In parallel, and despite a significant amount of research on various dimensions of the platform economy, content creative platforms remain empirically understudied. To gain a better understanding of the specificities of these platforms and their users, we designed a two-stage study. Adapting Porter's 5P model to the context of content creative platforms, we identified a list of 143 relevant content creative platforms through the Apple App Stores in the UK, the US and China which we then categorized into four clusters. To gain detailed understanding of the characteristics of content creators in each of our four clusters, we then used data from a specially designed a survey questionnaire of content creators. Drawing from answers of 426 creators, we flesh out key dimensions pertaining to content creation-related work and show that content creation-related work clusters into different categories and is characterized by various interests of content creators, spanning from leisure to different types of paid work.

Keywords: Creative Content; Platforms; Porter; Technological mediations; Typology

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[3] The appendix to this chapter can be found in Appendix B.

3.1 Introduction

Recent technological innovations, together with economic and societal changes, have laid the foundation for the gig economy (Herrmann et al., 2023), which altered existing and generated a wide array of new jobs (Kässi and Lehdonvirta, 2018). Part of this process has been the growing prevalence of platforms (Burtch et al., 2018), which increasingly revolve at the core of work relations in the so-called digital economy (Kässi and Lehdonvirta, 2018). The pandemic has acted as a catalyst, further exacerbating this trend (Spurk and Straub, 2020). As a result, working within the gig economy, and *de facto* for platforms, democratised and thus has become more widely accepted (Lund et al., 2021). A significant area of growth and development concerns creative industries which are characterised by a heavy reliance on freelancers (O'Brien et al., 2016, Eikhof and Warhurst, 2013, Merkel, 2019).

Due to the advancement of Information and Communication Technologies (ICTs), the business model of creative industries changed significantly (Merkel, 2019), with interactions increasingly conducted through, and thus mediated by, digital platforms. Content creative platforms, which can be defined as virtual spaces, help individuals producing, distributing, and monetizing diverse forms of content as both services and products (Marwick, 2013). Those platforms belong to creative industries inasmuch as the work they host – the content – is a creative production. In parallel, content creative platforms are integral to the digital economy, relying on ICT to provide products and services. At the platform level, the network effect has led to the emergence of a monopoly, which is a consequence of the limited market size (Kenney and Zysman, 2016, Langley and Leyshon, 2017b, Vallas and Schor, 2020b). As a result, content creative platforms can only remain viable by maintaining an adequate level of competitiveness (Murillo et

al., 2017), which translates into a high level of heterogeneity in content creative platforms (Cennamo and Santalo, 2013). Despite the rapid proliferation of content creative platforms economy, the paradigm shift in the business model of creative industries and aforementioned high level of heterogeneity, the existing literature is confined to a subset of these platforms (typically Instagram, YouTube or Twitter). Thus, there is a need to develop a more systematic and holistic understanding of the specificities of content creative platforms.

Against this backdrop, our paper aims to address the two following research questions: (i) What are the key similarities and differences between existing content creative platforms? (ii) What are the characteristics of the content creators and is there a systematic relationship between the features of platforms and the content creators? To answer these questions, we designed a two-stage data collection process. In the first stage, we closely screened the top 100 most popular platforms (in 2021) for each of the 23 categories listed on the Apple App Store for three different countries, namely China, the UK, and the US. Applying various exclusion criteria, we ended with a sample of 143 platforms that we sought to classify by adapting Porter (2004) five Ps model. Through this process, we generated a typology for content creative platforms based on four distinct clusters. In the second stage, we designed a questionnaire survey to analyze the characteristics of both the users and content creators of these platforms. Our questionnaire ran in English and Mandarin and enabled us to collect answers from 426 creators. Through this process, we characterize the key features of users in terms of the four platform clusters that we identified.

Combining the four categories of content creative platforms developed in the first stage of the study and the characteristics of creators within each category in the second, we find that different categories of content creative platforms and creators using those platforms understand

content creation-related work in contrasting ways. Certain creators tend to perceive content creation as a leisurely pursuit, while on some platforms, others engage in unconscious emotional labour alongside their recreational activities. In contrast, certain platforms and creators consider content creation as a creative work with a monetary incentive, whereas on other platforms, creators view it as a form of task-oriented gig work.

This article makes two main contributions to the literature. First, by crafting a typology that highlights the similarities and differences between content creative platforms, our paper answers calls for further research into the heterogeneity and diversity of platforms (McDonnell et al., 2021). More specifically, our paper furthers our understanding of the specificities of digital content creation, thus providing a nuanced overview of the ecosystem of content creative platforms. Second, by portraying the characteristics of creators across different categories of platforms, the study proposes a multifaceted perspective on the content creation work of different platform categories. Thus doing, our paper advances research into the production of creative content online. This establishes a solid foundation for future research on the work and employment related aspects of content creative platforms. By portraying different categories of content creation, our study uses new perspectives to explain the flow of social capital across content creative platforms and explores the complex motivations of content creators to undertake content creation activities.

Our paper is structured as follows. We start by providing an overview of the different kinds and meanings of work in the context of content creative platforms. We then present Porter's (2004) framework of virtual communities and highlight how we adapted this framework for our study. This is then followed by the presentation of our methodological approach. The fifth section outlines our empirical findings, describing the clusters we identified and the main characteristics

of their respective users. In the discussion, we critically delve into the nature of content creation by addressing the question how important leisure and/or work is for creating contents. Finally, a short conclusion ends this paper.

3.2 Work in the context of content creative platforms

With the 'platform boom' brought about by Web 2.0 and associated technological developments, the creation of online content somehow democratised (Blank, 2013), notably meaning that, for content creation, no professional knowledge is needed to set up personal homepages and publish online content (O'reilly, 2009). Van Dijck and Nieborg (2009) suggest that mass collaboration and communal creativity are becoming increasingly central to both work and lifestyle, a trend that sees content creative platform users as volunteers or amateurs who actively give their time to create content. This reflects in the broader 'cultural shock' brought about by open-source movements, with crowds contributing to the public good for free (Barnes et al., 2015, Kogut and Metiu, 2001). The emergence and development of content creative platforms seems to chime with the logic behind crowdsourcing – using the wisdom of the crowd to solve problems that are beyond the expertise of individual experts (Hossain and Kauranen, 2015, Lévy, 1997). Platform users can access platforms' content in a cost-effective manner, while platforms can obtain content without employing individuals (Liang et al., 2022b). The public brings in external knowledge to the platform, paving the way for further market expansion (Chesbrough et al., 2006). Nieborg and Poell (2018) frame the strong connection between platforms and creators as platform dependence.

Previous research has fustigated platforms for limiting the well-being of workers in the view of maximising profit (Fleming et al., 2019, Langley and Leyshon, 2017b). Actions of platform workers are governed by algorithms (Brown, 2003), with capitalism manifesting itself in

a unique form through platforms (Liang et al., 2022b). Importantly, work on content creative platforms bears striking similarities with work on other types of platforms. While content creation is regarded as flexible, liberating and 'cool', this form of borderless work nonetheless brings tremendous pressure to creators. A key factor affecting creativity is time. If content producers feel time pressure, their output will inevitably be affected (Nemkova et al., 2019a). There is no doubt that the uncertainty of creativity generation together with long and irregular working periods bring great pressure to content creators (Wright, 2015b). Additionally, some of them look forward to benefiting from their works, so they must create content based on the activities organised by the platform, the audiences' content intentions, and the requirements of the brand they might be working with. Only in this way, they could get traction from the algorithm and then get more platform resources (Wright, 2015b). The aforementioned difficulties make content creators believe that they lack the autonomy of choice and control over work and their productions (Nemkova et al., 2019a).

Unlike some jobs in the digital economy characterised by remuneration rigidity, the income, status and working conditions of content creative works show a very high level of heterogeneity (Ertan et al., 2021). Lack of equality and highly differentiated income as well as complex and changeable situations that may affect income levels are important features of content creative platform (Teipen, 2008). Content producers initially enter the platform with no or very little return, which, moreover, are usually delayed in distribution. This results in content producers usually needing to be very careful when planning their work. In order to reduce the uncertainty of income, they usually do some additional work to make ends meet (Wright, 2015b). The confidence to join content creative platforms comes from their production. Producers believe that they will be able to make more money in the future, so the current unstable income can be accepted (Schörpf et al.,

2017). However, if they do not get satisfactory returns for a long time, there will be a negative feeling of being used and low pay. There are still producers who regard content creative works as hobbies, and give works more meaning than the work itself (Ertan et al., 2021). The high degree of diversity and heterogeneity found in content creative platforms somehow precludes developing a finer understanding of the key platforms of these platforms and their users. To attend to this issue, we now turn our attention to typology work.

3.3 Developing a typology for content creative platforms

From a methodological perspective, we embed our typology of content creative platforms within Porter's (2004) framework of virtual communities. Although virtual communities and content creative platforms differ in various ways, we contend that Porter's (2004) five Ps of virtual communities can help us capture the nature and characteristics of content creative platforms, thus providing a conceptual basis through which to study, in a systematic manner, content creative platforms. Below, we present the original dimensions and how we adapted them to the study of content creative platforms.

The first dimension is *purpose (content of interaction)* which distinguishes virtual communities according to themes and interests. The relationship between users is thus governed by shared interests (Baym, 1998) and, due to the variety of platform functions, contents (in content creative platforms) can assume different forms (Baym, 1998). Importantly, the complexity of contents and the diversity of platform structures complement one another (Richardson, 2015). In content creative platforms, the diversity of contents does not only manifest itself through the richness of the themes explored, but also in the variety of the types of production. Therefore, in our classification, we use diversity of both themes and forms as our first dimension.

The second dimension from Porter (2004) is *place (i.e., the extent of technology mediation of interaction).* Against the background that there is a discussion in literature whether geographical distance, differences in spaces, or socio-cultural distances matter to interactions (e.g., Harrison and Dourish (1996), we differentiate the platforms accordingly. Specifically, following Porter (2004), we consider that the virtual community itself may be the medium of interaction between users since the products of content creative platforms are online contents and offline communication rarely occurs. In fact, the high level of interaction in the virtual environment strengthens the importance of re-understanding "place" (Steinkuehler and Williams, 2006). Blanchard (2004) proposed the concept of sense of place to emphasize the psychological awareness of location. The type of access is a crucial part of the sense of place: if a platform is easier to access, users will be more active, which in turn means they are more likely to feel a sense of place (see Heinrichs et al., 2011). Access to the digital economy covers both technological and content access (Bucy and Newhagen, 2004). Technological access usually refers to the process by which users connect to the Internet, while content access is based on free access to digital contents (Richardson, 2015). Therefore, in our classification, we use 'a sense of place' to capture both technological and content access.

The third dimension is based on the *design of the platform.* This aspect refers to the technical design of interaction, which reflects the degree of real-time interactions enabled by the platform (Porter, 2004). For Blanchard (2004), a highly-interactive environment positively contributes to enhancing users' sense of place. Interaction methods can entail synchronous, asynchronous communications, or a mix of both (Porter, 2004). Compared with synchronous communication, asynchronous communication shows more temporal flexibility. Since synchronous communication relies on content creators and audiences participating in the

interaction at the same time, content creators working on synchronous communication platforms need to maintain the relationship with audiences more seriously, since this relationship is more prone to break (Blanchard, 2004). This means that the possibility of and degree of real-time interaction is an important factor for differentiation of platforms; this is the third a dimension we use for our typological work.

The fourth dimension is based on the pattern of interaction, i.e. the *population interaction structure* (Porter, 2004), which essentially captures the 'affectual' perspective of interactions so to speak. Emotion enables the development of virtual communities, with trust embedded in technology on content creative platforms (Richardson, 2015). For example, some platforms will require users to provide detailed personal profiles (Blanchard, 2004), which marks a difference in the nature of platforms. In addition, some platforms will also provide various interactive (e.g., forwarding, commenting), monitoring (e.g., banning users, blocking content) and incentives functions (e.g., badges or activities) to maintain trust among platform users (Blanchard, 2004). Finally, the structure of users is also a key platform population feature (Baym, 1998). Users with different identities (e.g., paid membership) may have different behaviours, which can be explained by psychological processes within and between groups (Blanchard, 2004). Therefore, platform membership is also a key variable that affects patterns of interaction.

Last, but certainly not least, the fifth dimension is based on the (monetary) return of the interaction on the platform, i.e. the *Profit model*. Porter (2004) distinguished profit model into revenue-generating and non-revenue generating, which is similar to the dimension Schor and Fitzmaurice (2015) used when classifying collaborative platforms. In order to capture differences in the profit model that platforms are integrating, we used indirect revenue, which refers to the fact

that platforms distribute income through other means (such as holding events & activities) as a differentiating factor.

Table 3.1 shows the key dimensions of the content creative platform typology adapted from the five Ps model.

Table 3.1 Key dimensions of content creative platforms typology

5P model (Porter, 2004)	Adapted factors for content creative platforms
Purpose (content of interaction)	Content themes
	Content types
Place (extent of technology mediation of interaction)	Technological access
	Content access
Platform (design of interaction)	The technological design of interaction
Population interaction structure (pattern of interaction)	Size
	Trust
	Interaction for users
	Interaction for content creators
	Membership
Profit model (return on interaction)	Profit model

3.4 Methodological approach

To develop and generate a comprehensive typology and understanding of different content creative platforms as well as the characteristics of content creators, we followed a two-stage data collection process.

3.4.1 Stage 1

In the first stage, we identified relevant content creative platforms from the Apple App Store, which provides the most comprehensive list of platforms and is therefore the most popular provider of digital platforms. The Apple App Store classifies platforms into 23 distinct categories, such as

Education, Entertainment, Business etc. We screened the top 100 most popular platforms (in 2021) in each of these 23 categories for three different countries, namely China, the UK, and the US. Altogether, a total of 6900 platforms (2300 per country) were considered. We then removed duplicate platforms, which may occur due to (i) their presence in diverse categories within the classification system of the Apple App Store, wherein a single platform can be assigned to more than one of the 23 available categories; and (ii) the existence of identical platforms in the ranking lists of various countries owing to the data being procured from Apple App Stores in the UK, the US, and China. Additionally, we further reduced the number of platforms by excluding those where users cannot upload contents. This brought the overall number down to 166. Then, we excluded the platforms that do not allow creators to publish publicly accessible contents and platforms closed (during our data collection period). Applying these exclusion criteria brought the number of platforms down to 143.

For each of these 143 platforms, we collected data based on the five dimensions shown in Table 3.1. To identify different types of platforms, we applied a hierarchical clustering approach. As the data is predominantly categorical in nature, we used Ward's method of linkage with squared Gower distance to the cluster means as the unit of measure for the distance between cases (Gower, 1971). Given the complexity of content creative platforms, this study suggests that the four-cluster solution we develop here is essentially a best-fit model, with the number of platforms per cluster being more evenly distributed with the four-cluster option.

3.4.2 Stage 2

In a next stage, we sought to analyze the characteristics of both the users and content creators of these platforms. To that end, we designed a questionnaire survey. A summary of the main survey items can be found in Table 3.2.

Table 3.2 Survey items summary

Dimension	Item
Countries	Country of residence
Platform Use Behaviour	I use content creative platform to search or enjoy entertainment/education/lifestyle/business/political/art contents uploaded by other content creators.
Content Creation Behaviour	I use content creative platform to create and share entertainment/education/lifestyle/business/political/art contents.
Job/work	Paid job/work
	Unpaid job/work
	Job/work count
	Job/work with an employment contract
	Job/work with a contract or other arrangement
	Working hours
Personal information	Age
	Gender
	Education
	Personal income level

The questionnaire survey was conducted online and ran from January to March 2022 using a professional software that included checks and controls for the quality and reliability of the survey. For the questionnaire, we targeted platform users, including content providers. Regarding our sampling strategy, we contacted individuals by using content creative platforms' communication features/tools and asked them to complete the survey by providing a link to the online survey. We decided to offer the possibility to answer our questionnaire in two languages: Mandarin and

English. Using the language of the platform implies, of course, that the Mandarin version of the survey was widely chosen by users of Chinese content creative platforms. The English version was used for all other platforms. The questionnaire was distributed on all platforms to guarantee a wide and heterogeneous range of respondents that would reflect the diversity of different users on these platforms. To ensure a minimum number of responses on smaller platforms, we encouraged participants to distribute the survey link within their wider network. Hence, a snowballing dimension was part of the sampling approach. Of course, using this sampling strategy did not necessarily allow us to differentiate between mere platform users and actual content providers nor is it representative for the size of the platforms. However, this sampling strategy allowed us to capture the variety of different platforms users.

Although both platform users and content providers were contacted, in this analysis, we only consider providers of contents (i.e. content creators) which were identified by asking: "Have you ever created and uploaded contents on content creative platforms?". Only those respondents who selected 'Yes' were identified as content creators and considered for this version of the questionnaire. Content users who do not provide any content were directed to a different questionnaire survey. In addition, respondents were asked to specify the content creative platforms they had used. To ensure that each platform was considered by respondents, we listed all 143 platforms identified in the first stage of the research as options for respondents and suggested that respondents could select up to six of these. We collected 1,128 responses, with 426 respondents being content creators. Details on the questionnaire itself and on the quality checks and controls are available upon request.

3.5 Findings

3.5.1 Four clusters of content creative platforms

The results of the cluster analysis are shown in Table 3.3, which includes the list of platforms in each cluster as well as the characteristics of each cluster. A heatmap with details on the weighting of each item is provided in Appendix.

Cluster 1 comprises the highest number of platforms (n=45) and features prominent platforms (such as Facebook, Instagram, and YouTube), with more than half (55.56%) experiencing growth in the top quartile. They are also mostly large platforms, with 66.67% being in the largest quartile of all platforms in terms of size. Platforms in this cluster have the highest diversity of content topics (mean = 2.84) and types (mean = 2.53), as well as the highest technological accessibility (mean = 2.89) and easiest access to content. For the latter, 80% of platforms can display content without user registration, and 82.22% do not require additional actions (such as subscribing membership, purchasing content, inviting friends, or uploading content). Most of these platforms use both synchronous and synchronous communication technologies (66.67%), provide user identification (100.00%) and rich interactive features such as a share (100.00%), comment (97.78%), favourite (88.89%) and block feature (80.00%). In addition, 88.89% of platforms provide creators with a content deletion option. Most of these platforms have different user types, for example, 91.11% of platforms have authenticated users, and generally, users can earn direct or indirect income through these platforms (69.99%).

Table 3.3 The characteristics of each cluster

		Cluster 1 n = 45	Cluster 2 n = 32	Cluster 3 n = 33	Cluster 4 n = 33
Content Diversity	**Diversity of content themes**	High level (level 1)	High level (level 2)	Low level (level 4)	Low level (level 3)
	Diversity of content types	High level (level 2)	Low level (level 3)	Low level (level 4)	High level (level 1)
Access	**Ease of Technical Access**	Easier (level 1)	Easier (level 2)	Harder (level 3)	Harder (level 4)
	Ease of Content Access	Easier	Easier	Harder	Harder
Interactio n Design	**Synchronous Communicati on Technology**	Only very few platforms use this technology. (level 4)	Most platforms use this technology. (level 1)	Only few platforms use this technology. (level 2)	Only few platforms use this technology. (level 2)
	Asynchronous Communicati on Technology	Less than a third of platforms use this technology. (level 3)	Only few of platform use this technology. (level 4)	More than half of the platforms use this technology. (level 1)	Less than half of the platforms use this technology. (level 2)
	Hybrid Communicati on Technology	Two thirds of platforms use this technology. (level 1)	No platforms use this technology. (level 4)	Less than a third of platforms use this technology. (level 3)	More than a third of platforms use this technology. (level 2)
Interactio n feature	**Features for platform users**	The platforms offer some user interaction with content, but none of the platforms offer the ability to share content across platforms. In addition, the platforms distinguish between multiple user identities, but none of the platforms provide user identification.	Platforms only provide partial user interaction with content. In addition, platforms are only able to distinguish between a portion of their users and only a small number of them offer platform authentication features.	Platforms only provide partial user interaction with content. In addition, platforms are only able to distinguish between a subset of users and only a subset of platforms offer platform identity authentication features.	The platform provides most of the features for users to interact with the content, except for comment and like. In addition, the platform distinguishes between multiple user identities.

	Features for content creators	The platform offers creators the ability to manage most of their content. In addition, the platform offers a range of content incentives to stimulate content creation.	The platform offers creators the ability to manage most of their content. In addition, the platform offers a range of content incentives to stimulate content creation.	The platform offers less functionality for creators to manage their content. In addition, the platform offers relatively few content incentives to creators.	The platform provides creators with the ability to partially manage their content. However, the platform does offer more content incentives to stimulate content creation.
Size	**Platform development speed**	Overall, the pace of development is relatively fast.	Overall, development is slow.	Overall, the pace of development is slow.	Overall, the rate of development is moderate.
	Platform size	In general, the platforms are large, with two-thirds of them being massive.	In general, the platforms are very small, with half of them being small.	In general, most are small to medium sized platforms.	Overall, mostly medium sized platforms.
Rewards		Most platforms offer direct or indirect rewards.	More than half of the platforms do not offer direct or indirect rewards.	All platforms offer direct or indirect rewards, with most offering indirect rewards.	Most platforms offer direct or indirect rewards.
Platform included		AcFun; AnyStories; BiGO LIVE; Bilibili (哔哩哔哩); Caffeine: Live streaming; Cece Xingzuo (测测星座); Dewu (得物); Dianping (大众点评); Douban (豆瓣); Douyu Streaming (斗鱼); Facebook; Goodreads; Haokan Video (好看视频); Huya Streaming (虎牙直播); Instagram; Kuaishou (快手); Likee; LinkedIn; Mafengwo (马蜂窝旅游); Meipai (美拍); Meiyou (美柚); Mixcloud; Peiyinxiu (配	21 Buttons; Behance; Cartoon Social; Castbox; Dreame; edge; FanFiction.Net; GoodNoverl & Books Web Novels; Hinovel; Hupu (虎扑); IMVU; Kaoyanbang (考研帮); Linggan (灵感); Lizhi (荔枝); MangaToon; Medium; NovelCat; Patreon; Podbean Podcast App&Player; Quora; Reddit; Skinseed for Minecraft Skins; Tangdou (糖豆); Tap by Wattpad; Tumblr; WebComics; Webnovel; Weifeng (威	ABPV America's best pics&vids; Answers; Brainly; Calorie Counter +; Changya (唱鸭); Clapper; Coco; Color Therapy Coloring Number; Daily Yoga (每日瑜伽); Dog Scanner; Faceteng (脸疼); frog; HelloTalk; iFunny; Issuu; karaoke; Keep; Lobby; Mascot; MeetMe; NewNew; Nurture; OLIO; PlantSnap; Powder; Reese's Book Club; Sketchar; Skout; Tripadvisor Travels and Hotels; Wishbone; Yinjie	5sing (5sing 原创音乐); Ailiao (爱聊); Amino; Changba (唱吧); Diyidan (第一弹); Haixiuxiuchang (嗨秀秀场); Jianshu (简书); Jinrixiaoyuan (今日校园); Jiuxiu Streaming (九秀直播); Kugou Streaming (酷狗直播); Lvzhou (绿洲); Mamabang (妈妈帮); Meipian (美篇); Meme live (么么直播); Qingting FM (蜻蜓 FM); Quanmin Karaoke (全民 K 歌); Quanmin short video (全民小视频); Smule: Social

音秀); Pinterest; Pipixia (皮皮虾); Qunaer (去哪儿旅行); Snapchat; SoundCloud; TapTap; Tieba (百度贴吧); TikTok (抖音); TikTok International; Triller; Twitch; Twitter; Wangyi Cloud Music (网易云音乐); Wattpad; Weibo (微博); Weishi (微视); Xiachufang (下厨房); Xiaohongshu (小红书); Xiecheng (携程旅行); Ximalaya FM (喜马拉雅 FM); YouTube; Zhihu (知乎)	锋); Weverse; Wikipedia; wit; YesAuto	(音街); Yinyu (音遇); Yubo	Karaoke Singing; Strava; Tencent Now Streaming (腾讯 Now 直播); Timing; Tuchong (图虫); Uplive; VUE Vlog; Wodao (我岛); Xiaoheihe for Steam (小黑盒); Xiuse Live (秀色直播); Yi Streaming (一直播); Yingke Streaming (映客直播); Yuepaoquan (悦跑圈); ZEPETO; Zepeto (崽崽); Zuiyou (最右);

Cluster 2 is composed of 32 platforms (including Quora, Reddit, and Tumblr), which are predominantly small – half being in the smallest quartile in terms of size. Another interesting characteristic they share is a relatively slow growth, with more than half (56.25%) in the bottom quartile of all platforms. However, similar to cluster 1, platforms in cluster 2 present a high diversity of content topics (mean = 2.56), but are characterized by a slightly lower diversity of content types (mean = 2.00). The platforms have a good degree of technical accessibility (mean = 2.50). Content is more readily available: 62.5% of platforms do not require users to register to access content and 90.63% do not require additional actions such as subscribing membership, purchasing content, inviting friends, or uploading content. Most of the platforms in cluster 2 use a single asynchronous interaction technology (81.25%) and usually do not provide user recognition (81.25%). They offer riche user interaction features, such as a search (100.00%) and share feature (90.63%). Platforms in cluster 2 provide relatively high convenience for creators, notably the possibility to modify content (84.38%). However, more than half of the platforms in this cluster do not offer content returns to creators (53.13%).

Cluster 3 contains 33 platforms (including Answers, Dog Scanner, and TripAdvisor Travels and Hotels), which are predominantly small and medium-sized with moderate growth rates. Specifically, most of these platforms are below average in size (75.75%). They contain relatively homogeneous content themes (mean = 1.58) and have a lower diversity of content types (mean = 1.88) than platforms in other clusters. These platforms have also less developed technological accessibility (mean = 2.12) and lower content availability. Only 33.33% do not require users to register to read content. What is characteristic of platforms in cluster 2 is that more than half only use asynchronous communication technologies (60.61%) and 15.15% use only synchronous communication technologies. Besides, most of these platforms do not provide user authentication

(69.70%) and have relatively few platform interaction features. Notably, none of the platforms offers a forward feature. Platforms in this cluster also provide minimal interactive features for creators, with only 9.09% offering a content moderation feature. In addition, only a few platforms support content incentive-related activities (33.33%) or set up badge systems to encourage user interaction (27.27%). Most platforms do not have a user authentication feature (90.91%) while almost half of them have a paid membership system (45.45%). All content creators can generate direct or indirect income through these platforms.

Cluster 4 also comprises 33 platforms (including Changba, Tencent Now Streaming, and Zepeto), which are medium to large and present moderate growth, with nearly half being in the third quartile of all platforms in size (48.48%). Interestingly, these platforms have a lower diversity of content themes (mean = 2.09), but the highest diversity of all clusters in terms of content types (mean = 2.55). They have the lowest level of technological accessibility (mean = 2.06) and, correspondingly, the most difficult access to content. Only 21.21% of the platforms give access to content without user registration. Most of the platforms in this cluster use asynchronous communication technologies or hybrid technologies (84.85%). Platforms in cluster 4 offer users a range of interactive features; for example, all platforms offer the comment and the like feature. However, only 36.36% allow creators to modify uploaded content. Platforms in this cluster are willing to offer incentives for content creation (78.79%) and most of them offer badges system to stimulate user interaction (90.91%). A diverse range of user categories are found, such as authorised users (81.82%), paid memberships (75.76%), etc. Nearly half of the platforms in this cluster provide direct payment for the creators' content (45.45%).

3.5.2 Who is contributing where? Characterising users of the four clusters

Content creators in cluster 1 come from the three countries we analysed, namely China, the UK and the US, with respectively 30.8%, 35.6%, and 33.6%. Creators using platforms in cluster 2 are predominantly based in the US (52.1%) and the UK (38.2%), with only 9.7% of Chinese creators using these platforms. Similarly, cluster 3 platforms are mostly used by UK (38.1%) and US (47.6%) creators, with only 14.3% of Chinese creators. Cluster 4 platforms are more prevalent among Chinese creators (62.5%), with 18.2% and 19.3% located in the UK and US, respectively. Of particular interest is the widespread use of cluster 1 platforms for content creation across all three regions, with those platforms accounting for more than half of the creators in our survey. Additionally, it is worth highlighting that UK and US-based creators primarily use platforms in clusters 1 and 2, while those in China mainly use platforms in clusters 1 and 4.

In terms of content and behaviour, content creators using platforms in clusters 1 and 2 are more likely to use content creative platforms to search for or enjoy entertainment content uploaded by other content creators (cluster 1 mean = 5.09; cluster 2 mean = 4.82), while creators using cluster 3 platforms search for or enjoy entertainment content less frequently (mean = 4.12). Cluster 1 and 4 content creators are more likely to search for or enjoy lifestyle content (group 1 mean = 4.64, group 4 mean = 4.44), while group 3 creators are less likely to do so (mean = 3.92). Creators' content creation habits were very different; creators are more likely to create content on cluster 3 and 4 platforms, especially content related to entertainment (group 4 mean = 3.84) and lifestyle (group 3 mean = 3.69, group 4 = 3.59).

We also collected data on the importance of work and jobs for content creators and were also able to identify differences but also similarities between platforms in our clusters. In each

cluster, more than half of the creators carry out paid work. In comparison, a greater proportion of creators with non-financial return work use cluster 3 (42.9%) and 4 (42.5%) platforms, while clusters 1 and 2 have fewer creators with non-financial return work, at 30.9% and 29.6% respectively. Content creators from cluster 1 (mean = 2.71) and 2 (mean = 2.76) platforms are more confident that they will be financially rewarded in the future, while those using cluster 4 platforms were less confident (Mean = 2.60). Most creators had only one job (over 40% in each cluster), with a smaller proportion of creators having two or more jobs. More than half of the creators using cluster 1 and 4 platforms work under an employment contract, while it is more evenly split for those with a job/work with a contract or other arrangement in more than half of the four clusters. Finally, it is worth noting that, in general, creators using platforms in cluster 4 reported working longer hours per week than those using the other three clusters. Specifically, more than half of creators using the cluster 4 platform work more than 20 hours per week, while 26.4% of creators work more than 40 hours per week.

The age distribution within the four clusters is also quite distinctive. Over 15% of creators using cluster 4 platforms are over 35 years old, which is much higher than the percentage of creators over 35 years old using platforms in the other three clusters. Creators in the 25-34 age group are more evenly split between the four cluster platforms, but in the 18-24 age group, fewer creators use cluster 4 than the other three groups, at 47.6%. Creators in this age group are the main creators of content in the other three clusters, accounting for more than half of all creators in each cluster. Content creators under the age of 18 are more likely to use platforms in the first three clusters.

Finally, there are also some other interesting characteristics that we were able to identify through our analysis. In all four clusters, more creators using cluster 1 platforms were female, cluster 3 has a more even gender distribution of content creators, while more males use cluster 4 platforms. Among the four clusters, 50.3% of the creators have a bachelor's degree or above in cluster 1, 45.5% in cluster 2, 47.3% in cluster 3, and 49.9% in cluster 4. The majority of creators using clusters 1 and 2 platforms have a personal income at the lowest level (60.9% and 60.8% respectively), while creators using clusters 3 and 4 platforms have more personal income. In particular, about 62.5% of creators using cluster 4 have a personal income at mid to high level. The main characteristics of creators in each cluster is summarised in table 3.4

Table 3.4 Key characteristics of creators for each cluster

	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Regions	Evenly distributed among three regions.	Predominantly in the UK or US.	Predominantly in the UK or US.	Predominantly in China.
Platform use behaviour/Content creation behaviour	Mainly search for or enjoy entertainment/lifestyle contents.	Mainly search for or enjoy entertainment/art contents.	Less likely to search for or enjoy entertainment/lifestyle contents, but more likely to create lifestyle-related contents.	More likely to search for or enjoy and create entertainment/lifestyle contents.
Job	More creators have paid jobs; more confident that future work will be profitable.	Fewer creators have non-financial jobs; more confident that future work will be profitable.	Fewer creators have a job under an employment contract; less confidence that future work will be profitable.	More creators have paid jobs; less confidence that future work will be profitable; work longer hours per week.
Age	Creators are younger	Creators are younger	Creators are younger	Older in comparison
Gender	More female	Fairly average	Less female	Less female
Personal income	Low personal income	Low personal income	Higher personal income	Highest personal income

3.6 Discussion: The nature of content creation

In this section, we discuss the four clusters that we identified together with the key characteristics of their users with an emphasis of their relation to work and leisure.

3.6.1 Opportunity-seeking in leisure

Platforms in cluster 1 are very large and growing fast, thus the ultimate winners of the network effects phenomenon (Kenney and Zysman, 2016, Langley and Leyshon, 2017b, Vallas and Schor, 2020b). The influx of creators on those platforms is not only due to low-entry barrier but also to the scale and speed of development these platforms that have convinced creators that their work is more likely to be financially profitable in the future. As a result, creators spend a great deal of time and dedicate efforts building relationships and even 'friendships' with potential audiences to gain greater reputation and exposure (Alacovska et al., 2022).

Despite numerous opportunities, only a small percentage of content creators are able to benefit from the content they produce. In addition, the platform provides soft forms of control over the process of content creation through, notably, algorithmic management – for example, by providing rich content incentives to skew creators' content (Alacovska et al., 2022). Success in such large platforms is essentially contingent upon to the existence of black boxes that obfuscate the reality of the process. Creators seem to be influenced by the glowing descriptions, or 'Disneyfication', of online work conveyed through blogs and in the media (Bonneau and Aroles, 2021). It is plausible that these young creators may not be sufficiently prepared to undertake entrepreneurial pursuits and may merely be accidental entrepreneurs (Coulson, 2012). In other

words, rather than perceiving content creation as a form of work, they tend to regard it as a leisurely pursuit and seek opportunities for achievement in this recreational endeavour.

3.6.2 Unconscious emotional work

Platforms in cluster 2 are small, slow-growing and offer few financial incentives to creators. This cluster is unique in that most platforms do not offer direct or indirect rewards to creators for their content, and rarely 'motivational campaigns' to enhance content creation. Platforms in this category account for the majority of non-money-oriented creators. They may not pay attention to financial returns, but may to the value brought by the content dissemination itself (Benkler, 2006). Even if the content is sold, they retain a sense of intellectual ownership of their content, which can be a source of pride (Nemkova et al., 2019a, Schörpf et al., 2017). This echoes Ertan et al. (2021)'s reference to the attempts of some creators to give more meaning to their work, thus transcending mere monetary concerns. They publish content not to obtain money or to create value for others or society, but for personal reasons, such as releasing emotions. We saw how content producers in this cluster started sharing for free, which can be regarded as a form of pure sharing.

These creators appear to view their activity of content creation as a form of leisure rather than a form of work (Coulson, 2012). They derive pleasure from accessing information through the platform and are willing to engage in unconscious emotional work, forging emotional connections with their audience without necessarily recognizing and framing it as a form of work. They may feel a strong sense of belonging towards the platform and use this as an identity marker to distinguish themselves from other content creators (Cohen, 2013). In this logic, they reject the notion of individualistic competition and enjoy the content that comes with the platform, and their

own sense of identity motivates them to engage in work related to the creation of content on the platform (Coulson, 2012).

3.6.3 Money-oriented creative work

Platforms in cluster 3 are small to medium-sized, slow-growing and typically offer creators a rich return on their content creation. Lee and Hwang (2018) suggest that with the expansion of the platform, the content distribution process will become more and more like a set of regular and monotonous 'processes', somehow detached from the expectations of audiences. In addition, the expansion of platform scale makes it more difficult for content creators to predict the needs of audiences (Napoli, 1999). Creators are mostly interested in monetary rewards for the work they produce; earnings thus constituting the main sort of meaning they seek from platforms (Nemkova et al., 2019a). Therefore, creators may prioritize creating content with lower costs and higher potential rewards.

Despite an aspiration for their creative output to possess a value that transcends financial gain, they are still motivated to seek economic returns from their creative pursuits. It also means that they will face greater responsibility and pressure as compared to other creators. These creators may have to do many invisible and unpaid meta-work to ensure their image of professionalism, smoothness and ease (Aroles et al., 2022b) remains intact. The skills they need to acquire are not just creative, but also include those common to entrepreneurs or small business owners, including marketing and merchandising, networking, negotiating, operations and the acumen and confidence to choose the content of their work (Blackburn et al., 2017, Hancock et al., 2021). The greatest challenge for them is consequently how to create value through content and be rewarded for it without suppressing personal inspiration (Lampel et al., 2000). Interestingly, if creators perceive

themselves as self-employed, they are more engaged in their work and can derive greater happiness from it (Warr and Inceoglu, 2018).

3.6.4 Task-oriented gig work

The main features of Cluster 4 platforms are their strict entry barriers and extensive content creation incentives. Although cluster 4 platforms are mostly medium-sized and are growing at a moderate pace, they usually offer tremendous support for content creation, including organising a meaningful range of activities and providing badge systems to encourage creators in their creative endeavours. This supportive environment for content creation and the various initiatives mentioned are probably the main reason creators decide to join and work through platforms belonging to cluster 4.

However, these activities appear to reflect the aforementioned logic of algorithmic governance found on platforms (Elliott and Long, 2016). Content creative platforms become task-posting platforms, using a range of content creation activities to publish tasks for creators, while creators are attracted by the rewards of the tasks and proactively accept and complete them. As a result, content creation is likely to become a mechanised 'production step' (Lee and Hwang, 2018), and platform diversity will gradually decline due to the low threshold for imitation and increasing commercialisation of platform content. This dichotomy between the logic of content creation and the logic of commercial management makes it seem that creators working in platforms belonging to cluster 4 genuinely perceive content creation as the gig works (Hodgson and Briand, 2013).

3.7 Conclusion

With the number of platforms continuously growing and an increasing number of individuals engaging in content creation online, a classification that brings some order in the vast number of platforms is certainly helpful to understand the complexity of this emerging field in the gig economy. Through our cluster analysis based on key dimensions of platforms, we were able to identify and propose a typology based on ideal-typic categories. This typology allowed us then to develop a clearer and differentiated understanding of the large and complex digital ecosystem in which content creative platforms operate. Clearly, typologies have some limitations inasmuch as they produce ideal-typic categories and thus tend to simplify an otherwise more complex empirical reality. Notwithstanding, our typology is needed as most research related to content creative platforms tends to be descriptive and based on anecdotal rather than theoretically-based, generalizable data (Blanchard, 2004). In addition, our findings may provide direction for future research into each cluster of content creative platforms from the content creator's perspective. Based on our four categories of content creative platforms, future research could explore or compare the characteristics and complex motivations of content creators working in particular platform categories.

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Chapter 4. Content creation within the algorithmic environment: A systematic review

ABSTRACT

While research on platform work has been growing exponentially over the past few years, we still know relatively little about the contested working normativity of content creators under the algorithmic environment in the context of content creative platforms. Against this backdrop, we here ask: *How does algorithmic power influence the working features of content creators on digital platforms?* Through a systematic review of the literature on the relationship between algorithms and content creators, we identified four core themes, namely (i) the visibility of creators and their content, (ii) control of algorithms over creators, (iii) reflexivity as a form of resistance and (iv) idealisation of diversity. We draw from Tirapani and Willmott's (2023) two-dimensional conflict framework to theorise the power relations framing interactions between algorithms and creators. We argue that algorithms wield significant influence, whereas creators, situated as captives within the neoliberal economy, often find themselves lacking authority when it comes to algorithmic governance.

Keywords: Algorithm; Content creation; Control; Management; Visibility

4.1 Introduction

Algorithms have undeniably emerged as a critical component of management on digital platforms, notably evidenced by the exploitation of workers by and through platforms (Liang, Aroles, & Brandl, 2022; Vallas & Schor, 2020), the algorithmic control of economic transactions between workers and customers (Rosenblat & Stark, 2016) and the soft control exercised through and following the labour process (Wood, Graham, Lehdonvirta, & Hjorth, 2019). While initially portrayed as offering a high degree of flexibility (Wood et al., 2019), platform work is increasingly framed by structural limitations connected to platforms' market rationality (Brown, 2003), highly segregated work situations (Wood et al., 2019), unstable working hours (Liang et al., 2022), highly competitive environments (Murillo, Buckland, & Val, 2017), and highly unequal power distribution (Shanahan & Smith, 2021). Unsurprisingly, these negative outcomes of algorithmic management are undermining the open employment relationships and flexible working conditions promoted by digital platforms (Kalleberg, 2011).

Of particular interest to us here is the intersection between creative industries and digital platforms, in the form of content creative platforms. Content creative platforms enable individuals to produce, distribute, and monetise various forms of content as services or products (Marwick, 2013). While these platforms are often associated with idealised qualifiers, such as flexibility, autonomy and creativity, research has highlighted the interpretive work performed by creators to make sense of algorithms (Arriagada & Ibáñez, 2020) and the social construction of algorithms (Macdonald, 2021; Caitlin Petre, Brooke Erin Duffy, & Emily Hund, 2019), hinting to the complex power dynamics between creators and algorithms. Yet, we are still lacking a clear understanding of how content creation occurs with the context of algorithm-mediated, digital platforms and,

specifically, of the power dynamics between creators and algorithms and the impact algorithms have on the work of digital content creators.

This paper aims to address this gap through a comprehensive, systematic literature review on the relationship between algorithms and content creators. By closely examining papers related to content creators working in an algorithmic environment, we here ask: *How does algorithmic power influence the working features of content creators on digital platforms?* Our paper has three main objectives: (i) to provide a systematic overview of the research on the development of content creation across different digital platforms and over time; (ii) to conduct an in-depth analysis of the complex interplay between content creation and algorithmic management; and (iii) to gain a comprehensive understanding of the power dynamics at play within this working environment, thus laying the foundation for future research into content creative platforms. By exploring the complex power relationship between algorithms and content creators, this study will further contribute to explaining algorithmic exploitation in the digital economy.

Through our systematic analysis of the literature, we identified four key themes that frame existing discussions on content creation in an algorithm-mediated, digital environment. The first theme concerns the visibility of creators and their content. Visibility essentially accounts for the capacity of algorithms to hide or give prominence to digital content. Viewer engagement is critical for financial gain and thus a key concern for creators who seek to develop strategies to increase their visibility. The second theme revolves around the control of algorithms over creators. The control exerted by platforms is related to the lack of transparency of the dimensions accounting for visibility, which undermines creators' confidence in their potential algorithmic knowledge, thereby reducing the level of criticism they might level against platforms. This amounts to a form of soft power that disciplines subjects into engaging in self-management in their digital

environment, allowing algorithms to combine, calculate and rank behavioural data, which become indicators and clues for future behaviours.

The third theme centres on creators' reflexivity regarding algorithms. This primarily encompasses creators' understanding of algorithms as well as the implications of creators' reflexivity on their behaviours. The opacity of algorithms fuels creators' enthusiasm to try and develop their understanding of how algorithms operate, leading them to consciously manipulate algorithms. The final theme shifts the focus towards an idealized interpretation of the various dimensions of diversity within content creation platforms. Algorithmic supposedly neutrality is pivotal in this context; yet, the evidence seem to indicate limitations in terms of creators' engagement with and influence over agenda-setting on digital platforms. Marginalized groups of creators find it challenging to evade biases within the digital environment, reinforcing the existing content polarization that frames creators' access to content.

We draw from Tirapani and Willmott's (2023) two-dimensional conflict framework – Individualisation (responsibilisation and quantification) and Hegemonic ideology (universalism and disembeddedness) – to theorise the power relations framing interactions between algorithms and creators. The framework provides a dynamic understanding of conflicts in neoliberalism at work, where the expression of discontent often appears in conjunction with a number of fantasies around work (Tirapani & Willmott, 2023). The framework acknowledges the tension between lived experiences of workers and the fantasies of self-entrepreneurial concept and the moderation of radical conflicts by these fantasies (Tirapani & Willmott, 2023). Mobilising this framework, we contend that algorithms frequently wield significant influence, whereas creators, situated as captives within the neoliberal economy, often find themselves lacking authority when it comes to algorithmic governance.

This paper is structured as follows. The next sections review the literature on algorithms, algorithmic management, algorithmic exploitation of content creative platforms, and content creation-related work in algorithmic environments. The methodological approach underlying our systematic review is presented in the third section. The fourth section systematically synthesizes the existing literature through the four themes aforementioned, namely the visibility of creators and their content, algorithms' control over creators, reflexivity as a mode of resistance, and the idealization of diversity. In the fifth section, we theorise the power relationship between creators and algorithms through Tirapani and Willmott's (2023) framework and provide directions for future research. Finally, the conclusion briefly fleshes out the main contributions of this paper.

4.2 Algorithms and Content Creation

4.2.1 Algorithms and algorithmic management

The concept of algorithm can be traced back to the development of computer sciences with step-by-step computer programming (Finn, 2018). Computer scientists, software designers and machine learning practitioners essentially use the term as an 'insiders' term' endowed with particularities and limitations that elude non-specialist discussions of the term (Dourish, 2016). They use algorithms to perform data mining (Boyd & Crawford, 2012; Dourish, 2016) and to structure (patterns of) information (Bucher, 2012).They also input data to complete various mechanical decision-making (Bishop, 2018; Dourish, 2016; Velkova & Kaun, 2021), task-achieving (Cotter, 2019; Duggan, Sherman, Carbery, & McDonnell, 2020; Kellogg, Valentine, & Christin, 2020) and problem-solving activities (Dourish, 2016; Neapolitan & Naimipour, 2010).

With the rise of algorithms, their technical impacts on social realities came to be increasingly salient, with many papers documenting the socio-technical consequences of

algorithms (Boyd & Crawford, 2012; Bucher, 2012; Velkova & Kaun, 2021). As such, algorithms appeared to be conceptualised as technologies, processes or even practices framing and shaping existing social structures. For example, Citron and Pasquale (2014) refer to algorithms as scoring systems technically ranking individuals in numerous aspects of their existence for predictions. In management research, the scoring systems combining task distributions act as a form of managerial or organisational control reforming labour relations in which remote workers directly respond to individual demands through algorithms (Dourish, 2016; Duggan et al., 2020; Kellogg et al., 2020). To achieve this, algorithms match workers and customers with no effort of human involvement and oversight (Duggan et al., 2020; Wood et al., 2019). The system alters the traditional control of the customer-oriented management strategies via the ranking system (Wood et al., 2019) and techno-normative control through peer pressure and emotional labour (Gandini, 2019). Thus, algorithmic management establishes standards for, regulates the conduct of and outlines performance criteria for workers by collecting and monitoring data about their work through the reputation systems that produce metrics used for the evaluation (Duggan et al., 2020; Gandini, 2019).

4.2.2 Algorithmic exploitation of content creative platforms

Neoliberalism rationalises the activities of algorithms and creators on content creative platforms, arguing that new technology reconfigures the economy and the labour landscape (Lata et al., 2023). Content creative platforms offer creators greater autonomy, task variety and complexity. Indeed, this neoliberalism masks algorithmic exploitation. As with other platforms in the digital economy (Wood et al., 2019), algorithmic control is at the heart of the operations of content creative platforms. Platforms use algorithms to shift responsibility to content creators, use metrics to quantify creators' behaviour for ease of monitoring, and ultimately commercialise the platform.

Creators are committed to consistently creating a diversity of content in order to gain higher visibility. Because of this, creators have to passively Because of this, creators have to passively adjust their behaviour according to the logic of the algorithm. Information asymmetry puts creators in a weak position and thus without bargaining power (Calo and Rosenblat, 2017). The folk theories based on the reverse understanding of the algorithm are also easily destroyed because of the authority of the platform. Creators are deprived of flexibility, especially for those creators who aspire to gain greater visibility on the platform. There is a high degree of competition among the large number of creators brought about by the low threshold due to the limited resources of the platform. In order to cope with algorithmic control, creators have to create content according to the algorithm's preferences (which are generally determined by the marketplace) and publish content on a regular basis according to a fixed schedule (Lata et al., 2023). Creators unknowingly become 'sticky labour', they are in the predicament of being controlled by algorithms and constantly increasing their working hours (Sun et al., 2023).

Indeed, like other platforms in the digital economy, content creative platforms have shifted control to algorithms (Lata et al., 2023). Although platforms do not generally refer to content creators as 'workers', the use of algorithms to control content creation by creators certainly does not treat content creation as a labour process. Algorithms quantify the performance of content created by creators into specific visible data and metrics; in other words, creators are reduced to data points in the platform's operational processes (Sadowski, 2019). These data points act as the platform's capital, and the platform undoubtedly expects its capital to accumulate quickly. As a result, platforms use visibility as bait to constantly push creators to self-optimise (Heeks et al., 2021). The fact that creators do not have a clear idea of how metrics affect the assignment of visibility and are unable to engage in a direct and meaningful conversation with the platform,

further empowers the algorithm (Lata et al., 2023). Although some creators perceive themselves as entrepreneurs, the business model of content creative platforms undoubtedly proves that digital Taylorism still exists amongst content creators, and the asymmetry of power between creators and platforms exacerbates algorithmic exploitation from the platforms.

4.2.2 Content creation in an algorithmic environment

While algorithms tend to be more flexible on content creative platforms, they nonetheless share some similarities with those in place on 'regular' gig work platforms (Bishop, 2019; Velkova & Kaun, 2021). Here, we do not solely focus on the algorithm itself (e.g., Duggan et al., 2020), but also on metrics, recommender systems and other representations of algorithms (e.g., Goldenberg, Oestreicher-Singer, & Reichman, 2012). Algorithms have socio-technical impacts in that they structure communications through which regimes of visibility become materialised (Bucher, 2012; Velkova & Kaun, 2021). Algorithms make decisions on what should be seen and who should see it (Bishop, 2019; Bucher, 2012; Cotter, 2019; Haenlein et al., 2020; Velkova & Kaun, 2021), via complex calculations based on multiple metrics to determine content distribution for different audiences (Bucher, 2012). The overwhelming dominance of certain types of content, in terms of popularity, has significantly limited the avenues available to aspiring content creators to achieve success (Bishop, 2018). The opaqueness and complexity of the black box surrounding algorithms can be explained by the protection of confidential information from the platform and the incomprehensibility of the algorithm itself (Bishop, 2018, 2019; Bucher, 2012; Cotter, 2019; Dourish, 2016). Since algorithms are intractable, creators often attempt to construct their own interpretations of algorithms (Cotter, 2019; Haenlein et al., 2020).

As other forms of platform-mediated work, digital content creation seems to be closely associated with a number of hyperbolic and positive qualifiers (Liang et al., 2022). The control of

creators through algorithms occurs mainly after the labour process (i.e. after content creation), which seems to imply that creators act as entrepreneurs and have a great deal of autonomy over their work (Kost, Fieseler, & Wong, 2020; Wood et al., 2019). This overlooks the instability of creators' work. Previous research has shown that content creators face significant pressures due to the uncertain timing of creativity generation, the unreliability of the emergence of hot topics, and the uncertainty of platforms' skewed policies, which may require them to work out-of-hours or engage in extensive unpaid meta work to ensure the professionalism and continuity of their content (Aroles, Bonneau, & Bhankaraully, 2022; Arriagada & Ibáñez, 2020; Nemkova, Pelin Demirel, & Baines, 2019; Wright, 2015). This creates a platform culture where creators need to be 'always-on'.

In addition, creators have to undertake other professional activities to make ends meet due to the difficulty of obtaining returns in the early stages of content creative-related works or the delay in distributing returns (Kost et al., 2020; Wright, 2015). In any case, these pressures are closely related to algorithms which achieve soft control over creators by controlling the visibility of content (Bishop, 2019; C. Petre, B. E. Duffy, & E. Hund, 2019). From this perspective, visibility appears to act as a currency symbol creating a 'Piketty effect' on content creative platforms, where the few best performing creators on the platform can obtain much greater than average visibility levels (Frenken, Meelen, Arets, & Glind, 2015). In order to obtain higher visibility, creators attempt to manipulate the algorithm according to their own understanding, and inevitably this process influences the behaviour of creators (Bishop, 2018). Creators working in an algorithmic environment never really seem to gain control over their work (Nemkova et al., 2019). Against this backdrop, we here ask: *How does algorithmic power influence the working features of content creators on digital platforms?*

4.4 Methodology

To explore how algorithmic power influences the working features of content creators, we first performed a systematic literature review, using the most recognized databases in business and management, namely Scopus, Web of Science and EBSCO Business Source Ultimate. All four authors worked on the identification of the key search terms of this study. The final set of search terms is presented below (see Figure 4.1).

We queried and searched for these terms in keywords, abstracts, titles and texts of articles published in double-peer reviewed journals. We applied formal exclusion criteria (language other than English as well as working papers, announcements, proceedings, dissertations, books and book chapters) and found 2859 articles. After removing duplicates, the sample size was reduced to 2085 articles. To ensure the consistency and relevance of our analysis, we decided to exclude papers published in journals that do not appear on the Chartered Association of Business School 2021 list in line with common practice for systematic reviews. We also identified, at this stage, three further duplicates that we removed. This brought our sample down to 1039 articles.

Algorithm related keywords		Content creator related keywords
		"Blogger*" OR "internet celebrit*" OR "Camgirl*" OR "micro celebrit*" OR "Content creator*" OR "micro-celebrit*" OR "Content producer*" OR "social media producer*" OR "Digital producer*" OR "streamer*" OR "Influencer*" OR "vlogger*" OR "Instagram*" OR "youtuber*"
"Algorithm*" OR "ranking" OR "Invisibility" OR "recommender system" OR "Metrics" OR "visibility"	**AND**	**OR**
		Other keywords "Attention economy" OR "live streaming" OR "Content creation" OR "social media" OR "Digital labo*" OR "social networking sites" OR "Immaterial labo*" OR "user-generated content"

Figure 4.1 Search terms used in databases

In the second step, all authors acted as independent coders to determine the thematic relevance of the articles based on the title, abstract and keywords. In this process, two key inclusion criteria were used: (i) Algorithms used by the platform (e.g., ranking, etc.) are well-defined and constitute the core content of the article; (ii) Content creators constitute the main actors in the article. Thus doing, we essentially excluded articles in which algorithms and content creators were not both the core of the study. Both authors screened the articles simultaneously to ensure the accuracy of the results. Articles for which there were doubts were discussed amongst all four authors. Through this process, we excluded 955 articles in which algorithms are not well-defined and excluded 20 articles not related to content creators. We then performed a final round of screening on our sample of 64 articles. Both authors read the full articles separately to further

determine whether the articles met the two key criteria outlined above. We finally retained 47 articles as our sample after excluding 19 articles not sufficiently related to our core themes and one article which was more of an essay than a paper. The figure below (Figure 2) provides an overview of the searching and filtering processes.

Identification of studies via databases

Records identified from Scopus, Web of Science and EBSCO Business Source Ultimate (n = 2859)

Articles removed *before screening* (n = 774)

Reasons:
Duplicates (n = 774)

Records screened (n = 2085)

Articles removed (n = 2021)

Reasons:
Duplicates (n = 3)
Not in ABS list (n = 1043)
Not related to theme (n = 975)

Full-text articles assessed for eligibility (n = 64)

Article removed (n = 18)

Reasons:
Not related to theme (n = 17)
Not academic paper (n = 1)

Articles included in this systematic review (n = 47)

Figure 4.2 Flowchart of the systematic search process

Table 4.1 General information about the articles in our sample

Year	count	theoretical study	empirical study			ABS list				
			qualitative research	quantitative research	mixed research	1 star	2 star	3 star	4 star	4+ star
2012	1	/	/	1	/	/	/	/	/	1
2013	/	/	/	/	/	/	/	/	/	/
2014	/	/	/	/	/	/	/	/	/	/
2015	2	1	/	1	/	1	/	/	/	1
2016	1	1	/	/	/	1	/	/	/	/
2017	2	/	1	1	/	/	1	1	/	/
2018	3	1	/	2	/	1	1	1	/	/
2019	6	1	2	2	1	2	2	2	/	/
2020	4	1	2	/	/	/	2	1	/	1
2021	17	3	7	4	2	5	9	1	1	1
2022	11	2	4	4	1	/	6	4	/	1
SUM	47	10	16	15	4	10	21	10	1	5

In terms of general trends, research on algorithms and content creators began in 2012 and gradually increased over time (reaching a peak of 17 articles in 2021). The table below (see Table 1) provides general information about our 47 articles. Further information and details about the articles are provided in appendix.

We rigorously analyzed the content of the 47 articles we selected relying on an inductive approach. Through this process, we identified four main themes – *visibility* of creators and their content, *control* of algorithms over creators, *reflexivity* as a form of resistant and *idealization* of diversity – which we use to structure our findings section. These themes emerged through discussions amongst authors and are, in essence, a reflection of the frequency of their occurrence in the papers examined. The specific dimensions included in each theme are shown in Table 2.

4.5 Findings

4.5.1 The visibility of creators and their content

Algorithms are shaping how we access and engage with information (Donovan & Boyd, 2021; Schöps, Reinhardt, & Hemetsberger, 2022). Algorithmic content distribution amplifies or suppresses the reach of particular messages, which directly interferes with the nature of contents made available to us (Donovan & Boyd, 2021; Riemer & Peter, 2021). For example, platforms use algorithmic curation to show recommended contents based on the previous behaviour of creators (Murthy, 2021; Proferes & Summers, 2019). As a result, it helps the spread of radical content (Murthy, 2021), the polarisation of content (Chipidza & Yan, 2022; Levy, 2021; Riemer & Peter, 2021) and the development of popularity bias (Elahi et al., 2021; Hensmans, 2021; Kitzie, 2019; Nikolov, Lalmas, Flammini, & Menczer, 2019; Schöps et al., 2022). In addition, the more popular creators are, the greater their visibility is (Proferes & Summers, 2019). Hashtags and algorithmic recommendations generate dominant contents mainly generated by influencers and partisans (Hensmans, 2021; Schöps et al., 2022). Thus, the evidence reviewed here seems to suggest that content creative platforms endorse the unequal distribution of algorithmic visibility because of their demand of increasing viewers' engagement (Xiang, 2022) and financial profits (Elahi et al., 2021; Hensmans, 2021; Riemer & Peter, 2021; Schöps et al., 2022).

However, popularity bias is not always consistent, and it is critical to examine preconceptions around different types of algorithms and information (Davis & Graham, 2021; Elahi et al., 2021). Although users who are already likely to become even more popular through recommendations, unpopular tweets or items have the potential to gain more recommendations of items (Elahi et al., 2021). Other factors, such as changes in the characteristics of the content or the

behaviour of the creator, may also affect visibility through the algorithm. A study conducted by Aggrawal and Arora (2019) concluded that there are characteristic factors that influence the viewership of YouTube videos, such as video age and length. In addition, some unintentional actions of creators, such as disclosing income (Crosby & McKenzie, 2021) and switching between channels (Zhao, Lu, Hu, & Hong, 2022), can have an impact on visibility.

Finally, certain scholarly investigations have directed their focus towards the algorithmic capacity that enhances visibility. The affordance of algorithms helps creators to foster the retweetability (Huang & Yeo, 2018) and spread of user-generated product links (Goldenberg et al., 2012). Algorithms are also associated with disclosing unknown information. For example, the searchability of sexual assault disclosure and the information needed by LGBT groups is accomplished by hashtags (Barta, 2021) and YouTube's search engine (Kitzie, 2019). In these cases, algorithms perform a form of disclosure, different from simply increasing visibility, enabling creators to enhance their visibility and reachability within certain groups. Other algorithmic scenarios, such as filtering and prediction of online behaviour, significantly affect the opinion and process of decision-making of audiences (Napoli, 2015; Reisach, 2021).

4.5.2 Control of algorithms over creators

Content creative platforms control creators through a series of algorithmic strategies. Platforms maintain their dominant position by strategically controlling the transparency of the dimensions accounting for visibility. Although there is a lack of explanation regarding the inner workings of algorithmic ranking and moderation (Cotter, 2021; Xiang, 2022), platforms can use strategic disclosure to address the issue of the black box. Cotter (2021) used the metaphor of gaslighting to explain how the asymmetric relationships between platforms and creators undermined creators' confidence about their knowledge of algorithms in order to reduce criticism. This relies on

asserting certain "facts" about algorithms. Platforms also publicly assert new narratives that distract creators from key issues, such as visibility manipulation (Cotter, 2021; Kim & Moon, 2021). Nevertheless, the lack of transparency demonstrates the issue of platform control, which can invertedly fuel conspiracy theories and suspicion (Kim & Moon, 2021). It should also be noted that gaslighting does not always work as influencers' knowledge can help others to identify the algorithms' shortcomings and reflect on the purpose of platforms (Cotter, 2021).

Platforms occupy a privileged position when it comes to manipulating visibility (Schöps et al., 2022). According to Xiang (2022), algorithms form the infrastructure and the protocol that separate the sources and searchability. Given this separation, algorithms are able to control the visibility of information by modifying engagement for certain content (Théro & Vincent, 2022), generating a gossip of "shadowbanning" (Cotter, 2021). Shadowbanning makes some accounts almost invisible, limits connectivity in the hashtag feeds, which can have a tremendous impact on engagement (Cotter, 2021). Additionally, algorithmic surveillance is characterised by a form of pervasive awareness: observers are both observing and being observed (Hampton, 2016). This awareness indicates that platforms can quantify the engagement of users and the performance of creators through mining data (Arapakis, Cambazoglu, & Lalmas, 2017; Entman & Usher, 2018). The data is a dynamic loop where algorithms are fed by viewers to help those viewers navigate and sort information for a personalised and tailored experience (Graham & Henman, 2019; Hampton, 2016; Wilson-Barnao, 2017). Thus, the environment of surveillance creates a form of disciplinary power prompting creators to engage in different forms of self-managing (Gilani, Bolat, Nordberg, & Wilkin, 2020).

Moreover, algorithmic metrics are integrated to allow behavioural data to be combined, calculated and ranked (Schöps et al., 2022; Xiang, 2022), which are recognised by creators and

audiences as useful indicators and clues for future behaviours (Hampton, 2016). The metrics build a mutual power relationship between content creators and their followers in the process of improving visibility (Gilani et al., 2020). Furthermore, multiple ways of making such calculations increase the competition among creators through peer pressure (Shen, Hu, & Ulmer, 2015; Wang, 2020). Thus, algorithms become the sticky web that is meant to be the platforms' market rationality that creators should adhere to in order to gain visibility (Schöps et al., 2022).

4.5.3 Reflexivity as a form of resistance

The non-transparent nature of black-boxed algorithms makes it difficult for creators to formulate strategies related to content creation (Büchi, Fosch-Villaronga, Lutz, Tamò-Larrieux, & Velidi, 2021; Schwartz & Mahnke, 2021). Although how algorithms operate is difficult to understand for creators or even experts, creators are keen to use the results of metrics related to visibility (e.g. view counts, content ratings, etc.) to reverse the algorithm for the purpose of understanding it (Büchi et al., 2021; Cotter, 2021; Kitzie, 2019) – a form of reverse engineering. This exploration may have been achieved through a process of continuous attempts and iterative reflection (Proferes & Summers, 2019). Algorithm-related folk theories – an individual's development of an intuitive and informal theory aimed at explaining the outcomes, influences, or consequences of algorithms – are thus generated and circulated in the virtual community, which is certainly an active attempt by creators to understand algorithms (Büchi et al., 2021). These theories may be based on intuitions and thus very vague, but they are nonetheless part and parcel of the behavioural habits of creators (Lundahl, 2022). Some studies have attempted to design additional algorithms as a more standardised and professional means of fleshing out these circulating folk theories to improve the understanding creators have of platform algorithms (Fouquaert & Mechant, 2022). Ambiguous

folk theories can also be discussed and circulated with other creators in content creative platforms through reflective content (Guerra & d'Andréa, 2022; Schmidt & Van Dellen, 2022). Overall, if more, and more robust, folk theories were understood, creators would be more confident in gaining greater visibility and thus outperforming the average player on content creative platforms (Gaenssle & Budzinski, 2021).

Creators consciously manipulate algorithms based on their knowledge of folk theory. This manipulation revolves around visibility, as creators attempt to alter the results of algorithmic metrics through purposeful content curation to increase the visibility of content (Abidin, 2022; Barta, 2021; Gilani et al., 2020). Manipulating algorithms can also provide creators with the opportunity to escape punishments if the content violates the platform's rules (Théro & Vincent, 2022). It is worth noting that although some creators claim to be 'experts' in algorithm manipulation, their manipulation is not as effective as they think it is (Schwartz & Mahnke, 2021), perhaps because the folk theories they adhere to are highly unstable and easily swayed. This instability may be the result of a combination of creators' mistrust towards folk theory and their excessive trust in platforms, or perhaps the other way around. Platforms are often seen as the authoritative interpreter of the algorithm, so once the platform issues a statement questioning the folk theory, the folk theory falls apart (Cotter, 2021).

These folk theories seem to be premised on the stereotype of the powerful logic and precise computation of algorithms. Due to the strong trust in the accuracy of the algorithm, some creators do not critically reflect on the results of the algorithm when using the platform, but instead simply blame algorithms when they encounter problems (Schwartz & Mahnke, 2021). Once creators realise that algorithms are not as powerful and useful as they think, algorithmic disillusionment occurs (Büchi et al., 2021). Algorithmic disillusionment is the result of a conjunction of folk-

theoretical inaccuracies and excessive trust in algorithms, with creators being overwhelmed by the wrong algorithmic results and even making bad judgments or decisions (Büchi et al., 2021). Even if some of the negative effects of the algorithm are widely perceived by creators, this does not mitigate and improve the effects of that negative effect, and the functionality of the platform will make creators continue to use the platform with different motivations (Schwartz & Mahnke, 2021). In addition, creators also delineate the identity boundaries between influencers and creators based on the results of algorithmic metrics (Harrigan et al., 2021), although this boundary is not clearly defined in the broader context of content creative platforms.

4.5.4 Idealisation of diversity

Content creative platforms extend the social network of creators, providing virtual communities where creators can interact with one another. Content creative platforms can be used by high-level creators or organisations to achieve decentralisation. They provide the means for bottom-up communication through algorithms while increasing the accessibility of other creators, ultimately democratising the algorithm (Shahin & Dai, 2019). By engaging in content interactions with specific thematic tags, creators can influence or contribute to the implementation of agenda-setting on platforms (Proferes & Summers, 2019). However, gatekeepers are usually specific groups of users, rather than all creators (Enli & Simonsen, 2018; Proferes & Summers, 2019). It seems to imply that the democratisation of algorithms is not absolute, but is instead fraught with limitations. While algorithms make communication between high-level creators or organisations and other platform participants faster and more efficient, the hierarchy of control is steeper in the case of algorithmic surveillance (Entman & Usher, 2018). In other words, high-level creators or organisations can use algorithms to calculate and analyze data from potential platform users to manipulate platform users (Entman & Usher, 2018). The democratisation of algorithms seems to

be only the advocacy of platforms and the utopian ideals of creators. Furthermore, efforts of algorithms to quantify the forms of creators' socialisation through ranking seem to suggest that the monetisation of user data within the logic of algorithms is the core business of platforms (Delfanti, 2021).

In a digital environment built by presumably fair and objective algorithms, bias never seems to go away. The stigmatization of marginalized groups persists, and platforms with reputations as highly inhospitable to marginalized groups endure (Kitzie, 2019). To be recognised by algorithms and virtual communities, some creators from marginalised groups have to use fake social network profiles (Kitzie, 2019; Wang, 2020), or even quit the platform due to negative psychological pressure, such as low self-esteem (Wang, 2020). Furthermore, gender stereotypes still exist, as realistic gender-segregated professions (e.g. nurses, engineers, etc.) are also underrepresented in content creative platforms (Singh, Chayko, Inamdar, & Floegel, 2020).

In any case, the persistent contact and pervasive awareness created by the current algorithms may fundamentally restructure communities (Hampton, 2016). The persistent contact and pervasive awareness result in the shaping of a distinct rhetorical space, which can be characterized by shape, size and the particular topics (Kushwaha, Kar, Roy, & Ilavarasan, 2022). The dynamic nature of rhetorical space means that all creators will have their own unique sense of spatial engagement, working together to shape or reshape the viewpoint of the group within the space (Kushwaha et al., 2022). This process, under the co-influence of curation algorithms and filter bubbles, inevitably leads to the emergence of content polarisation (Berman & Katona, 2020). In other words, intentionally or not, algorithms may limit creators' access to different viewpoints, leading to negative social consequences as well as political divisions (Berman & Katona, 2020).

Table 4.2 Four analytical themes

Themes	Dimensions	Reference
The visibility of creators and their content	Algorithmic preference	Kitzie (2019), Proferes and Summers (2019), Nikolov et al. (2019), Levy (2021), Chipidza and Yan (2022), Donovan and Boyd (2021), Davis and Graham (2021), Murthy (2021), Hensmans (2021), Schöps et al. (2022), Elahi et al. (2021), Riemer and Peter (2021), Xiang (2022)
	Factors and algorithmic metrics	Aggrawal and Arora (2019), Zhao et al. (2022), Crosby and McKenzie (2021)
	Facilitating visibility	Barta (2021), Kitzie (2019), Napoli (2015), Goldenberg et al. (2012), Huang and Yeo (2018), Reisach (2021)
Control of algorithms over creators	Strategic transparency	Cotter (2021), Kim and Moon (2021), Xiang (2022)
	Algorithmic surveillance	Entman and Usher (2018), Wilson-Barnao (2017), Cotter (2021), Graham and Henman (2019), Shen et al. (2015), Wang (2020), Hampton (2016), Xiang (2022), Arapakis et al. (2017), Schöps et al. (2022), Gilani et al. (2020) Théro and Vincent (2022)
Reflexivity as a form of resistance	Folk theories	Büchi et al. (2021), Cotter (2021), Fouquaert and Mechant (2022), Gaenssle and Budzinski (2021), Guerra and d'Andréa (2022), Kitzie (2019), Lundahl (2022), Proferes and Summers (2019), Schmidt and Van Dellen (2022), Schwartz and Mahnke (2021)
	Algorithm manipulation	Cotter (2021), Gilani et al. (2020), Schwartz and Mahnke (2021), Théro and Vincent (2022)
	Influence on creators	Büchi et al. (2021), Harrigan et al. (2021), Schwartz and Mahnke (2021)
Idealisation of diversity	Democratisation	Delfanti (2021), Enli and Simonsen (2018), Entman and Usher (2018), Proferes and Summers (2019), Shahin and Dai (2019)
	Bias	Kitzie (2019), Singh et al. (2020), Wang (2020)
	content polarisation	Berman and Katona (2020), Hampton (2016), Kushwaha et al. (2022)

4.6 Discussion

In this section, we first draw from Tirapani and Willmott's (2023) framework to theorise the power relations that frame interactions between algorithms and creators and then identify areas for future research on algorithms and digital content creation.

4.6.1 Individualisation

In the content creative platforms, *responsibilisation* is particularly noticeable where the rise of autonomy is associated with decentralised systems and a social fabric of entrepreneurship that forms a strong sense of independent creativity and marketability (Ashman, Patterson, & Brown, 2018). While positive portrayals of platform work proliferate, it is apparent through the analysis of the literature that under the capital-labour relations, there is a shift of responsibility to creators. Autonomy seems to be mainly embedded in the algorithmic management under the less self-directed work design (Reiche, 2023). These relations are first contributed by matching workers and customers, thereby reducing the effort of human oversight (Duggan et al., 2020; Wood et al., 2019). These creators-audience relations further appear in the architecture of algorithmic metrics that monitor users' online actions and transform the data that can be evaluated for viewer engagement and platforms' commercialisation. Therefore, the process of content producing is mainly under algorithmic control. It is not a surprise that filter bubbles and polarisation become prominent limits of content sharing (Berman & Katona, 2020). Although there is a common belief of work autonomy, the results seem to confirm the platforms' leverage of algorithmic management to shift responsibility to the workers and control them (Duggan et al., 2020).

There is no doubt that algorithms play a dominant role in the *quantification* of user engagement and creators' performance (Arapakis et al., 2017; Entman & Usher, 2018). In particular, transforming behavioural data into metrics makes creators' performance evaluable for platforms. These algorithmic powers confirm the connection between metrics and the threat of invisibility (Bucher, 2012). Although content creators seem to have the capacity to manipulate algorithmic metrics, successful manipulations are rare, maybe due to creators' simultaneous distrust in these volatile folk theories and excessive reliance on platforms. Additionally, the story

of manipulation would be different if operating at the macro level. The ways in which individuals and groups adapt to change their situation remain under the influence of power (Nafstad, Blakar, Carlquist, Phelps, & Rand-Hendriksen, 2007). The inner workings of algorithms still profoundly shape creators' capacity for manipulation as it comes from personal experiences and assumptions about algorithm reversing (Büchi et al., 2021). It means that algorithms may be still at work in a cognitive way. Algorithmic power here could also be seen to facilitate consent between the dominant and subordinate groups' material interests by using cultural or ideological means (Lukes, 2021) and through unconscious bodily dispositions (Hearn, 2008). In other words, manipulation here might refer to, instead of personal capacity, the desire for a source of power through which metrics are internalised as a form of bargaining power within platforms' normative.

4.6.2 Hegemonic ideology

Neoliberalism rationalizes all social orders governed by *universalism*, arguing that understandings of algorithms can be summarized and further constructed into entire virtual communities (Tirapani & Willmott, 2023). Creators' understandings of algorithms shape interactions between creators and algorithms, flowing dynamically between creators in the form of 'folk theories' and thereby becoming general consensus (Toff & Nielsen, 2018). It seems to hint to the power of creators to manipulate algorithms, but in truth, creators have unwittingly become captive to the neoliberal economy (Pekkala, 2022). The circulation of folk theory in the virtual community is a product of collaboration among creators and not an implicit power of creators to manipulate algorithms (Kost et al., 2020). The creation and development of folk theories is essentially just a reverse understanding of algorithms that is not accurate. While the complexity and limited transparency of algorithms prevent creators from predicting them in any real sense, creators are actually powerless to the control of algorithms and can only be annoyed by the way algorithms operate

(Ytre-Arne & Moe, 2021). Even if creators build widely circulated and well-accepted folk theories based on their personal experiences and knowledge, it is easily undermined by the non-transparency of the algorithm and the excessive trust of the platform. The spurious neoliberal economic discourse obscures the authentic manifestation of algorithmic exploitation.

Content creators are attempting to materialise democratic ideals through the creation of virtual communities (Goode, 2009), in which they can use their influence to affect wider social and cultural discourse, thus enacting a form of *disembeddedness* from society. Although algorithms are often associated with discourses, such as bias, detached from the real society, there is also academic controversy around the fact that algorithms do not only replicate biases found in 'real society' (i.e. offline), but even amplify them (Kelan, 2023). It is because the data on which the algorithm operates is derived from creators, and the historical bias, unrepresentativeness, and collection bias contained alongside these data make it inevitable that both gender and minority bias are retained in the virtual community (Caliskan, Bryson, & Narayanan, 2017; Kelan, 2023; Lee, Resnick, & Barton, 2019; Tambe, Cappelli, & Yakubovich, 2019). In addition, mirroring the digital divide, the power level possessed by individuals varies depending on their motivation and skills (Pekkala, 2022). Algorithms categorize individuals and prepare different results for various categories (Vassilopoulou, Kyriakidou, Özbilgin, & Groutsis, 2022). Unbiased algorithms do not exist, but are a scientistic illusion (Vassilopoulou et al., 2022). The illusion of algorithmic justice implies that algorithms dominate power relations and shape the behaviour of creators. Algorithms secure the overwhelming power itself by bringing creators in a virtual space that claims to be democratic and detached from real society, but by stripping them of the possibility to understand and question the rules by which the virtual space operates, even if these rules have disastrous effects (Vassilopoulou et al., 2022).

4.6.3 Future Research

Informed by our systematic review of the literature, we here propose a three-fold research agenda related to algorithms and content creators. First, content creative platforms use algorithmic management techniques to exert control over content creators; by shifting the risk entirely to creators (Duggan et al., 2020), they materialise a strong power imbalance between platforms and creators. Algorithmic management plays a significant role in shaping autonomy within a work environment characterised by a reduced level of self-direction (Reiche, 2023). In this context, research into the changing nature of employment relationships, with a focus on the concept of visibility for content creation, is particularly pressing. Related research may involve gaining a more granular understanding of algorithmic power and its implications on content creation as well as the impact of algorithmic control on various aspects on platform-mediated creation work, such as the retention rate of good creators, their creativity and marketability. Additionally, studies could examine the impact of visibility data as a monetary unit on creators' work and its broader implications, both in terms of process and practice.

Second, creators still struggle to develop folk theories the view of escaping the power of algorithmic control (Toff & Nielsen, 2018). These unsuccessful manipulations mostly begin with trust in the algorithm (i.e., trust that the algorithm is fair and reversible) and end with trust in the authority of the platform (i.e., the platform's interpretation of the algorithm). More research is needed to analyse folk theories in order to explain how these theories might paradoxically produce knowledge reinforcing the authority of the algorithmic power and the compliance of content creators. Moreover, future research could explore how creators understand and manipulate algorithms (looking into the process of reverse engineering), shift of attitudes towards algorithms in the process (e.g. from trust to distrust), and the potential impact of that shift on content creation.

This would provide the basis from a stronger understanding of the nature and quality of the work of content creators.

Finally, further research on the construction of virtual communities by and through algorithms in content creative platforms is also highly urgent. Algorithmic fairness and virtual democratic societies are only myths (Vassilopoulou et al., 2022). In fact, algorithms do not only derive existing biases from society, but also transfer and amplify those in the digital arena (Twitter – now X – is a case in point). Future research could focus on the paradox of algorithmic fairness on content creative platforms, and the impact of 'fake fairness' on creators and their work. This would further enrich research related to how algorithms shape the environment of content creative platforms.

4.7 Conclusion

In this paper, we systematically reviewed research on the relationship between algorithms and creators in content creative platforms and sought to theorise the power relations between creators and algorithms, and explains the algorithmic exploitation of content creative platforms. Our paper makes two main contributions to research on the future of work. First, it systematically reviews and organises previous research on creators and algorithms, thus enabling us to develop a holistic understanding of digital content creation in the context of algorithm-mediated platforms. Second, our paper revisits the relationship between creators and algorithms through the lens of power, laying the groundwork for further research on the multifaceted role of algorithms in content creative work. Our paper proposes a critical interpretation of the relation between algorithms an content creators through Tirapani and Willmott's (2023) framework. We argue that in content creative platforms, algorithms exert overwhelming power over creators, who appear as captives in the neoliberal economy, thus powerless *vis-à-vis* algorithmic control.

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Chapter 5. Becoming or Not Becoming a Side Hustler: An Investigation into the Role and Qualities of the Working Life Framework in The Gig Economy[4]

ABSTRACT

Amongst the many work modalities that have flourished in the context of the gig economy, side hustling – platform-mediated, remunerated work activities conducted alongside full-time employment – has increasingly been gaining in popularity. In this paper, we assess the relevance and importance of several key dimensions of the quality of working life framework on the decision of individuals to engage in side hustling. Drawing from a unique data set of platform creative content providers in China, Europe and the United States, we test the relevance of different quality of working life indicators in the context of the gig economy. We find that the most important factor explaining side hustling is the flexibility granted by platforms, thus allowing individuals to balance their work around family life and commitments. In addition, our results show that many 'traditional' quality of working life dimensions, such as recognition or having a voice, are not decisive for side hustlers, and as such do not account for an individual's decision to engage in side hustling. Our paper highlights the need for further research into the quality of life indicators in the context of the gig economy.

Keywords:

Side hustling; Gig economy; Flexibility; Content creative providers; Working life

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[4] The appendix to this chapter can be found in Appendix C.

5.1 Introduction

Coined in 2009 by the journalist Tina Brown, the expression 'gig economy' refers to "an economic system that uses online platforms to digitally connect workers" (Duggan et al., 2020). The gig economy accounts for a significant, and growing, proportion of the labour market (Ashford et al., 2018, Kuhn, 2016). In the US alone, it is estimated that over a quarter of individuals participate in the gig economy, either full-time or part-time (GigEconomyDataHub, 2022). The gig economy is premised on the mobilization of non-standard employees (see Schroeder et al., 2021), thus enabling the materialization of a multitude of different work modalities, increasingly diverging from stereotypical '9-to-5' office jobs (Barley and Kunda, 2001, Bolino et al., 2021, Liang et al., 2022b). These alternative work-related endeavours range from digital entrepreneurship (Nambisan, 2017) to crowdwork (Howcroft and Bergvall-Kåreborn, 2019) to digital nomadism (Aroles et al., 2020), to name but a few. Of particular interest to us here is the phenomenon of side-hustling.

Side-hustling refers to a context where "full-time employees participate in income-generating work that is separate from their full-time jobs." (Sessions et al., 2021). In itself, the practice is not particularly new for that many individuals have been holding multiple job prior to the rise of the gig economy (see Campion et al., 2020, Shishko and Rostker, 1976), for instance working night shifts in addition to a regular workday (see Averett, 2001). The difference with moonlighting though is that side hustling is explicitly associated with the gig economy and in that sense, implies additional, remunerated work mediated through, or conducted via, digital platforms. There is clearly a growing interest in the phenomenon of side-hustling as evidenced through global estimates of side hustlers as well as the ever-increasing range of resources – books, blogs, podcasts – aimed at those who aspire to become side hustlers (see, for instance, Guillebeau, 2017).

Importantly, this interest has not been paralleled in the academic literature, with only a few studies explicitly exploring side hustling activities in the context of the gig economy (see Ravenelle, 2019, Ravenelle et al., 2021, Sessions et al., 2022).

Aiming to further our understanding of side hustling in the context of the gig economy, this study proposes a much-needed quantitative analysis of the motives behind an individual's decision to engage in side-hustling activities. More specifically, we test the significance of four dimensions of the quality of working life framework (see Easton and Van Laar, 2018) – namely (i) flexibility, (ii) control at work and (iii) working conditions and (iv) recognition – on the decision to engage in side-hustling activities. The dimensions of the quality of working life framework are typically mobilised when analysing more 'traditional' forms of employment (regular full-time employment). We thus adapted the four dimensions we selected to fit the context (gig economy) as well as work-related, empirical focus (side hustling) of our study. This led us to articulate four hypotheses, which we present in our theoretical framework section. To test our hypotheses, we designed and implemented a unique questionnaire survey which ran from January to March 2022. The questionnaire survey was administered online and was aimed broadly at content creative platform users and providers. We focused on four geographical areas, namely China, Europe, the UK, and the US. Our survey questionnaire ran in two languages: Mandarin and English. For this study, we only considered content providers for which we gathered 535 answers.

Our study shows that having the flexibility to balance work and family responsibilities positively correlates with deciding to become a side-hustler. Contrariwise, we found that control at work, working conditions as well as recognition – three important dimensions of the traditional quality of life framework (Easton and Van Laar, 2018) – do not predict the likelihood of someone engaging in side-hustling activities. Besides, as regards the motives and in particular the

importance of providing contents on platforms to get monetary rewards, we are not able to confirm this to be decisive. Importantly then, our study shows that work in the context of the gig economy is endowed with different values than so-called traditional forms of employment (see Ashford et al., 2018, Vallas and Schor, 2020a), thus pointing to the need to develop new frameworks to assess and understand the conditions under which individuals become side hustlers as well as the research why they decide to do so.

Our study makes three main contributions to the literature. First, our paper adds to the limited body of literature that has empirically explored the phenomenon of side-hustling, thus answering calls for further research in this area (see Sessions et al., 2021). The gig economy and its manifold manifestations require attentive scholarly scrutiny in order to both bring clarity to discussions where many terms are often amalgamated in a broad discourse of modernity (Gerwe and Silva, 2020, Liang et al., 2022b, Maffie, 2020) and to challenge the hype that surrounds the gig economy through detailed investigations of how the gig economy is experienced at the micro level (see Aroles et al., 2021, Kaine and Josserand, 2019, Wood et al., 2019b). Our study is aligned with these two focal areas. Second, this study contributes to providing a better characterisation of the motivations for individuals to engage in side-hustling activities by highlighting the central role played by flexibility in deciding to become a side hustler. In addition, our study suggests that the motives for providing content on platforms are manifold and diverse and certainly not necessarily driven by 'pure' monetary incentives but go far beyond this rationale. Third, by examining the rationale underlying the decision to become a side hustler, our paper highlights the limits of the quality of work life framework when it comes to evaluating the pursuit of professional endeavours in the context of the gig economy, thus calling for further research into the dimensions that could be used to evaluate gig work.

Our paper is structured as follows. Following this introduction, the second section lays out the theoretical background of our study and present our hypotheses. The third section provides an overview of the methodological approach which underlies this study. The fourth section showcases our empirical data, highlighting the main findings of our research. We then discuss our findings in the light of our hypotheses and the extant literature. Finally, the conclusion summarises the main contributions of our research.

5.2 Theoretical Background and Hypotheses

5.2.1 Side Hustling

While the term 'side hustle' can be traced back to the late 50s, it is only within the past 20 years or so that it has grown in popularity, acquiring the meaning it presently holds. In simple terms, side-hustling refers to a context where "full-time employees participate in income-generating work that is separate from their full-time jobs" (Sessions et al., 2021). As a practice, side-hustling is not particularly new for that such work arrangements have been existing, under one guise or another, for most of the post-industrial period. In their review paper, Campion et al. (2020) note that multiple job holding is a common phenomenon that can take many different forms, including entrepreneurial moonlighting (Nelson, 1999), plural careerism (Caza et al., 2018), hybrid entrepreneurship (Folta et al., 2010), and more generally dual job holding (see Doucette and Bradford, 2019, Paxson and Sicherman, 1996). Side-hustling has a complex relation to more traditional forms of employment, with some firms preventing their employees from engaging with side-hustling (see Lussier and Hendon, 2018). Paradoxically though, Sessions et al. (2021) found that engaging in side-hustling activities does not hinder full-time job performance; rather, empowerment through side-hustling is seen to be enriching full-time work performance.

Through the gig economy, and the intricate platformisation of work upon which it is based (Chicchi, 2020), side hustling has been gaining further popularity (Sessions et al., 2021). With ease of access to a wide array of online jobs (or gigs) (see Duggan et al., 2020) and the scores of possibilities to create content on digital platforms (Kenney et al., 2019), it has become simpler to find ways of supplementing one's regular income with on-the-side, platform-mediated gig work (Ashford et al., 2018) in the form of side-hustling activities (Dokko et al., 2015). Side hustling does not constitute a work inclination resting on the periphery of the gig economy but on that lies at its core (Schneider and Harknett, 2017). This leads us to redefine side hustling as referring to a context where someone, in addition to their contracted, full-time employment, engages in additional, remunerated work mediated through, or conducted via, online platforms.

A significant body of literature has explored the reasons why individuals might be drawn to multiple job holding, under one form or another. In particular, three broad categories have been identified, namely finances, career development as well as psychological fulfilment (Campion et al., 2020). As for the first category, which has been by far the most widely studied, it has been reported that individuals seek to find a second job, notably to supplement their income (Hirsch et al., 2016), improve their life condition by being able to make extra purchases (e.g. Abdukadir, 1992) or mitigate the risks associated with 'unsecure' jobs and careers (Menger, 2017, Ravenelle et al., 2021). For the second, career development, empirical research has notably pointed to the importance of both task diversity (Fraser and Gold, 2001) as well as skill development (Arora, 2013). Finally, in terms of psychological fulfilment, holding multiple jobs might be a way of answering vocational aspirations and passion (Caza et al., 2018) or correspond to the will to have new experiences (Osborne and Warren, 2006), which can be enriching. The reasons for individuals to engage in side hustling in the context of the gig economy remain to be studied systematically.

5.2.2 The Dimensions of the Quality of Working Life and Their Impact on Side Hustling

In our analysis, we focus on the role of the quality of working life dimensions on the decision to act as a side hustler (or not). Figure 5.1 depicts the main structure of the conceptual model that shows the key dimensions of the quality of the working life framework on which we focused and from which we formulate and derive our hypotheses. As can be seen in Figure 5.1, our study aims to explain what accounts for the decision of someone to engage in side hustling as a content creator and considers the role of the income as well as of the age, in addition to various other control factors.

As mentioned previously, a side hustler can be defined as an individual who has one full-time (or several part-time) job(s) and produces income-generating content (work), which is mediated through, or conducted via, online platforms. In the context of this paper, we focus specifically on individuals who, in addition to their contracted job, create and upload remunerated contents on digital platforms. While there might be some debates around the specific contours of the phenomenon of side hustling, it nonetheless remains a one-dimensional construct. If the phenomenon of side hustling can be defined in 'relatively' straightforward terms, the concept of quality of working life is more complicated. The quality of working life is a multi-dimensional construct inasmuch as it is expressed and reflected by different factors, or dimensions. There is, in the literature, a long-standing discussion going back to the seminal work of Mayo (1977) on what quality of working life actually is, how many dimensions or factors it encompasses, and how it can be measured empirically. It has notably been argued that the dimensions of the quality of working life framework include a consideration of the level of autonomy at work (Hackman and Oldham, 1976), the balance between extrinsic and intrinsic factors (Cooper and Mumford, 1979), the role

of salary and income on individuals (Mirvis and Lawler III, 1984), participation in decision-making processes (Baba and Jamal, 1991), control over job routines and tasks (Karasek and Theorell, 1990), and so on. While determining which factors and dimensions prevail as well as how they interact with one another is up for debate (e.g. Loscocco and Roschelle, 1991, Martel and Dupuis, 2006, Schmitt and Mellon, 1980), there is clear consensus on the fact that many factors are important and relevant (Grote and Guest, 2017, Nanjundeswaraswamy and Swamy, 2013). Differences in the relevance and role various dimensions play are very much contingent upon the context in which work takes place as well as the specific research question investigated.

Taking into consideration the different psychosocial factors identified as relevant in the literature as well as the specific work context that interests us (platform-mediated work) and in line with our research focus, we developed six variables that cover various relevant dimensions to analyze the decision to become a side hustler. More specifically, we derived these six key variables from Easton and Van Laar (2018) who developed a comprehensive and theoretically grounded set of quality of working life factors and variables which we adapted to fit the context of platform work and side hustling.[5]

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[5] The work-related quality of life variables and scales used in this work are developed by Easton and Van Laar (2018) and reflect similar variables in current literature such as by Grote and Guest (2017) and Parker et al., (2010). Furthermore, the variables and scales used can be considered as widely accepted not only in academia but also outside not least because it forms a significant element of the British government's definition of working life and stress. The concept is extensively tested and used and is also available in various languages for different contexts and therefore globally applicable (and comparable).
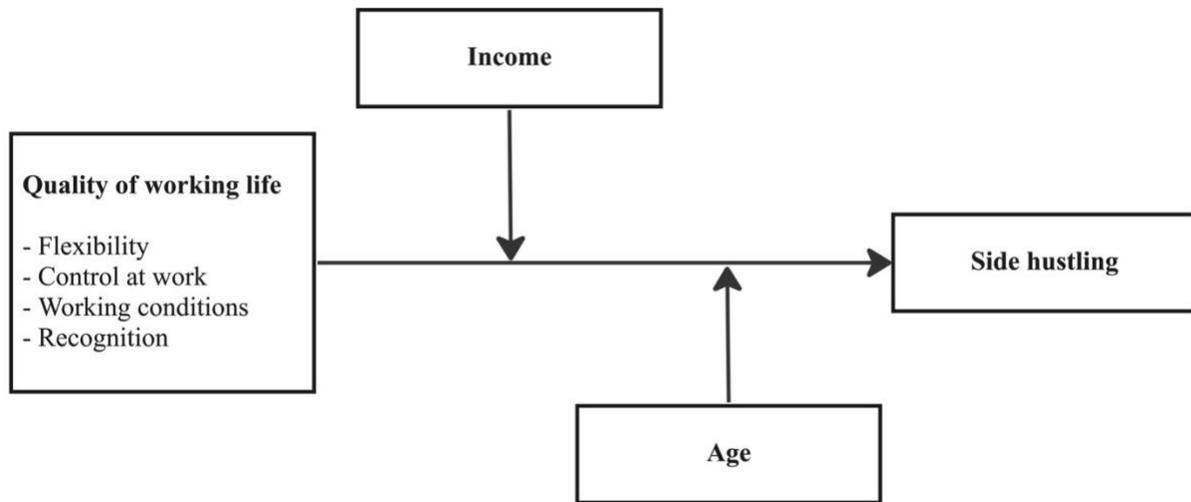
Figure 5.1 Basic structure of hypothesized research model

Flexibility. Specifically, we consider the role of the *flexibility* of workers and the extent to which platforms support individuals' work/life balance. Since this dimension reflects the importance of balancing home and work demands, or negotiating 'work-family conflict' (Beigi et al., 2018, Dorsey et al., 2003, Grote and Guest, 2017), it can also be described as the home-work interface dimension. It expresses the degree to which individuals have control over when, where and how they engage in various work activities. We therefore expect that side hustling is encouraged and facilitated if platforms provide workers with flexibility that enables them to balance the work-family conflict. Hence, we formulate our first hypothesis:

H1: Side hustling is encouraged if platforms provide content providers with the flexibility to balance their work-family life.

Since platforms can provide flexibility to workers in different ways, we will investigate and test the hypothesis on the basis of two different measures, i.e. variables. First, we will investigate if flexible working hours/patterns that platforms provide encourage side hustling and second, if other facilities that platforms provide to fit work in and around family life are encouraging side hustling.

H1a: Side hustling is encouraged if platforms provide content providers adequate facilities and flexibility to fit work in around family life.

H1b: Side hustling is encouraged if platforms actively promote flexible working hours/patterns.

Although both variables refer to the same dimension, they reflect a partially different facet of the role flexibility has *vis-à-vis* content providers and how important flexibility is for side hustling. We expect both to be positively related to side hustling.

Control at work. As a second factor and component of the quality of working life framework, we consider the role of *control at work.* Control at work is usually a principal factor in studies of the quality of working life (Karasek, 1979, Parkes, 1991, Spector, 1988, Walter et al., 2021) and reflects the level at which workers can influence and control their work environment. As with flexibility, this factor consists of various subdimensions that describe and express how individuals can control their work, the extent to which they can do so and the scope of this control. As before, we investigate two subdimensions by focusing on two variables that capture individuals' ability to voice their opinions and influence changes in their area of work as well as on their involvement in decision making. Although the two dimensions differ in the form of control of work on which they are premised, they both express control at work and point towards a similar direction of influence upon which we formulate our second hypothesis:

H2: Side hustling is encouraged if platforms provide content providers with control over their work.

The argument behind this hypothesis and the positive association between control of work and side hustling is that having more control increases the motivation to work and is associated with workers' health and well-being (e.g. Jennings et al., 2022, Spector, 1986). As mentioned before, we will investigate two different subdimensions of work control on side hustling and therefore our sub-hypotheses for the sub-dimensions are:

> *H2a: Side hustling is encouraged if content providers feel able to voice opinions and influence changes in their area of work.*

> *H2b: Side hustling is encouraged if content providers are involved in decisions that affect them in their area of work.*

Against the background that the importance of different factors of the quality of working life is contingent upon the context (as emphasized in the literature), we expect that for side hustling, the positive association we argued before might be less accentuated than for other working life studies. This means that even though we formulate a positive association between side hustling and control of work, we do not expect control of work to be that important for the decision of individuals to engage in side hustling since control over work might not be a necessary condition. For example, control over work contents is certainly important to someone for their main job but not necessarily for jobs that individuals do in addition to their main job. Essentially, individuals can exert a form of control on their work environment by deciding whether or not to become a side hustler but not necessarily on the modalities of side hustling. Hence, having control for side hustling activities is not a necessary although an attracting factor and therefore the positive relationship should be less accentuated.

Working conditions. Another traditional main dimension of the quality of working life framework is the extent to which individuals are satisfied with their *working conditions*, including the (physical) workplace, in order to perform their job effectively. Again, the literature mentions that working conditions are an important factor of the quality of working life framework (Cerci and Dumludag, 2019, Fields and Thacker, 1992) and therefore a positive association can be expected. More specifically, considering all working conditions together, we formulate our next hypothesis:

> *H3: Side hustling is encouraged if platforms provide individuals with what they need to do their job effectively.*

Hence, we do hypothesize a positive relationship between the provision of an adequate workplace for individuals to do their job effectively and side hustling. However, again, we expect, for platform work, the effect of the work environment to be somewhat less important than for 'traditional' work. The main reason for this is that platform work is not bound to a specific workplace in which individuals work. Usually, platform work is carried out at home and the decision to engage with side hustling is made only if the working environment exists. Furthermore, platforms do not provide individuals with a workplace in the traditional sense of the term. Hence, we do not expect the effect to be very important but rather limited (if existent at all).

Recognition. Finally, we consider, in our analysis, the role of recognition of doing a good job as another 'traditionally' important factor of the quality of working life. The importance of being acknowledged from line managers when performing well has been found to be a key component of the quality of working life (Fu et al., 2020). Again, we expect a positive association

between this component of the quality of working life and side hustling and therefore formulate our fourth hypothesis:

H4: Side hustling is encouraged if content providers have done a good job that is acknowledged by line managers.

However, we do not expect this positive relationship to be as important for side hustling on platforms as for traditional jobs as in platforms, there is usually no clearly defined line manager. Rather, line managers are replaced by an algorithmic (line) management (Duggan et al., 2020, Lee, 2018) and content providers are aware of this set-up. Hence, they do not expect any (personal) acknowledgement by line mangers. In turn, this means that side hustling in the context of the gig economy has to be considered differently as compared to more traditional forms of work and we do not expect the positive effect of this dimension of the working life framework on platform work for side hustlers to be very significant.

5.3 Method

5.3.1 Research Background and Procedure

Our questionnaire survey was conducted between January and March 2022. The questionnaire survey was administered online and implemented using a professional software that allowed us to collect background information on respondents, such as IP addresses and locations as well as time spent answering the questionnaire. This background information was useful for quality control and checks. For the questionnaire, we targeted platform users including content providers from different countries. More specifically, we considered and differentiated between platform users

and contributors based in four geographical areas, namely China, Europe[6], the UK, and the US. In addition, with regards to our interest in platforms, we focused on the content creative platforms listed on the Apple App Stores in Europe, the UK, US, and China. Considering different countries/regions in the world allowed us to identify potential differences between side hustlers that are embedded in various country specific/cultural contexts. Besides, selecting this set of countries/regions enables us to cover a comprehensive and wide set of platforms and individuals who use and contribute to them. We decided to offer the possibility to answer our questionnaire in two languages: Mandarin for Chinese respondents and English for European[7], British and US respondents.

For our sampling approach, we contacted individuals by using content creative platforms' communication features and asked them to complete the survey by providing a link to the online survey using the platform language. Using the language of the platform implies, of course, that the Mandarin version of the survey was sent to respondents from Chinese content creative platforms, and the English version of the survey to those from European, UK, and US platforms. Respondents were informed about the objective of the questionnaire survey and our research and received information regarding the structure of the questionnaire. Consent was obtained from all respondents and responses have been treated anonymously, with personal information kept strictly

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[6] European (other than the UK) countries included are: Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Ireland, Lithuania, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Spain, Sweden, and Switzerland.

[7] The fact that for all European countries an English version is used might have had some implications on some respondents whose native language was not English. However, we do not expect this negative effect to be very problematic not least since English is widely spoken in all European countries among users of platforms. It has to be noted that the Mandarin version of the questionnaire survey was only distributed to individuals residing in China. This, of course, does not exclude Chinese citizens answering the questionnaire who reside outside China (in English) or vice versa foreigners residing in China answering the Mandarin version of the questionnaire. Hence, we were only able to control for the location of residence, but we do not expect that this causes any biases in the responses provided.

confidential. For details on the measures, i.e. survey questions, used in this study, see Table A1 in the Appendix A.

The questionnaire was distributed equally and openly on all platforms in order to guarantee a wide and heterogeneous range of respondents that would reflect the diversity of user profiles on these platforms. In addition, we encouraged participants to distribute the survey link within their wider network to increase the number of respondents for some platforms that are not widely used. Hence, a snowballing element was part of the sampling approach. Using this sampling strategy did not necessarily allow us to differentiate between mere platform users and actual content providers. In this study, we were only concerned with providers of income-generating contents (i.e. side hustlers), and therefore asked the following question at the start of the questionnaire survey: 'Have you ever created and uploaded contents on content creative platforms?' Only those respondents who selected 'Yes' were identified as content creators and considered for this version of the questionnaire. Content users who do not provide any content were directed to a different questionnaire survey.

5.3.2 Participants

On the basis of the aforementioned sampling strategy, 1128 potential respondents opened the survey link. Of those, 1017 responses were recorded. Hence the response rate was 90.2%, which is considerably high. Among these responses, 535 individuals were identified as content creators, which accounts for approximately half of the total number of respondents. Overall, the quality of responses was very high, which was not only reflected in the time spent answering the questions but also by the fact that only very few questions were not answered (i.e. almost all respondents answered almost all questions in the survey).

More specifically, among those respondents who were identified as content creators, 14 failed to state whether they have an employment contract or not (response rate 97.4%), 7 to provide their age (98.7% response rate), 27 to provide information related to their income band (95% response rate), 16 to state their gender (97% response rate), 3 to answer the question 'how many jobs/ works do you have?' (99.4% response rate), 3 to provide the frequency at which they create entertainment related contents (99.4% response rate), 12 to provide the frequency at which they create education related contents (97.8% response rate), 11 to provide the frequency at which they create lifestyle related contents (97.9% response rate), 17 to provide the frequency at which they create business related contents (96.8% response rate), 13 to provide the frequency at which they create politics related contents (97.6% response rate), 13 to provide the frequency at which they create art related contents (97.6% response rate), 9 to answer whether they became content creators due to financial reasons (98.3% response rate).

In terms of descriptive statistics for our sample, it is worth mentioning that we collected 126 survey responses in Mandarin (23.6%) and 409 survey responses in English (76.4%). Among those, 130 (24.3%) of the content creators reside in the UK, 155 (29.0%) in the US, 141 (26.4%) in China, and 109 (20.4%) in Europe (excluding the UK). As regards gender differences for content creators, we use data for 317 females (59.3%) and 218 not females (40.7%). Of those content creators, the gender distribution for side hustlers is very similar with 186 female side hustlers (58.9%) and 130 (41.1%) not female side hustlers. These distributions and shares reflect our expectations and give evidence that there are no serious biases in our sample.

5.3.3 Analytic Strategy

Using the data from the questionnaire survey described above, we tested our hypotheses by applying a logistic regression analysis accompanied with a bootstrap analysis. While the reason for using a logistic regression is the fact that our dependent variable, i.e. whether an individual provides remunerated contents on a platform as a side hustler or not is binary, the reason for using a bootstrap analysis in addition to a logistic regression analysis is to ensure that the results of the coefficient estimates are robust.

5.4 Results

5.4.1 Modelling Approach

In the following presentation of the results in Table 5.1, we report the coefficients and standard errors of the logistic regression analysis we conducted in combination with the lower and upper 95% confidence interval of the bootstrap analysis. As can be seen, we report the estimation results of three models. In all three models, we included six variables that are referring to the different dimensions of the quality of working life framework that we selected and that cover the hypotheses described before. In addition to these key independent variables, we included a different set of control variables in order to test and analyze further the robustness of the results regarding our hypotheses.[8]

For the set of controls in model (I), we included a dummy variable for gender, controls for different levels of education, age, country of residence, the number of jobs content providers have,

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[8] While three models (that cover different categories of control variables) are presented here, further specifications with control variables have been tested in order to test the robustness of the results. All these tests confirm the robustness of the estimates and are available upon request.

as well as the type of content they provide to platforms. As regards the age variable, we considered an alternative model by investigating age as a moderating variable since various age groups have different (family) obligations and therefore the context might be different for the ability to engage in side hustling behavior and or on the quality of working life.[9]

In model (II), we excluded the control for the type of content created and instead added controls that reflect the financial situation of individuals and the role of monetary motivations for the provision of content on platforms as side hustlers. Hence, we controlled how important the level of income and monetary incentives are for the provision of contents independent from the nature of the contents themselves. For income, we differentiated between various income levels, which, in turn, allowed us to distinguish between individuals who have a higher income that enables them to provide content to platforms regardless of the financial gains they may get from platforms and individuals with a lower income who thus have strong(er) (financial) incentives to provide content on platforms. As explained in our sample characterization, we investigated side hustlers from four main geographical areas that are characterized by different income levels. Hence, using the income categorization provided by the World Bank (2022), our definition of lower income for a side hustler in a lower-income country (e.g. in China) is different to that of a side hustler in a higher-income country (e.g. in the UK or Germany). The threshold for categorizing the income of side hustlers as high and low is based on the World Bank classification and differentiates within countries between individuals who have an average income below or above that threshold.[10]

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[9] For reasons of space, we are not able to investigate the potential moderating (or mediating) effect of age further also because robustness tests of alternative theoretical structures that were tested did not provide any evidence for a moderating effect of age. Robustness tests are available upon request.

[10] Specifically, on the basis of the World Bank (2022), our sample includes 'upper middle income' such as China and high-income countries as all other countries in our sample. For reasons of availability of data, we have not differentiated between different regions within countries even though differences clearly exist within countries. For details on the income levels and the differentiation, see appendix C.

Of course, the group of side hustlers who does have a higher income might provide the content because of financial incentives, i.e. in order to increase their income, but this group can be assumed to face fewer pressures to do so and might not need to upload on all platforms or as frequently as others. Hence the group of side hustlers with a higher income can be assumed to be more selective in what they are uploading and to which platforms they are uploading contents. This also means that income can be considered as a mediating or moderating variable, which we also considered in our analysis. More specifically, we investigated an alternative theoretical structure and model as shown in Figure 5.1 by defining income as a moderating variable. Although we investigated alternative models, we focus in the following on the model shown in Figure 5.1 not least because alternative forms circle around this basic model but also because the empirical support in alternative tests did not provide convincing evidence for their acceptance.

In any case, while the group of individuals with a lower income can be assumed to become side hustlers to earn their living, the other group of side hustlers can be assumed to provide contents to platforms without facing any financial pressure. This means that other types of contents might be provided. However, since the type of content and the monetary or income context of individuals are not necessarily independent, in model (III) we included a full set of control variables that included all controls from the previous models.

5.4.2 Test of Hypotheses

As can be seen in Table 5.1, the estimates of our key independent variables for the quality of working life are mixed in terms of providing significant and robust evidence on explaining the decision of individuals to act as side hustlers or not. While we see some factors and variables having a significant effect, others show no significant estimates for their coefficients. With respect

to the variables and factors that we identified as potentially explaining side hustling behavior, we see that the flexibility to balance family-work life matters since both variables of that category show significant estimates. Specifically, we see that, first, if the platform provides adequate facilities and flexibility for individuals to fit work in around family life, as well as second, if the platform actively promotes flexible working hours/patterns, individuals act as side hustlers. These results also mean that we are able to accept H1a and H1b and therefore also H1 in general. We are thus clearly able to conclude that side hustling is encouraged if platforms provide content providers with the flexibility to balance their family-work life.

However, with regards to the estimates for the variables that reflect the quality of working life dimension of having control over one's own work, we see no significant estimates for both our variables. It means that it does not matter to individuals, in their decision to become side hustlers, whether they are able to voice their opinions and influence changes in their area of work. The same goes for being involved in decisions that affect them in their area of work. Against that background, we are not able to accept H2a and H2b and therefore also not H2 in general. The upshot of these findings is that control at work does not appear to be decisive for individuals when deciding whether to become a side hustler or not.

For the estimates of our next key independent variables on the role of the quality of working life on becoming a side hustler, we also see that these are not significant. Specifically, we find that side hustling is not encouraged if platforms provide individuals with what they need to do their job effectively and that side hustling is not encouraged if content providers' work is acknowledged by line managers. Hence, we are not able to confirm H3 and H4. However, as already indicated previously, we expected the effects of these two dimensions of the quality of working life

framework not to be very strong in the context of the gig economy and platform work anyway. Therefore, the fact that the estimates are not significant and that we are not able to accept the hypotheses is not particularly surprising and confirms our intuition.

For the estimations of our control variables, we are also able to reveal some compelling results. Most notably, two elements are of interest: the fact that income does matter and that side hustling is associated with a higher income. However, for the motives and in particular the importance of providing contents on platforms in order to get monetary rewards, we are not able to confirm this to be decisive as the estimates are not robust over different specifications. Although this relationship needs to be analyzed in far more details, our results suggest that the motives for providing content on platforms are manifold and diverse and certainly not necessarily driven by 'pure' monetary incentives but go far beyond this rationale. In addition, it is particularly interesting that both the educational level and the age of individuals do not robustly and systematically matter for the decision to act as a side hustler or not. This means that side hustlers come from different age groups and educational backgrounds and there is no concentration with respect to age and education. As mentioned before, we also investigated in an alternative model whether age was a moderating variable. Alternative robustness tests, which are available upon request, did not provide any evidence that age has a moderating effect at all. In this sense then, side hustlers can be considered to be equally distributed among age and educational groups. Furthermore, our analysis also shows that side hustlers are also not focusing on specific contents that are provided on platforms. Again, side hustling is equally distributed among different categories of contents including, for example, business, education, arts, politics and more.

However, our analysis also shows that typical side hustlers have one or even two contracted jobs. While side hustlers are defined by having at least one contracted job, this result is not surprising for one job but that the same size of individuals have also another job can be considered as an interesting side aspect. Finally, our results also show that there are some significant differences in side-hustling between different countries. As can be seen in Table 1, side hustling is far more common in the UK and China as it is in the other countries or regions in the world. The latter result certainly points towards the importance of cultural differences as well as legal differences between countries, but a detailed discussion and analysis that is needed to give informed answers would go (far) beyond the scope of this paper.

Table 5.1 The determinants of side hustling

Variables	Model 1			Model 2			Model 3		
	B	SE	95% Confidence Interval[+]	B	SE	95% Confidence Interval[+]	B	SE	95% Confidence Interval[+]
Quality of working life:									
The platform(s) on which I work provide(s) adequate facilities and flexibility for me to fit work in around my family life	.491*	.210	[.132, 1.064]	.482*	.201	[.151, 1.009]	.497*	.212	[.116 ,1.062]
The platform(s) I worked for actively promotes flexible working hours /patterns	.460*	.215	[.059, 1.012]	.426*	.211	[.026, .901]	.474*	.219	[.089 ,1.121]
I feel able to voice opinions and influence changes in my virtual contents related works	.117	.184	[-.292, .529]	.099	.180	[-.315, .565]	.114	.183	[-.290 ,.545]
I am involved in decisions that affect me in my virtual contents related works	-.296	.208	[-.853, .196]	-.331	.206	[-.836, .096]	-.366	.212	[-.933 ,.046]
The platform(s) I worked for provide(s) me with what I need to do my virtual contents related works effectively	-.060	.221	[-.533, .490]	.019	.219	[-.405, .489]	-.050	.225	[-.555 ,.457]
When I finish a good virtual content it is acknowledged by the platform(s) I worked for	-.191	.195	[-.629, .184]	-.181	.192	[-.652, .175]	-.173	.203	[-.696 ,.264]
Control variables:									
Income	-	-	-	1.056**	.403	[.319, 2.143]	.972*	.418	[.205 ,2.163]
Motivation monetary rewards	-	-	-	.021	.126	[-.278, .288]	-.087	.143	[-.435 ,.261]
Gender (reference: female)	.522	.312	[-.131, 1.266]	.774*	.323	[.126, 1.582]	.709*	.336	[.023 ,1.682]
Education (reference: no education)									
Lower than high school	1.238	1.690	[-20.268, 21.821]	.401	1.733	[-22.864, 21.274]	1.137	1.827	[-21.561 ,24.218]
High school graduate	.490	1.322	[-20.453, 21.949]	-.238	1.270	[-21.712, 21.372]	.670	1.406	[-21.458 ,23.456]
Some college, no degree	.868	1.338	[-20.119, 22.005]	.248	1.289	[-21.128, 21.810]	1.022	1.416	[-20.839 ,23.482]
Associate's degree, occupational	1.227	1.375	[-19.879, 22.514]	.301	1.306	[-21.102, 21.777]	1.389	1.459	[-20.406 ,23.841]
Associate's degree, academic Bachelor's degree	.836	1.292	[-20.095, 22.178]	.096	1.244	[-21.163, 21.577]	.962	1.381	[-20.892 ,23.220]
Master's degree	.516	1.329	[-20.359, 21.694]	-.288	1.280	[-21.617, 21.415]	.539	1.426	[-21.180 ,22.660]
Professional degree	-2.360	2.072	[-47.846, 20.728]	-2.809	1.997	[-46.619, 20.342]	-2.762	2.171	[-62.699 ,20.203]
Doctoral degree	.649	1.489	[-20.352, 21.647]	-.257	1.478	[-22.013, 20.721]	.400	1.610	[-21.976 ,22.994]
Age (reference: under 15)									
16-17	.002	1.938	[.001, .002]	.002	1.951	[.002, .002]	.002	1.958	[.001 , .002]
18-24	.002	1.938	[.002, .002]	.003	1.951	[.001, .003]	.003	1.958	[.000, .002]
25-34	.002	1.938	[.002, .003]	.002	1.951	[.001, .003]	.002	1.958	[.000, .002]
35-44	.002	1.938	[.002, .003]	.002	1.951	[.001, .003]	.002	1.958	[.000, .002]

	B	SE	95% CI	B	SE	95% CI	B	SE	95% CI
45-54	.004	2.375	[.004, .005]	.004	2.340	[.003, .005]	.005	2.383	[.004, .004]
55-64	.002	1.938	[.001, .005]	.002	1.951	[.002, .004]	.002	1.958	[.002, .004]
65 or older	-.002	4.462	[-.009, .002]	-.002	3.366	[-.010, .002]	-.003	4.471	[-.001, .002]
Country of residence (reference: Europe)									
China	.702	.427	[-.418, 1.736]	1.244**	.460	[.210, 2.407]	1.212*	.478	[.258 ,2.607]
UK	1.397***	.442	[.300, 2.574]	1.471**	.441	[.433, 2.807]	1.616***	.465	[.789 ,3.195]
US	.368	.455	[-.635, 1.486]	.451	.439	[-.546, 1.516]	.329	.465	[-.702 ,1.534]
Number of jobs (reference: no job)									
1	5.019***	.581	[4.470, 8.015]	4.820***	.581	[4.125, 22.545]	4.684***	.585	[4.077 ,23.045]
2	5.138***	.638	[4.443, 8.185]	4.714***	.649	[3.755, 22.510]	4.704***	.663	[3.773 ,23.325]
3 or more	4.248***	.727	[3.297, 7.740]	4.056***	.711	[2.755, 21.553]	3.714***	.738	[2.541 ,22.043]
Type of content									
Entertainment	-.100	.122	[-.436, .166]	-	-	-	-.063	.124	[-.325 ,.205]
Education	-.142	.148	[-.539, .203]	-	-	-	-.154	.152	[-.536 ,.191]
Lifestyle	.120	.138	[-.194, .505]	-	-	-	.097*	.140	[-.237 ,.456]
Business	.281	.164	[-.118, .720]	-	-	-	.351	.175	[-.049 ,.962]
Politics	-.118	.156	[-.532, .228]	-	-	-	-.084	.163	[-.475 ,.299]
Art	-.107	.135	[-.468, .279]	-	-	-	-.127	.138	[-.499 ,.236]
Omnibus tests of model coefficients Model χ^2(df)	325.322 (34)***			329.205 (30)***			310.369 (36)***		
−2 Log likelihood	319.257			318.358			305.560		
Cox and Snell R^2 (Nagelkerke R^2)	.492 (.666)			.493 (.669)			.489 (.664)		

Notes: *p<.05. **p<.01. ***p<.001. *N* for Model 1 = 481. *N* for Model 2 = 484. *N* for Model 3 = 462. [+] shows the lower and upper 95% confidence interval of the bootstrap analysis.

5.5 Discussion

5.5.1 Theoretical Implications

In our paper, we aimed to identify which factors were relevant and which were not on the decision of individuals to engage in side hustling in the context of the gig economy. Specifically, we focused on the relevance of different dimensions of the quality of the working life framework which are usually important in explaining decisions of individuals regarding work. Since working life and work itself changed in recent times, this question has become more pressing for various reasons. Here, we briefly mention two. With the COVID-19 pandemic, perceptions of work and how work itself is organized changed radically (Amankwah-Amoah et al., 2021, Brucks and Levav, 2022, Chong et al., 2020, Galanti et al., 2021, Kniffin et al., 2021, Kramer and Kramer, 2020). In turn, the quality of working life framework found its place on the public agenda of policy debates and was, as a result, also present in the media (see for instance McFadden et al., 2021). The forced turn towards telework has been widely discussed in the literature (Contreras et al., 2020), in particular leading to discussions around what matters, professionally, in a digitalized work environment (Ashford et al., 2018, Sayah, 2013). In addition to the relevance brought about by the pandemic, there is a strong generational argument behind the need to evaluate the quality of working life framework, as for younger generations, and in particular the so-called Millennials, the quality of working life is seen to be more important than for previous generations (Chopra and Bhilare, 2020, Ng et al., 2010). Interestingly, we found the age of individuals do not robustly and systematically matter for the decision to act as a side hustler or not, suggesting that when it comes to work modality preferences, age was not seen to be relevant. This invites us to be cautious with generation-wide generalizations (see Rudolph and Zacher, 2022).

Second, our analysis also contributes to the literature on the importance and role of different dimensions of the quality of working life for side hustlers compared with individuals that prefer to work only in one job, i.e. stick to their classical or traditional work as source of income (see Ashford et al., 2018). Here, we found that flexibility plays a significant role in an individual's decision to become a side hustler, which is in line with research on other work manifestations of the gig economy (Burtch et al., 2018, Friedman, 2014, Hall and Krueger, 2018, Lehdonvirta, 2018, Schieman et al., 2021, Wood et al., 2019b). Research in this direction also gained momentum in recent years also because of the rise of side hustling and the fact that people have increasingly more than one job (see Campion et al., 2020). This strand of literature has often investigated the socioeconomic reasons for this trend and what the implications for the economy and society is (see Ashford et al., 2018, Ravenelle et al., 2021, Sessions et al., 2022). There were approximately 11,150,000 workers with two or more jobs in the US in 2017, accounting for 7.2% of total employed workers (Gumber and Sullivan, 2022). According to the survey of income and program participation conducted by the US Census Bureau, side hustlers who work part-time choose to participate in multiple works mostly because of their initiative or other reasons including health conditions, job-sharing and vacation-related reasons (Beckhusen, 2019). Even though we are not going into details about the latter research, our study also contributes to this strand of research.

Third, and most importantly, our research is also important and novel because the gig economy and platform work is often considered to be fundamentally different to previous work (Ashford et al., 2018) and, by extension, the quality of working life is as well. In fact, our research supports any such discussions and arguments that working life dimensions should be reconsidered in the context of the gig economy as our findings clearly show that not all 'traditionally' important dimensions are relevant and appropriate to explore work within the context of the gig economy.

Specifically, we find that the most important factor explaining side hustling is the flexibility granted by platforms, thus allowing individuals to balance their work around family life. In this sense, our paper highlights the need for further research into the quality of life indicators in the context of the gig economy as well as the need to reconsider the theoretical framework of the quality of life when it is about side hustling in the gig economy.

5.5.2 Practical Implications

From the perspective of platforms, the implications of our findings are clear. If platforms want to encourage and develop side hustling activities, they need to ensure that they give content providers sufficient flexibility for them to be able to balance their work-family life. Specifically, our findings show that platforms offer side hustlers flexible working hours/patterns and adequate facilities to fit work of content providers in around family life. Whether this is possible or not depends not only on the business model platforms actually use (e.g. many platforms promise to offer their customers access to a 24/7 workforce), but also on how platforms organize work as well as the modalities through which content, from different content providers, is made available. As such, while the specific course of action is contingent upon the way a specific platform works, it is clear that it is in the platform's interest to offer flexibility to their contributors so that they can balance work-family life.

Furthermore, another practical implication for platforms is that they do not have to pay too much attention to other dimensions of the quality of working life framework, such as in particular giving contributors a voice as well as involving them in decision making, as these did not appear to be significant in our study. These factors are important for more traditional forms of work but appear to be of less practical relevance to platforms in the context of the gig economy.

For policy makers, we contend that the implications of our research are somehow similar. If policy makers want to ensure that the legal framework in place in the gig economy reflects the wishes and demands of side hustlers, then they need to regulate work in such a way that flexibility is protected and guaranteed. Hence, working time arrangements need to be formulated in labor law in a way that is not bound and constraint by fixed and highly regulated working hours. Of course, this is not an easy task for policy makers as they might have to balance flexibility demands and needs, taking into consideration the fact that platforms might just exploit this search for flexibility. In any case, our results show that it is necessary to develop and presumably also to reform labor law in a way that is fit for flexibility needs in the gig economy.

5.5.3 Limitations and Further Research

Even though the strengths of our research allow us to draw robust inferences regarding the decision or not to engage in side hustling activities, there are some limitations. First, the generalizability of our results should be considered with caution. Even though a significant number of countries and regions were considered, consequential countries and parts of the world were not included, such as for example Africa, India, or Latin America. Hence, the sample could be widened to other areas in the world to increase the generalizability of our results and assess potential differences between geographical areas. Furthermore, any specific cultural or sociopolitical factors that potentially matter are not investigated in enough detail since our analysis only controls for differences in countries itself and does not dig deeper in what these differences might be. Against the background that we have identified the relevance of differences between countries/regions, further analyses on these differences could generate very interesting insight.

Second, and related to the first point, the existence of within-country variations certainly a limitation of this study. For example, it is highly likely that there would be differences between content providers in rural areas and their counterparts in urban areas within the same country. Furthermore, there are variations between areas in countries with higher and lower income in terms of job opportunities and therefore the necessity to work as a side hustler or not. All those factors that are potentially significant are not investigated in our study but would constitute compelling pathways for future research. In this context, for example, it would be interesting to investigate whether side hustlers in large cities in different countries have more in common than side hustlers in different areas (e.g. rural and urban) within the same country.

Third, the platforms and Apps that are used by our creative content providers are heterogeneous, not only in terms of the type of content around which they revolve, but also in terms of how these different platforms foster or hinder side hustling. Even though we collected information on the platforms and Apps that are used by our side hustlers we have not investigated their roles and the differences between the affordances of Apps themselves. The main reason is that any such investigation would need a prior, very detailed analysis of the characteristics of different groups of platforms (which is not readily available) and would therefore overstretch the aims and scope of this study. However, a more detailed investigation on the role of different characteristics and features of platforms and Apps represents another pathway for future research.

Fourth, we have not differentiated between different degrees of side hustling, i.e. whether side hustlers are working only for a very short time as content providers (e.g. for an hour a week), or intensively (e.g. many hours a day). Such differences in the intensity of side hustling behaviors can also be expected to be important in the sense that varying levels of engagement or commitment

with side hustling should imply that different dimensions of the working life framework are valued. Hence, a more differentiated and detailed investigation might also be interesting for future research.

Fifth, we have not investigated in greater detail the role of both the income that content providers gain from their main job(s) and from their side hustling activity. In our analysis, we only control and investigate their overall income. Although we can be confident that our analysis adequately controls the importance of available income for the pressure to work and therefore for the quality of working life, we do not know how differences in income explain differences in the intensity of side hustling behavior or for the need to work as a side hustler or not. Hence, a more differentiated analysis of the sources of income from different activities would be interesting to look at in the future.

Finally, the heterogeneity of creators needs to be considered. This study explores side hustling behaviour in the gig economy by focusing on content creators on content creative platforms. Content creators are a highly heterogeneous group. This is not only because of the huge differences in characteristics among creators, but also because of the enormous variation in their motivations for content creation. Content creators who are only intrinsically motivated to create content (e.g., for hobby or self-expression), such as movie actors and football players, have little or no influence on their side hustling behaviour by platform flexibility. It seems that flexibility affects extrinsically motivated content creators to a greater extent. However, it is worth mentioning that the motivation of content creators is complex and dynamic. In other words, creators' motivation is essentially a combination of intrinsic and extrinsic and may change over time. Only the extrinsic motivation of creators (*Motivation monetary rewards*) was included in the discussion in this study, which potentially simplifies the heterogeneity of content creators. Therefore, in future

research, we call on researchers to discuss the complex motivation of creators further, which will contribute to further understanding of research in this area.

5.6 Conclusion

Unlike traditional 9-to-5 jobs, gig work appears to be more flexible and unstable. In our study, we found that the dimensions of the quality of the 'traditional' working life framework is not well adapted to the exploration of work modalities in the context of the gig economy. More specifically, we showed how, in the context of side hustling, only the flexibility-related dimension was seen to be significant *vis-à-vis* individuals' decision to engage in side hustling activities. Our study thus highlights the importance of flexibility for side hustlers, and by extension gig workers, and calls for a rethink of the quality of working life framework in the light of the specificities and particularities of the gig economy.

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Chapter 6. Conclusion

In summary, this thesis comprises four studies that have sought to contribute to the growing body of literature exploring work and employment in the digital economy from both macro and micro perspectives. In this chapter, I will briefly present the key findings, theoretical contributions and practical implications of my research, and then outline the limitations of the research and suggest directions for future research. Given that this thesis consists of four individual papers, each addressing research contributions and limitations in detail in chapters 2, 3, 4 and 5, I will provide concise summaries in this section.

6.1 Key Findings by Study

6.1.1 Study 1 (Chapter 2)

This first study was concerned with providing a macro perspective on content creative platforms, thus paving the way for in-depth empirical investigations of these platforms. Through a thorough review of the existing literature, this study clarified the four concepts (or constructs) central to platform capitalism (hence of prime relevance for research on content creative platforms), namely crowdsourcing, sharing economy, gig economy and platform economy. Although all four concepts derive from advances in Information and Communication Technologies, there are significant differences in their nature and underlying ideologies. Based on five features (i.e., Working condition, Business model, Interaction type, Transaction products and Nature), this study mapped out key differences in terms of how these four concepts have been studied in the literature.

In previous studies, workers across our four contexts (i.e. crowdsourcing, sharing economy, gig economy and platform economy) were amalgamated under the label 'independent contractors'.

Yet, some workers in the sharing economy may be considered micro-entrepreneurs, while workers in the platform economy may also include full-time/part-time employees. The business models of the sharing economy, gig economy and platform economy all include two-sided markets, with the sharing economy business model also includes pure reseller. All four concepts have also been analysed in relation to the peer-to-peer and business-to-peer/business-to-consumer interaction types that they foster. In addition, crowdsourcing includes business-to-business and peer-to-business interaction types, while sharing economy includes business-to-business and government-to-government interaction types. In all four cases, transaction products include services, while sharing economy and platform economy also include both tangible and intangible assets. Finally, there are fundamental differences in the nature of the four concepts. Crowdsourcing is derived from crowd intelligence, sharing economy from pure sharing, gig economy from online labour outsourcing, and platform economy from human effort and consumer assets monetised. This study also analysed the ideology behind four concepts. Behind the hype surrounding platform capitalism lies an impervious neoliberal ideology that enforces market rationality through various forms of control, notably algorithms. Fleshing out the similarities and differences between these four concepts and unveiling their ideologies were crucial steps in gaining a deeper understanding of the various facets of the digital economy.

6.1.2 Study 2 (Chapter 3)

The second study focused on the core context of this thesis, namely content creative platforms. There is a high degree of diversity found in content creative platforms. Importantly, this diversity tends to hinder our ability to study these platforms in a rigorous, systematic manner. Against this backdrop, this study strove to develop an empirically-induced typology of content creative

platforms. Through this typology, this study analysed how content creators who work on different categories of content creative platforms perceive content creation related work.

This study first entailed developing a typology of content creative platforms using clustering analysis. This resulted in the creation of four clusters. In short, cluster 1 contains large, fast-growing, feature-rich platforms that are easy to access. Cluster 2 consists of small, slow-growing platforms that rely on asynchronous interactive content; more than half of the platforms in this cluster do not provide content creators with returns. Cluster 3 comprises moderately fast growing, small to medium sized platforms, which are often not directly accessible to platform users and offer fewer interactive features, but from which all content creators can generate direct or indirect income. Finally, cluster 4 includes medium and large platforms with moderate growth rates, which present less diversity in content topics and the most difficult access to content (i.e. it is impossible to access the platform content without registration). At the same time, these platforms in cluster four often offer a variety of incentives for content creators to create content.

After building up the typology, this study attempted to explore how content creators understand creative work in platforms belonging to each of the four clusters. The study found that content creators, in various categories of platforms, generally held different attitudes towards content creation, ranging from leisure to work. Specifically, content creators working in cluster 1 platforms consider content creation not as work, but as leisure. Creators working in cluster 2 platforms are engaged in unconscious emotional work. Their work may not be driven by economic factors, but rather by a greater focus on the value that comes from the distribution of the content itself. As a result, they reject the idea of personal competition and instead enjoy working on the platform. Creators working in cluster 3 platforms are mostly money-driven and thus expect their content to

be financially rewarding. They need to have skills related not only to content creation, but also to marketing and operating content. Finally, creators working in cluster 4 platforms are more akin to task-oriented gig workers. Creators actively accept and create content based on the tasks issued by the platform, making content creation seem like a mechanised production process within a factory.

6.1.3 Study 3 (Chapter 4)

This study further analysed platform-mediated content creation related work. In study 1, we highlighted the significance of platform capitalism in the digital economy, with its effects on workers. In the context of content creative platforms, it was therefore necessary to examine platform capitalism as a result of algorithmic exploitation. Specifically, this study performed a systematic review of the literature on the relationship between content creators and algorithms, with a focus on the notion of power.

Unsurprisingly, research related to algorithms and content creators has been growing at a rapid pace in recent years. This study found that most of the previous research was platform specific and not dedicated to developing a macro understanding of content creative platforms as a whole. Based on the understanding of content creation related works developed in the second study, this study was concerned with further investigating the relationship between content creators and algorithms in content creative platforms. Through a systematic review of previous research, this study identified four key dimensions framing discussion on content creation and algorithms, namely visibility, control on creators, reflexivity and idealisation. Specifically, visibility relates to how the visibility of the content produced by creators is influenced by algorithms. The second dimension reflects how platforms control the creation of content through algorithms. Reflexivity covers how content creators respond to algorithmic control and how algorithmic manipulation affects creators.

Finally, idealisation explores how algorithms, in the context of content creative platforms, affect how virtual communities assemble, touching upon issues of online democratisation, bias and content polarisation.

This study then attempted to revisit the relationship between algorithms and content creators through a focus on the concept of power. By analysing the aforementioned relationship through two dimensions (individualisation and Hegemonic ideology), the study found that algorithms often have overwhelming power in content creative platforms, and that creators are often powerless in the face of algorithmic control. This echoes the findings of Study 1.

6.1.4 Study 4 (Chapter 5)

This study further explored how the qualities of the working life of content creators, in content creative platforms, affect their side hustling behaviour from a micro (i.e. individual) perspective. A questionnaire in two languages (English and Mandarin) was designed for this study, and we collected unique datasets from UK, US, Chinese and European content creators (N = 535). By analysing four dimensions of the working life framework developed to assess 'traditional' forms of work, namely flexibility, control at work, working conditions and recognition, I found that flexibility is an important determinant of content creators' side hustling behaviour. Individuals choose to become side hustlers if the platform provides them with adequate facilities and flexibility or facilitates flexible working hours and work patterns, thus allowing them to engage in other activities.

Importantly, another significant finding from this research suggests that the remaining three dimensions, control at work, working conditions and recognition, do not adequately account for

an individual's decision to engage in side hustling activities. This means that the qualities of the working life dimension developed for 'traditional' forms of work cannot reliably capture he various dimension of work related to content creation on platforms. It demonstrates the specificity of working on content creative platforms and implies that further research into the various aspects of content creators' work is necessary.

6.2 Broader Significance

This issue of existing definitions in the digital economy are mostly 'ostensive' (by pointing and exemplifying) rather than 'intentional' (connotative) (Codagnone and Martens, 2016) has always been present in the digital economy, which would significantly limit the ability to theorize and elaborate on these facets of digital capitalism. Therefore, this thesis first clarifies the relevant concepts, which are the basis for subsequent research.

Subsequently, my research represents a significant contribution to the evolving landscape of gig economy studies by providing a fresh perspective on digitally-mediated content creative platforms from an Organizational Behavior and Human Resource Management standpoint. While there exists a substantial body of research on content creators, especially on large platforms like YouTube and Instagram, most of this work has predominantly been conducted through the lens of media studies and communication studies (e.g., Jerslev, 2016) or marketing (e.g., Cocker and Cronin, 2017; Kim, 2022; Eliashberg and Shugan, 1997). My research is distinguished by its innovative approach, which departs from conventional analyses of the creators (e.g., Youtuber), by reframing content creation as a manifestation of labour rather than merely a media-centric phenomenon or marketing strategy. Through the embrace of this Organizational Behavior and Human Resource Management perspective, the intent is to bridge a pivotal void within the extant body of literature.

With the blend of digital technologies, platform dynamics, and creative labour, the digital economy provides a unique context for exploring issues related to new employment relationships (Duggan et al., 2020), motivations (Jabagi et al., 2019), and individual work behaviors in the digital environment (Ashford et al., 2018) that underlie organisational behaviour and human resource management. Through this lens, I gain insights into the challenges and opportunities content creators face in the digital environment, addressing issues such as revisiting content creative platforms from a work perspective, exploring the perceptions of their labourer identities, investigating the dynamic power distribution implicit in content creative platforms, and exploiting the influences on content creators' behaviour.

In conclusion, my research shifts the focus of research on content creative platforms from the fields of media studies and marketing to organisational behaviour and human resources management, aiming to provide actionable recommendations for platforms, policymakers, and the content creators themselves to facilitate the transition from organisational behaviour and HRM perspectives to a more comprehensive understanding of this emerging sector in the 'digital economy'. In essence, my research opens up a new area of research on the 'digital economy', revealing the complexities of content creation from the perspectives of organisational behaviour and human resource management, thereby enriching our understanding of this evolving phenomenon.

6.3 Theoretical Contributions

This thesis has made significant contributions to the existing literature on industrial relations in the digital economy. First, it has provided clarity on various concepts related to employment in the digital economy through a comprehensive examination of platform capitalism from the perspective

of employment. Second, this series of studies has placed particular emphasis on industrial relations within content creative platforms, offering a solid theoretical foundation for research on work and employment in the content creative sector, from both macro and micro angles. As a result, it has also provided valuable insights into future research directions in this field. The theoretical contributions of each study are shown in Table 6.1.

Table 6.1 Research contribution by studies

Study Number	Theoretical Contribution
Study 1	• This study details the characteristics of four key concepts in the digital economy (i.e., crowdsourcing, sharing economy, gig economy and platform economy), thus bringing clarity to discussions on platform capitalism. • This study explores the ideology behind the four concepts and suggests the need for and urgency of research on platform capitalism. It lays the foundation for future research in this field.
Study 2	• This study develops a typology of content creative platforms, establishing a theoretical basis for the study of the relations between different types of content creative platforms. • By analysing the characteristics of creators on different types of platforms, this study opens new perspectives on content creative work. This establishes a solid theoretical foundation for research related to the study of work and employment in the context of content creative work.
Study 3	• This study systematically reviews and organises previous research on creators and algorithms, and suggests future research directions, highlighting the need to investigate their complex interrelations. • This study critically revisits the relationship between creators and algorithms through the lens of power, laying the groundwork for further research on domination in the context of content creative platforms.
Study 4	• This study enriches research on side hustlers and critically responds to the hype surrounding the digital economy by using micro-level research. • This study highlights the importance of flexibility for creators in content creative platforms. • By exploring the quality of work life framework for content creators, this study identifies the limitations of the quality of work life framework and suggests the need for further research into the quality of work life framework that can be used to investigate content creators or platform workers more broadly.

6.4 Practical Implications

In summary, this series of research offers practical implications from three perspectives, or put differently, to three distinct audiences: content creators, platforms, and policy makers. First, it provides content creators with a deeper and stronger understanding of the context in which content creative platforms operate, together with the specificities of these platforms *vis-à-vis* traditional forms of work and in relation to one another respectively. Content creators could thus use the findings from this research to make informed decisions about the modality through and extent to which they wish to participate in digital content creation based on their expectations. Additionally, this research helps content creators gain a deeper understanding of platform algorithms, thus potentially raising further awareness of the key role of algorithms in the diffusion of creative content online and also the many problems that underlie such a strong reliance of algorithms. Second, from the platform's perspective, the research emphasizes the importance and significance of flexibility in order to improve content creators' retention rates. By allowing creators to balance work and life in a more satisfactory manner, platforms can enhance their appeal to content creators and thus potentially tap into a large pool of creators. Finally, the findings of this series of research offer concrete suggestions for policy makers in terms of crafting and developing employment policies related to platform workers and especially aimed at content creators. For example, policymakers could facilitate the establishment of virtual unions for digital workers, ensure enhanced worker participation and informational access regarding algorithmic design and implementation, mandate platforms to offer more transparent explanations of their algorithms establish regulatory bodies equipped with expertise in algorithmic management, and highlight concerns about discrimination in digital workplaces, etc. These suggestions serve as valuable guidelines for shaping policies that address the unique challenges and needs of this workforce.

6.5 Limitations and Future Research

Although the series of studies involved in this thesis brings theoretical and practical contributions to the exploration of employment in the digital economy, there are a series of limitations that need to be acknowledged. First, the data sources for the empirical studies involved in this research series were from the UK, the US, China and European countries. Although I have tried to consider as many countries and regions as possible, this study has neglected other parts of the world such as Africa, India and Latin America. Expanding the sample size further could increase the generalisability of this series of studies and lead to some interesting results due to the presence of cultural differences and other dimensions that remained hidden to the 'relative' lack of diversity of the population sampled.

On the other hand, the data from creators in this thesis comes from a wave of surveys conducted in 2022. As platforms grow exponentially, creators' experiences of their work will change dramatically as they spend more time working on platforms. Although cross-sectional research is sufficient for the research questions raised in this series, it is essential to re-examine creators after a long period of time. Therefore, longitudinal research has been initiated as an extension of this thesis. Meanwhile, since the data from creators obtained in this series of research also include some other variables such as motivation, powerlessness and prosocial behaviour, subsequent research related to this is also underway.

6.6 Reference

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Chapter 7. Appendix

Appendix A

I. The Summary of Content Creative Platforms

Platform			Forms						Platform			Note
Name	**language**	**Countries/ Regions**	**Strea ming**	**Video**	**Audio**	**Pictur e**	**Text**	**Applicatio n/software**	**Mobile APP**	**Website**	**URL**	
17 Streaming	Chinese, English	Taiwan, Hong Kong, Malaysia, Singapore, US and Japan.	✓						✓	✓	https://17.live/	A streaming platform.
Afreecatv	Korean, Chinese	Korea	✓						✓	✓	http://afreecatv. com/	Streaming contents include gaming, sports and entertainment.
Amazon developer	Multi	International						✓		✓	https://develope r.amazon.com/	Content producers can publish Android or web applications & games here.
App Store developer	Multi	International						✓	✓	✓	https://www.app le.com/app-store/	Content producers can upload iOS and iPadOS apps and games here.
Appszoom developer	English, Spanish, Chinese	International						✓		✓	https://cn.appsz oom.com/devel opers	Content producers can develop both iOS and Android apps/ games here. Additionally, it provides paid app analysis.
Aptoide	English	International						✓	✓	✓	https://en.aptoid e.com/	Content producers can publish Android or web applications & games here.
Baidu Baike	Chinese	China				✓	✓		✓	✓	https://baike.bai du.com/	Chinese version Wekipedia
Baidu Tieba	Chinese	China		✓	✓	✓	✓		✓	✓	http://tieba.baid u.com/	Chinese communication platform. Users can create different groups forcus on specific topics.
Bilibili	Chinese	China	✓	✓		✓	✓		✓	✓	https://www.bili bili.com/	Chinese video sharing website, where users can submit, view and add overlaid commentary on videos. Bilibili offers videos of various fields.

Name	Language	Region	1	2	3	4	5	6	7	8	URL	Description
Brightcove	Multi	International		✓					✓		https://www.brightcove.com/en/solutions/media-broadcasters	Content producers deliver their video contents to Brightcove, Brightcove provide high-res frame and support content producers to produce videos.
Changba	Chinese	China	✓	✓	✓				✓	✓	https://changba.com/	Chinese mobile KTV. People can record music and upload those contents to the platform and can also stream their voice.
Dacast	English	International	✓	✓						✓	https://www.dacast.com/	Dacast is a business-to-business (B2B) live streaming online video platform that allows businesses to broadcast and host live and on-demand video content as well as offer free or paid programming.
Dailymotion	English	International		✓					✓	✓	https://www.dailymotion.com/gb	Dailymotion is a French video-sharing technology platform.
Dianping	Chinese	China		✓		✓	✓		✓	✓	https://www.dianping.com/	It is the first independent third-party consumer review website established in the world.
Douban	Chinese	China				✓	✓		✓	✓	https://www.douban.com/	A Chinese social networking service website that allows registered users to record information and create content related to film, books, music, recent events, and activities in Chinese cities. Douban was formerly open to both registered and unregistered users.
Douyu	Chinese	China	✓	✓					✓	✓	https://www.douyu.com/	Streaming platform, mainly focuses on gaming streaming.
Facebook	Multi	International	✓	✓		✓	✓		✓	✓	https://www.facebook.com/	Facebook is an American online social media and social networking service. Users can post text, photos and multimedia which is shared with any other users that have agreed to be their "friend", or, with a different privacy setting, with any reader. Users can also use various embedded apps, join common-interest groups, buy and sell items or services on Marketplace, and receive notifications of their Facebook friends' activities and activities of Facebook pages they follow.

Name	Language	Region	1	2	3	4	5	6	7	8	URL	Description
Fictionpress	English	International					✓			✓	https://www.fictionpress.com/fiction/Action/	FictionPress is devoted to original fiction. It's a site where you can upload your work for free for other people to read and review. The content there, much like the indie e-book market, has lower quality standards, but such is the price of free use.
Github	English	International					✓		✓	✓	https://github.com/	It has become the world's largest code storage website and open-source community.
Huya Streaming	Chinese	China	✓	✓					✓	✓	https://www.huya.com/	Streaming platform, mainly focuses on gaming streaming.
IBM Cloud Video (Formerly Ustream)	Multi	International	✓						✓	✓	https://www.ibm.com/products/video-streaming	Stream live, and manage recorded video content. Cloud streaming platform for video hosting, transcoding, multi-platform playout, and analytics.
Instagram	Multi	International	✓	✓		✓	✓		✓	✓	https://www.instagram.com/	An American photo and video sharing social networking service
JW Player	English	International		✓					✓	✓	https://www.jwplayer.com/	JW player, for embedding videos onto web pages, is used by news, video-hosting companies and for self-hosted web videos.
Kaltura	Multi	International		✓					✓	✓	https://corp.kaltura.com/	Kaltura operates in four major markets: Cloud TV (OTT) for operators and media companies, online video platform (OVP) offered mostly to media companies and brands looking to distribute content or monetize it, Education Video Platform (EdVP) offered to educational institutions, and Enterprise Video Platform (EVP) for collaboration, communications and marketing.
Keep	Chinese	China		✓		✓	✓		✓		https://www.gotokeep.com/	Keep is a Chinese mobile fitness app. It contains a social networking service so that customers can share exercise routines with each other.

Name	Language	Country									URL	Description
Kuaikan	Chinese	China				✓				✓	✓	https://www.kuaikanmanhua.com/	Kuaikan Comic is a mobile manga software, and content producers can upload their comics to the platform.
Kwai	Chinese	China		✓						✓		https://kwai.com	A Chinese video-sharing mobile app.
Kwai Streaming	Chinese	China	✓	✓						✓	✓	https://live.kuaishou.com/	Gaming streaming platform.
Linkedin	Multi	International	✓	✓		✓	✓			✓	✓	https://www.linkedin.com/	LinkedIn is an American business and employment-oriented online service that operates via websites and mobile apps.
Mafengwo	China	Mainland China , Hong Kong, Taiwan, Malaysia and other places				✓	✓			✓	✓	http://www.mafengwo.cn/	Mafengwo is a tourism forum that provides a platform for travel exchanges for travellers. Registered users of the forum share their travel stories and provide travel guides from various places on this platform. They also provide information on hotels, air tickets, visas, etc.
Meetup	Multi	International	✓			✓	✓			✓	✓	https://www.meetup.com/	Meetup is a service used to organize online groups that host in-person and virtual events for people with similar interests.
Miaopai	Chinese	China	✓	✓						✓		https://www.miaopai.com/	A Chinese video sharing and live streaming service with 70 million daily active users.
Muchong	Chinese	China					✓			✓	✓	http://muchong.com/bbs/	Academic research interactive platform, members mainly come from Chinese universities, research institutes, doctoral and master's degree students, and corporate R&D personnel.
Muvi	English	International	✓	✓						✓	✓	https://www.muvi.com/	Muvi enables media content owners to easily monetize their Video/Audio content beyond the borders of traditional advertising. We do this by offering a self-service white label platform, using which media content owners can launch their own Multi-Screen Video and Audio Streaming (Live & On-Demand) platform in a matter of just a few minutes and at ZERO upfront investment! Muvi works on Software-as-a-Service (SaaS) model and charges a very low monthly fee in return for content

Name	Language	Region									URL	Description
												owners to be able to use its platform and services.
Netease Cloud Music	Chinese	International	✓	✓	✓				✓	✓	https://music.163.com/	This is a music platform that provides music social functions. After content producers have passed the platform review, they can also upload their music-related works through the platform. Although the platform only provides a Chinese interface, if you encounter language problems, you can apply for staff to assist in completing content uploading functions.
Niconico	Japanese	Japan	✓	✓					✓	✓	https://www.nicovideo.jp/	Niconico is a Japanese video-sharing service on the web.
Bemobi Mobile Store	English	International						✓		✓	http://html5.oms.apps.bemobi.com/en_us/?ecid=1	Bemobi Mobile Store is one of the leading mobile app stores & digital application distribution platform for the developers of mobile apps, it provides over 2,000,000 apps and games for more than 7,500 different mobile phone models across most platforms: Android, Java, Symbian, BlackBerry, Windows Mobile, and iOS.
Panopto	Multi	International		✓					✓	✓	https://www.panopto.com/	Panopto is a software company that provides lecture recording, screencasting, video streaming, and video content management software, which is often used in E-learning environments.
Periscope	Multi	International	✓						✓	✓	https://www.pscp.tv/	Periscope is an American live video streaming app for Android and iOS.
Pinterest	English	International				✓	✓		✓	✓	https://about.pinterest.com/en	Pinterest is a social network where people can find inspiration and ideas for their interests and hobbies. Every idea is represented by a Pin, which is an image that is searched and saved by Pinterest users. Pins can also link back to websites, which is why Pinterest is great for driving traffic and sales.
Qidian	Chinese	China					✓		✓	✓	https://m.qidian.com/	Starting Point Chinese Network is an original online literature website in Mainland China. Writers can upload their fictions to the platform, and for works have

												been finished, the platform will publish them as physical books or e-book versions.
Quora	Multi	International				✓	✓		✓	✓	https://www.quora.com/	Quora is an American question-and-answer website where questions are asked, answered, followed, and edited by Internet users, either factually or in the form of opinions.
Reddit	English	International	✓	✓		✓	✓		✓	✓	https://www.reddit.com/	Reddit is a social news aggregation, web content rating, and discussion website. Registered members submit content to the site such as links, text posts, and images, which are then voted up or down by other members. Posts are organized by subject into user-created boards called "communities" or "subreddits", which cover a variety of topics such as news, politics, science, movies, video games, music, books, sports, fitness, cooking, pets, and image-sharing.
Slideme	English, France	International						✓		✓	http://slideme.org/	SlideME is a Community & Content Marketplace, uniting developers and users. SlideME offers products, services and experience that help promote small Android developers and their creative efforts, without locking them into any closed standards.
Streamshark		International	✓							✓	https://streamshark.io/	StreamShark is a platform used by internal corporate video teams and broadcasters. StreamShark has unparalleled reliability and scalability, providing a large number of real-time streams of confidential and public events.
Taobao Live	Chinese	China	✓						✓	✓	https://taobaolive.taobao.com/	Taobao Live is a live broadcast platform launched by Alibaba. It is positioned as a "consumer live broadcast", where users can watch and buy, covering areas including mothers and babies, beauty, etc.
Tiktok	Multi	International	✓	✓					✓	✓	https://www.tiktok.com/	A video-sharing social networking service. The social media platform is used to make a variety of short-form videos, from genres like dance, comedy, and education, that have a duration from three seconds to one minute (three minutes for some users). Chinese version is Douyin, and Tiktok is the international version.

Toutiao	Chinese	China	✓	✓		✓	✓		✓	✓	https://www.toutiao.com/	Toutiao is dedicated to helping companies, institutions, media and self-media gain more exposure and attention on the mobile side, and continues to expand in the mobile Internet era Influence, while realizing brand communication and content realization. On the other hand, it also outputs better content for Toutiao, a platform with a large number of users, and creates a better user experience.
Tumblr	Multi	International		✓		✓	✓				https://www.tumblr.com	Tumblr is a light blogging social network platform. Users can follow other members and see articles published by the following members on their own pages, and can also forward other people's articles on Tom Bole.
Twitch	Multi	International	✓	✓					✓	✓	https://www.twitch.tv/	Twitch is a video live streaming service. The site primarily focuses on video game live streaming, including broadcasts of esports competitions, in addition to music broadcasts, creative content, and more recently, "in real life" streams. Content on the site can be viewed either live or via video on demand.
Twitter	Multi	International	✓	✓		✓	✓		✓	✓	https://twitter.com/home?lang=zh-cn	Twitter is a microblogging and social networking service on which users post and interact with messages known as "tweets". Registered users can post, like and retweet tweets, but unregistered users can only read them. Users access Twitter through its website interface or its mobile-device application software ("app").
Udemy	Multi	International		✓					✓	✓	https://www.udemy.com/	Udemy is a platform that allows instructors to build online courses on their preferred topics. Using Udemy's course development tools, they can upload videos, PowerPoint presentations, PDFs, audio, ZIP files and live classes to create courses. Instructors can also engage and interact with users via online discussion boards.Courses are offered across a breadth of categories, including business and entrepreneurship, academics, the arts, health and fitness, language, music, and technology.
Vimeo		International	✓	✓					✓	✓	https://vimeo.com/	Vimeo is an video hosting, sharing, and services platform. Vimeo focuses on the delivery of high-definition video across a range of devices. Vimeo's business model is through software as a service (SaaS). They derive revenue by providing subscription

Name	Language	Country									URL	Description
												plans for businesses and video content producers. Vimeo provides its subscribers with tools for video creation, editing, and broadcasting, enterprise software solutions, as well as the means for video professionals to connect with clients and other professionals.
Wechat Public	Chinese	China		✓	✓	✓	✓		✓		https://mp.weixin.qq.com/	The WeChat official account is an application account that a developer or a merchant applies for on the WeChat official platform. The platform realizes all-round communication and interaction with specific groups of text, pictures, voice, and video. Formed a mainstream online and offline WeChat interactive marketing method.
Weibo	English, Chinese	China	✓	✓		✓	✓		✓	✓	https://www.weibo.com	Weibo is a form of microblog that allows users to instantly update short texts and publish them publicly. It allows anyone to read or only a group selected by the user. It is a Chinese version Twitter.
Wikipedia	Multi	International				✓	✓		✓	✓	https://en.wikipedia.org/wiki/Main_Page	Wikipedia is a free, multilingual open-collaborative online encyclopedia created and maintained by a community of volunteer editors using a wiki-based editing system.
Wowza	Multi	International	✓						✓	✓	https://www.wowza.com/	Wowza Streaming is a unified streaming media server software developed by Wowza Media Systems. The server is used for streaming of live and on-demand video, audio, and rich Internet applications over IP networks to desktop, laptop, and tablet computers, mobile devices, IPTV set-top boxes, internet-connected TV sets, game consoles, and other network-connected devices. The server is a Java application deployable on most operating systems.
Xia Chufang	Chinese	China		✓	✓	✓	✓		✓	✓	https://www.xiachufang.com/	Xia Chufang is a gourmet app/website that integrates functions such as recipes, shopping malls, and communities. From a functional point of view, the app includes recipes, purchase of ingredients, kitchenware, dish sharing and comments, etc.; from the user's point of view, this app includes everything from the user's decision to what dishes to purchase ingredients, cooking according to the recipe, and cooking. After sharing, almost the whole process involved in cooking.

Platform	Language	Countries/ Regions									URL	Description
RED	Chinese, English	China	✓	✓		✓	✓		✓		https://www.xiaohongshu.com/protocols/about?language=en-US	Xiaohongshu, also known as RED is a social media and e-commerce platform. The app allows users and influencers to post and share product reviews, travel blogs and lifestyle stories via short videos and photos.
Xigua Video	Chinese	China	✓	✓					✓	✓	https://www.ixigua.com/?wid_try=1	Xigua Video is an online video-sharing platform. Originally serving primarily as a platform for user-created short videos, Xigua also produces film and television content.
Ximalaya	Chinese	China			✓				✓	✓	https://www.ximalaya.com/	Himalaya is an online audio sharing platform in China, using User Original Content model. The platform provides audio playback, download and search services, as well as personalized personal recommendation services for users. Users can also apply to become an anchor to upload audio files.
Yi Streaming	Chinese	China	✓						✓	✓	https://www.yizhibo.com/	An interactive live entertainment app.
Youtube	Multi	International	✓	✓					✓	✓	https://www.youtube.com/	YouTube is an online video-sharing platform. Most content is generated and uploaded by individuals. The vast majority of videos are free to view, but there are exceptions.
Zhihu	Chinese	China		✓		✓	✓		✓	✓	https://www.zhihu.com/	Zhihu is a Chinese question-and-answer website where questions are created, answered, edited and organized by the community of its users.

Note:

(i) The second column 'language' refers to which language the platform provides. For platforms provide more than 5 languages, I use 'multi' to represent.

(ii) The third column 'Countries/ Regions' refers to those platforms mainly facing audiences in which countries or regions. Although normally there is no limitation for audiences to use those platforms, some factors such as the internet restriction in Mainland China and the language restriction worldwide form an invisible wall.

II.   Platform List

Region	Source	Category	Platform
UK & US	Apple App Store	Books	Wattpad
UK & US	Apple App Store	Books	Goodreads
UK	Apple App Store	Books	Dreame
UK & US	Apple App Store	Books	Color Therapy Coloring Number
UK & US	Apple App Store	Books	AnyStories
UK & US	Apple App Store	Books	Webnovel
UK & US	Apple App Store	Books	NovelCat
UK	Apple App Store	Books	FanFiction.Net
UK & US	Apple App Store	Books	wit
UK & US	Apple App Store	Books	Tap by Wattpad
China	Apple App Store	Books	Linggan (灵感)
UK & US	Apple App Store	Business	LinkedIn
UK & US	Apple App Store	Education	Dog Scanner
UK & US	Apple App Store	Education	PlantSnap
China	Apple App Store	Education	Kaoyanbang (考研帮)
China	Apple App Store	Education	Jinrixiaoyuan （今日校园）
China	Apple App Store	Education	Timing
UK & US	Apple App Store	Entertainment	TikTok International
UK	Apple App Store	Entertainment	Skinseed for Minecraft Skins
China	Apple App Store	Entertainment	Bilibili (哔哩哔哩)
China	Apple App Store	Entertainment	Quanmin Karaoke （全民 K 歌）
China	Apple App Store	Entertainment	Haokan Video (好看视频)
China	Apple App Store	Entertainment	Huya Streaming （虎牙直播）
China	Apple App Store	Entertainment	Douyu Streaming （斗鱼）
China	Apple App Store	Entertainment	Ailiao （爱聊）
China	Apple App Store	Entertainment	Changba （唱吧）
China	Apple App Store	Entertainment	Pipixia （皮皮虾）
China	Apple App Store	Entertainment	AcFun
China	Apple App Store	Entertainment	Zuiyou （最右）
China	Apple App Store	Entertainment	Peiyinxiu （配音秀）
China	Apple App Store	Entertainment	Xiaoheihe for Steam（小黑盒）

China	Apple App Store	Entertainment	Meme live（么么直播）
UK	Apple App Store	Food & Drink	OLIO
China	Apple App Store	Food & Drink	Xiachufang（下厨房）
UK & China	Apple App Store	Graphics & Design	Behance
UK & US	Apple App Store	Health&Fitness	Strava
UK	Apple App Store	Health&Fitness	Calorie Counter +
China	Apple App Store	Health&Fitness	Keep
China	Apple App Store	Health&Fitness	Meiyou（美柚）
China	Apple App Store	Health&Fitness	Yuepaoquan（悦跑圈）
China	Apple App Store	Health&Fitness	Daily Yoga（每日瑜伽）
China	Apple App Store	Health&Fitness	Tangdou（糖豆）
China	Apple App Store	Health&Fitness	Mamabang（妈妈帮）
UK & US	Apple App Store	Lifestyle	Pinterest
UK	Apple App Store	Lifestyle	NewNew
China	Apple App Store	Lifestyle	Dianping（大众点评）
China	Apple App Store	Lifestyle	Cece Xingzuo（测测星座）
UK	Apple App Store	Medical	SoundCloud
UK	Apple App Store	Medical	Smule: Social Karaoke Singing
UK	Apple App Store	Medical	Mixcloud
UK	Apple App Store	Medical	karaoke
China	Apple App Store	Medical	Wangyi Cloud Music（网易云音乐）
China	Apple App Store	Medical	Qingting FM（蜻蜓 FM）
China	Apple App Store	Medical	Lizhi（荔枝）
China	Apple App Store	Medical	Changya（唱鸭）
China & US	Apple App Store	Medical	Ximalaya FM（喜马拉雅 FM）
China	Apple App Store	Medical	Yinyu（音遇）
China	Apple App Store	Medical	Yinjie（音街）
China	Apple App Store	Medical	5sing（5sing 原创音乐）
UK	Apple App Store	Navigation	YesAuto
UK & US	Apple App Store	News	Twitter
UK & US	Apple App Store	News	Reddit
UK & US	Apple App Store	News	Quora
UK & US	Apple App Store	News	Medium
UK	Apple App Store	News	Issuu
UK & US	Apple App Store	Photo & Video	Instagram

UK & US & China	Apple App Store	Photo & Video	YouTube
UK & US & China	Apple App Store	Photo & Video	Snapchat
UK & US	Apple App Store	Photo & Video	Twitch
UK & US	Apple App Store	Photo & Video	Likee
China	Apple App Store	Photo & Video	TikTok （抖音）
China	Apple App Store	Photo & Video	Kuaishou （快手）
video, images, text	Apple App Store	Photo & Video	Weishi （微视）
China	Apple App Store	Photo & Video	Meipai （美拍）
China	Apple App Store	Photo & Video	Tuchong（图虫）
China	Apple App Store	Photo & Video	VUE Vlog
China	Apple App Store	Photo & Video	Quanmin short video（全民小视频）
China	Apple App Store	Productivity	Faceteng （脸疼）
China	Apple App Store	Reference	Weifeng （威锋）
UK & US & China	Apple App Store	Social Networking	Facebook
UK & US	Apple App Store	Social Networking	BiGO LIVE
UK & US	Apple App Store	Social Networking	Powder
UK & US	Apple App Store	Social Networking	ZEPETO
UK & US	Apple App Store	Social Networking	IMVU
UK & US	Apple App Store	Social Networking	Clapper
UK & US	Apple App Store	Social Networking	Tumblr
UK	Apple App Store	Social Networking	Cartoon Social
UK	Apple App Store	Social Networking	MeetMe
UK	Apple App Store	Social Networking	21 Buttons
UK & US	Apple App Store	Social Networking	Wishbone
UK	Apple App Store	Social Networking	Coco
UK & US	Apple App Store	Social Networking	Uplive
UK	Apple App Store	Social Networking	Skout
UK & US	Apple App Store	Social Networking	Lobby
UK	Apple App Store	Social Networking	Amino

China	Apple App Store	Social Networking	Xiaohongshu（小红书）
China	Apple App Store	Social Networking	Zhihu（知乎）
China	Apple App Store	Social Networking	Weibo（微博）
China	Apple App Store	Social Networking	Tieba（百度贴吧）
China	Apple App Store	Social Networking	Douban（豆瓣）
China	Apple App Store	Social Networking	Meipian（美篇）
China	Apple App Store	Social Networking	TapTap
China	Apple App Store	Social Networking	Yi Streaming（一直播）
China	Apple App Store	Social Networking	Tencent Now Streaming（腾讯 Now 直播）
China	Apple App Store	Social Networking	Lvzhou（绿洲）
China	Apple App Store	Social Networking	Jiuxiu Streaming（九秀直播）
China	Apple App Store	Social Networking	Kugou Streaming（酷狗直播）
China	Apple App Store	Social Networking	Yingke Streaming（映客直播）
China	Apple App Store	Social Networking	Xiuse Live（秀色直播）
China	Apple App Store	Social Networking	Zepeto（崽崽）
China	Apple App Store	Social Networking	Diyidan（第一弹）
China	Apple App Store	Social Networking	Haixiuxiuchang（嗨秀秀场）
China	Apple App Store	Social Networking	Wodao（我岛）
China	Apple App Store	Social Networking	Jianshu（简书）
China	Apple App Store	Sports	Dewu（得物）
China	Apple App Store	Sports	edge
China	Apple App Store	Sports	Hupu（虎扑）
UK	Apple App Store	Travel	Tripadvisor Travels and Hotels
China	Apple App Store	Travel	Xiecheng（携程旅行）
China	Apple App Store	Travel	Qunaer（去哪儿旅行）
China	Apple App Store	Travel	Mafengwo（马蜂窝旅游）
US	Apple App Store	Books	GoodNoverl & Books Web Novels
US	Apple App Store	Books	MangaToon
US	Apple App Store	Books	Hinovel
US	Apple App Store	Books	Reese's Book Club
US	Apple App Store	Education	Brainly
US	Apple App Store	Entertainment	frog
US	Apple App Store	Entertainment	HelloTalk
US	Apple App Store	Entertainment	Answers
US	Apple App Store	Entertainment	ABPV America's best pics&vids
US	Apple App Store	Entertainment	Caffeine: Live streaming
US	Apple App Store	Entertainment	Patreon
US	Apple App Store	Entertainment	iFunny
US	Apple App Store	Graphics & Design	Sketchar
US	Apple App Store	Magazines & Newspaper	WebComics

US	Apple App Store	Medical	Nurture
US	Apple App Store	Social Networking	Yubo
US	Apple App Store	Social Networking	Mascot
US	Apple App Store	Social Networking	Weverse
US	Apple App Store	News	Podbean Podcast App&Player
US	Apple App Store	News	Castbox
US	Apple App Store	Photo & Video	Triller
US	Apple App Store	Reference	wikipedia

III.   Descriptive Analysis for Platforms

As figure 7.1 shown, the 143 platforms investigated in this research come from three countries: UK, US and China, and are generally evenly distributed. Among them, 33 platforms are from the UK and US at the same time, which also means that these 33 platforms appear in the Popular Ranking Lists of UK and US at the same time. Interestingly, there are very few platforms that come from China and the UK or China and US at the same time (only 4 platforms respectively, including 3 platforms from UK, US and China at the same time). This may be due to the fact that compared with China, the culture of the UK and US is more similar. For instance, most platforms from UK and US use English as the interactive language, while Chinese platforms use Chinese as the interactive language.
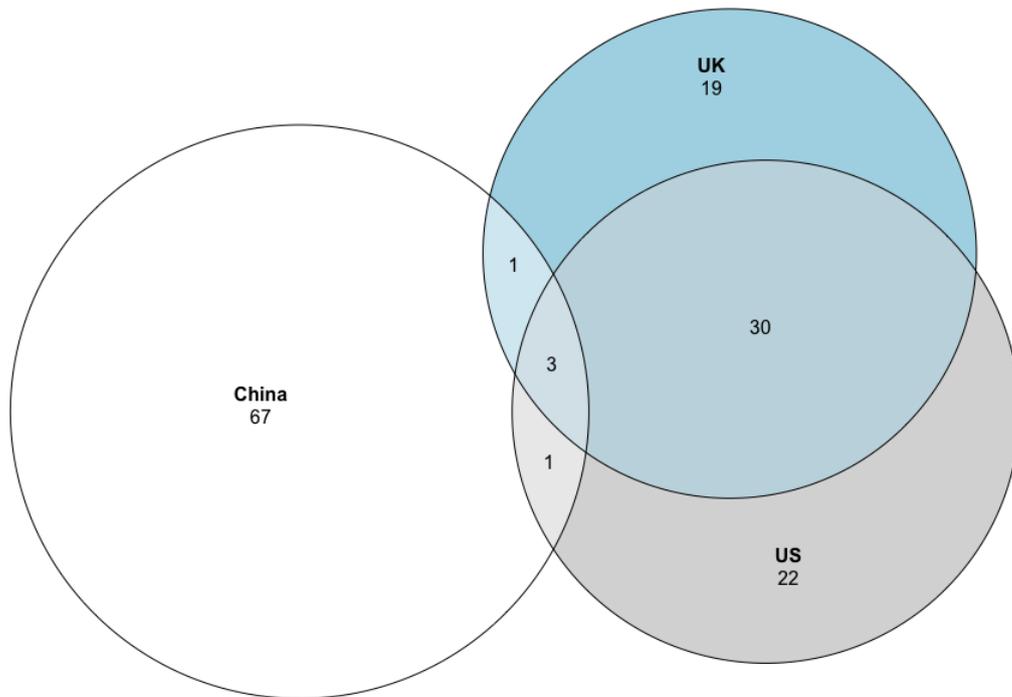
Figure 7.1 Region Summary

Table 7.1 Crosstab Analysis – Region & Category

Category	UK		US		China	
	N	Percentage	N	Percentage	N	Percentage
Books	10	18.87%	12	21.43%	1	1.39%
Business	1	1.89%	1	1.79%	0	0.00%

Education	2	3.77%	3	5.36%	3	4.17%
Entertainment	2	3.77%	8	14.29%	13	18.06%
Food & Drink	1	1.89%	0	0.00%	1	1.39%
Graphics & Design	1	1.89%	1	1.79%	1	1.39%
Health&Fitness	2	3.77%	1	1.79%	6	8.33%
Lifestyle	2	3.77%	1	1.79%	2	2.78%
Magazines & Newspaper	0	0.00%	1	1.79%	0	0.00%
Medical	4	7.55%	2	3.57%	8	11.11%
Navigation	1	1.89%	0	0.00%	0	0.00%
News	5	9.43%	6	10.71%	0	0.00%
Photo & Video	5	9.43%	6	10.71%	9	12.50%
Productivity	0	0.00%	0	0.00%	1	1.39%
Reference	0	0.00%	1	1.79%	1	1.39%
Social Networking	16	30.19%	13	23.21%	20	27.78%
Sports	0	0.00%	0	0.00%	3	4.17%
Travel	1	1.89%	0	0.00%	3	4.17%
Sum	53	100%	56	100%	72	100%
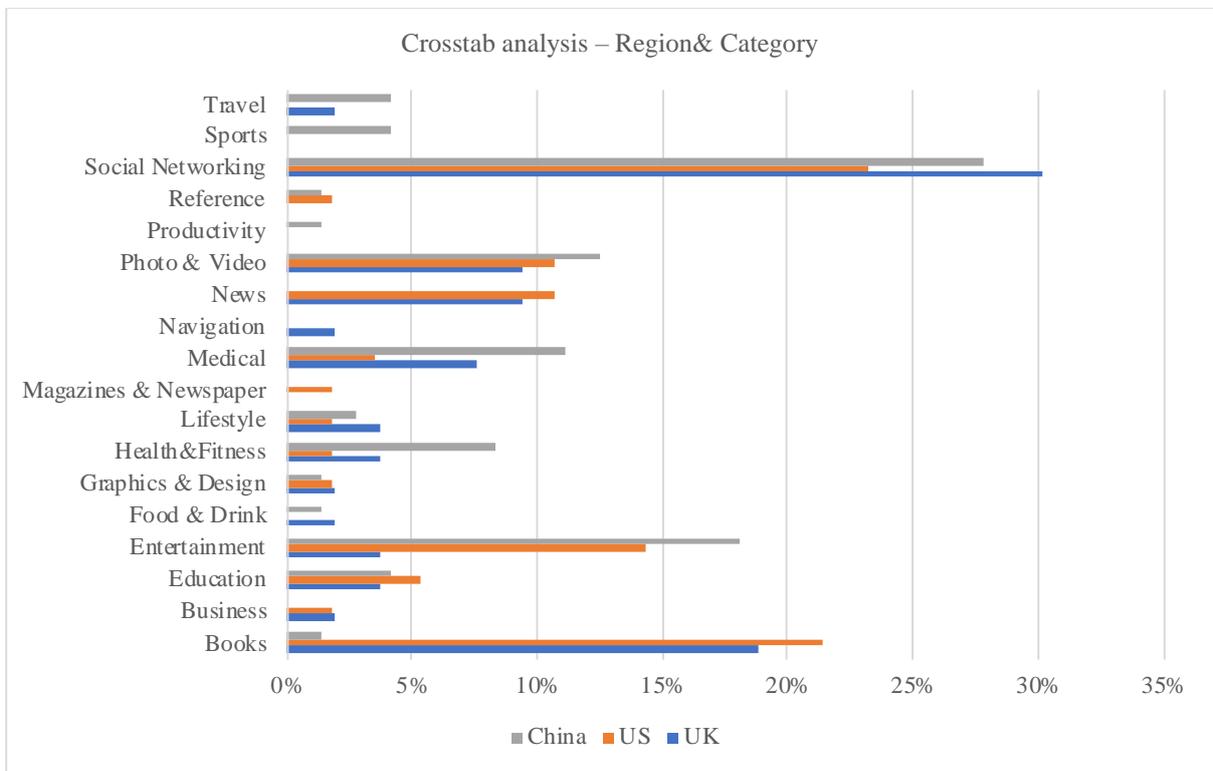
Figure 7.2 Crosstab analysis – Region & Category

As shown in Table 7.1 and Figure 7.2, most of the content creative platforms are in the category of *Social Networking*, which may be related to the functions of the platform. In other words, platforms with *Social Networking* as the main service aim will pay more attention to the interaction between users, while the interaction on the content creative platform is carried out by uploading content and sharing contents. Similarly, because the purpose of the platform is less related to interaction, there are also fewer content creative platforms in categories

such as *Sports*, *Productivity*, and *Navigation*. An interesting phenomenon occurred in the category *Book*. A large proportion (about 20%) of content creative platforms in UK and US belong to this category, while platforms under this category only occupy a very small proportion of content creative platforms in China. This may indicate that users from China do not pay attention to interaction when using platforms under the *Book* category, or in China, the content producers of platforms under the *Book* category account for a very small part of the total.

Table 7.2 Crosstab Analysis – Region & Content Theme Diversity

Content Theme Diversity	UK		US		China	
	N	Percentage	N	Percentage	N	Percentage
1	36	67.92%	30	53.57%	32	44.44%
2	2	3.77%	4	7.14%	11	15.28%
3	3	5.66%	4	7.14%	11	15.28%
4	3	5.66%	3	5.36%	8	11.11%
5	0	0.00%	3	5.36%	4	5.56%
6	9	16.98%	12	21.43%	6	8.33%
Sum	53	100.00%	56	100.00%	72	100.00%
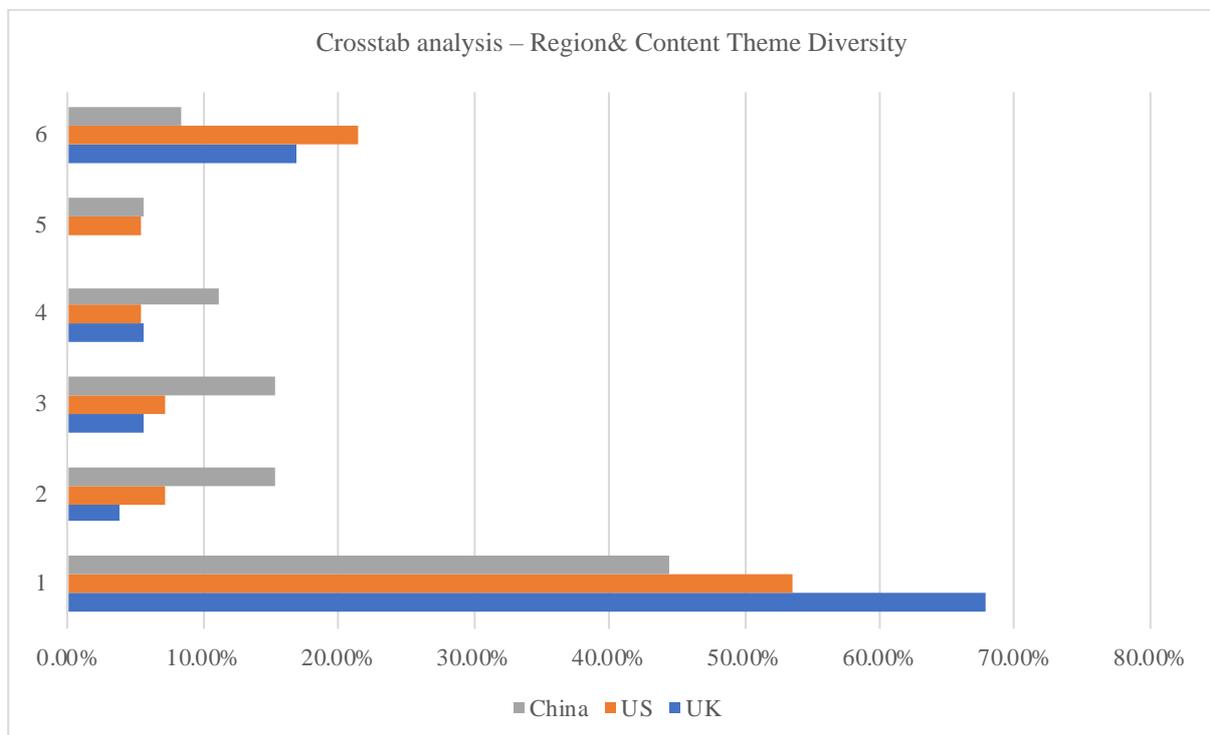
Figure 7.3 Crosstab analysis – Region & Content Theme Diversity

As shown in table 7.2 and figure 7.3, most content creative platforms encourage content creation that focuses on a certain topic, especially those from the UK. In comparison, a certain percentage of platforms from China have greater thematic diversity, because the platform encourages the creation of 2-4 different content themes at the same time. However, platforms from the US accounted for the largest proportion of the 'most diverse topics (*level = 6*)', followed by platforms from the UK. This may reflect that content creative platforms from China encourage content producers to create content on one or more different themes. Content creative platforms from the US and UK want to be more polarized. Most platforms encourage producers to create content on a single theme, and a considerable number of platforms encourage users to create content on any theme.

Table 7.3 Content Theme Summary

Content Themes	Freq	Pct.of.Resp	Pct.of.Cases
Entertainments	102	30.72%	71.33%
Education	45	13.55%	31.47%
Lifestyle	91	27.41%	63.64%
Business	31	9.34%	21.68%
Politics	24	7.23%	16.78%
Arts	39	11.75%	27.27%
Sum	332	100.00%	232.17%
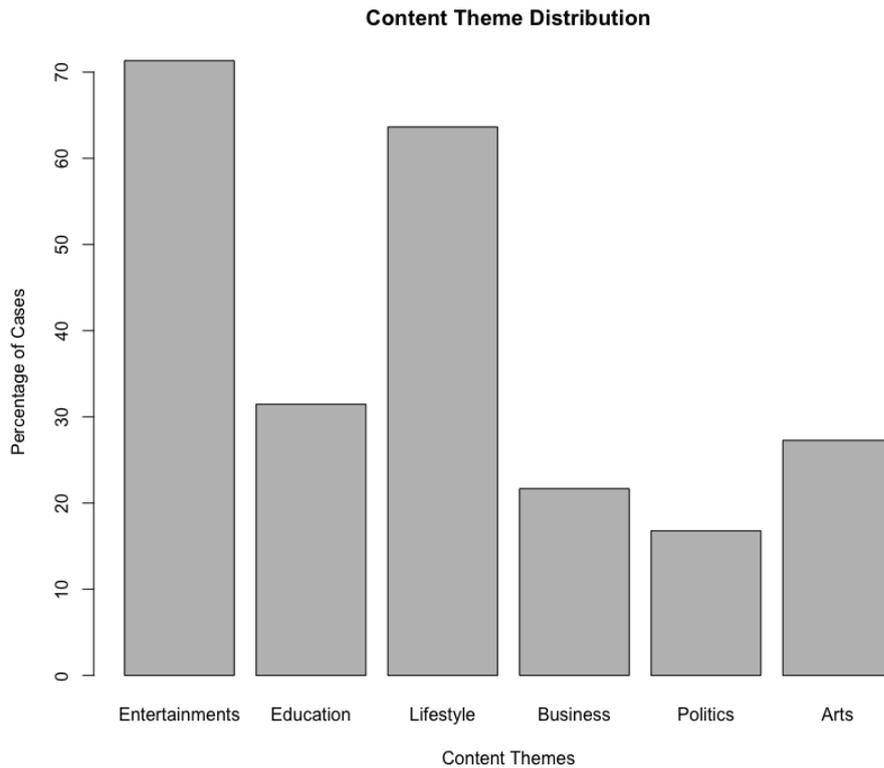
Figure 7.4 Content Theme Summary

As shown in table 7.3 and figure 7.4, among the six themes, the two themes of *Entertainment* and *Lifestyle* are the most frequently involved in platform content, which may be determined by factors such as audience preference and the simplicity of content creation. The themes with the least content involved is *Politics*. This may be because many platform users don't think the digital platform is a good place to discuss politics - they prefer to discuss it in person.

Table 7.4 Crosstab analysis – Region & Content Theme

Themes	UK		US		China	
	N	Percentage	N	Percentage	N	Percentage
Entertainments	34	64.15%	42	75.00%	55	76.39%
Education	16	30.19%	23	41.07%	24	33.33%
Lifestyle	31	58.49%	33	58.93%	51	70.83%
Business	10	18.87%	18	32.14%	15	20.83%
Politics	10	18.87%	16	28.57%	10	13.89%
Arts	14	26.42%	17	30.36%	21	29.17%
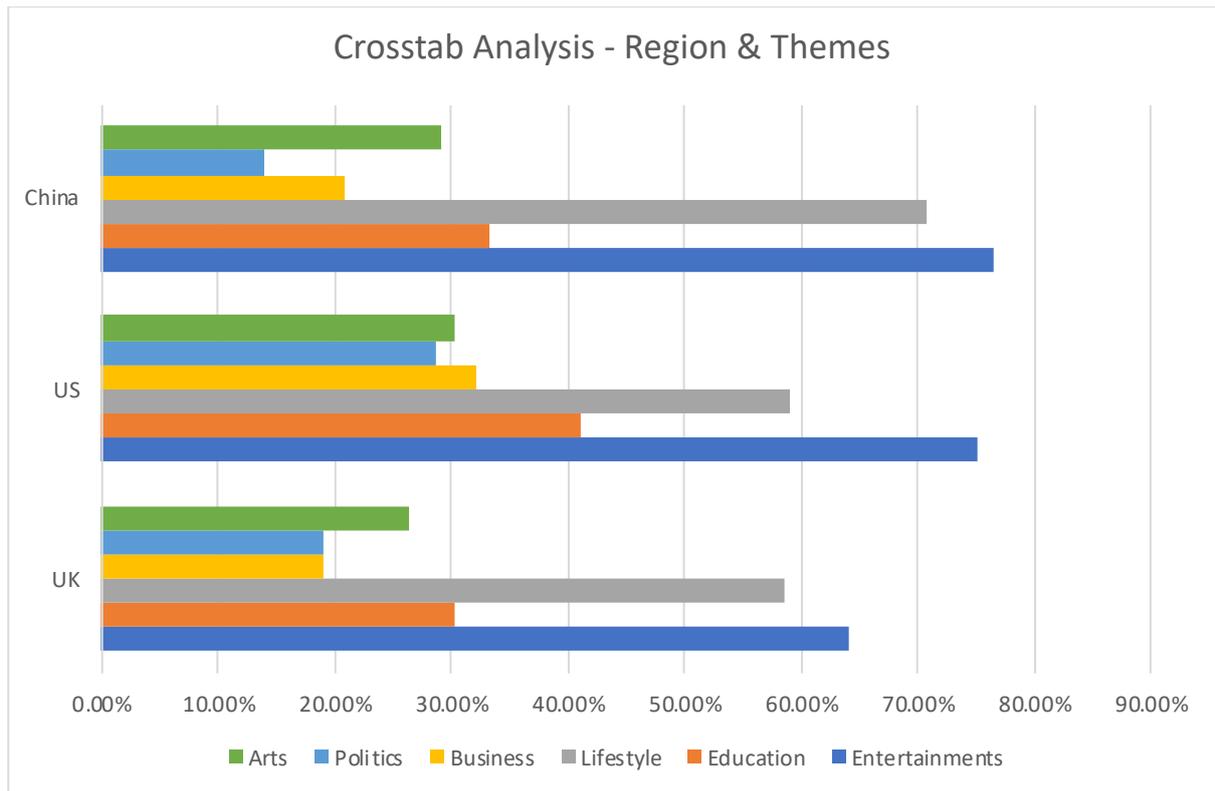
Figure 7.5 Crosstab analysis – Region & Content Theme

In general, the distribution of content themes of the content creative platform in the three countries is relatively similar. *Lifestyle* and *Entertainment* have the most content themes, followed by *Arts*, and *Politics* and *Business* are the least.

Table 7.5 Crosstab Analysis – Region & Content Type Diversity

Content Type Diversity	UK		US		China	
	N	Percentage	N	Percentage	N	Percentage
1	23	43.40%	21	37.50%	12	16.67%
2	16	30.19%	17	30.36%	20	27.78%
3	9	16.98%	12	21.43%	28	38.89%
4	4	7.55%	4	7.14%	11	15.28%
5	1	1.89%	2	3.57%	1	1.39%
6	0	0.00%	0	0.00%	0	0.00%
Sum	53	100%	56	100%	72	100%
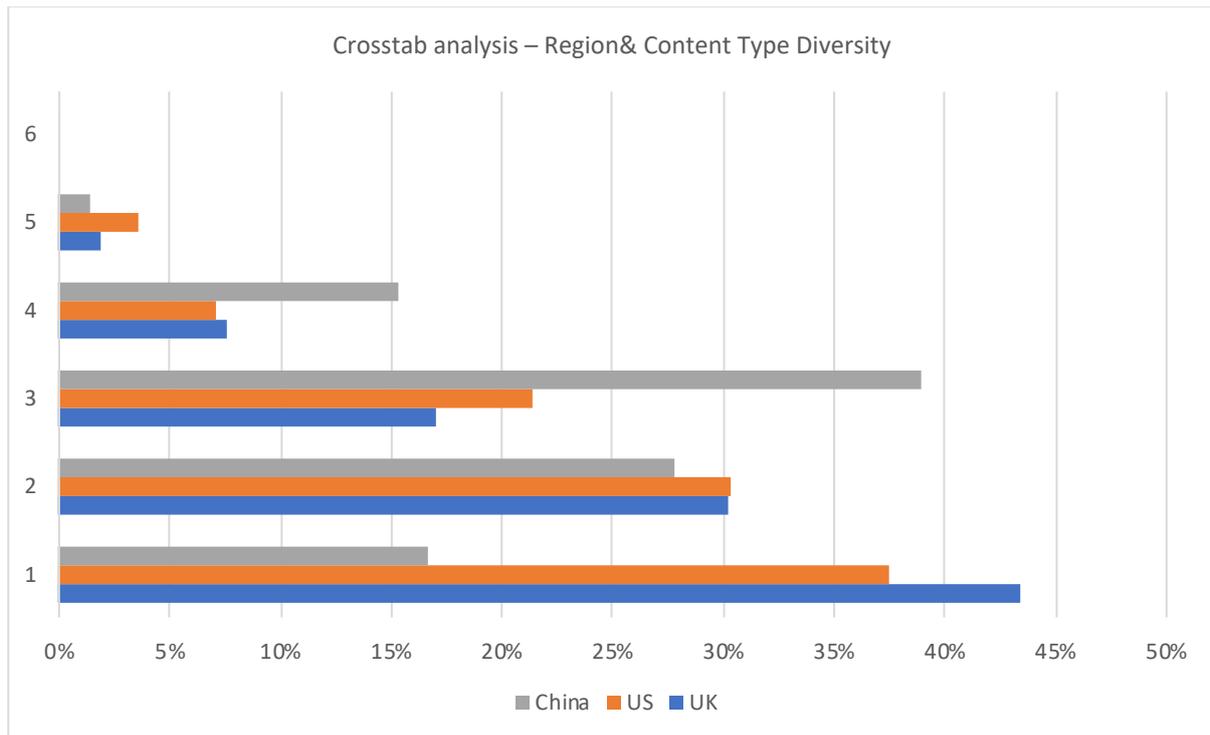
Figure 7.6 Crosstab analysis – Region & Content Type Diversity

As shown in table 7.5 and figure 7.6, the stricter the content type restriction (that is, the single content type that users are allowed to upload), the greater the proportion of content creative platforms from the UK and US. The platform from China allows more users to create 3 different types of content. In addition, although this study focused on 6 different types of content (i.e., Text, Image, Video, Audio, Poll and Document), no platform allows users to upload 6 different types of content at the same time among all 143 sample platforms.

Table 7.6 Crosstab Analysis – Region & Content Type

	UK		US		China	
Types	N	Percentage	N	Percentage	N	Percentage
Text	28	52.83%	33	58.93%	42	58.33%
Image	30	56.60%	37	66.07%	53	73.61%
Video	30	56.60%	31	55.36%	64	88.89%
Audio	8	15.09%	9	16.07%	17	23.61%
Poll	5	9.43%	5	8.93%	7	9.72%
Document	3	5.66%	2	3.57%	1	1.39%
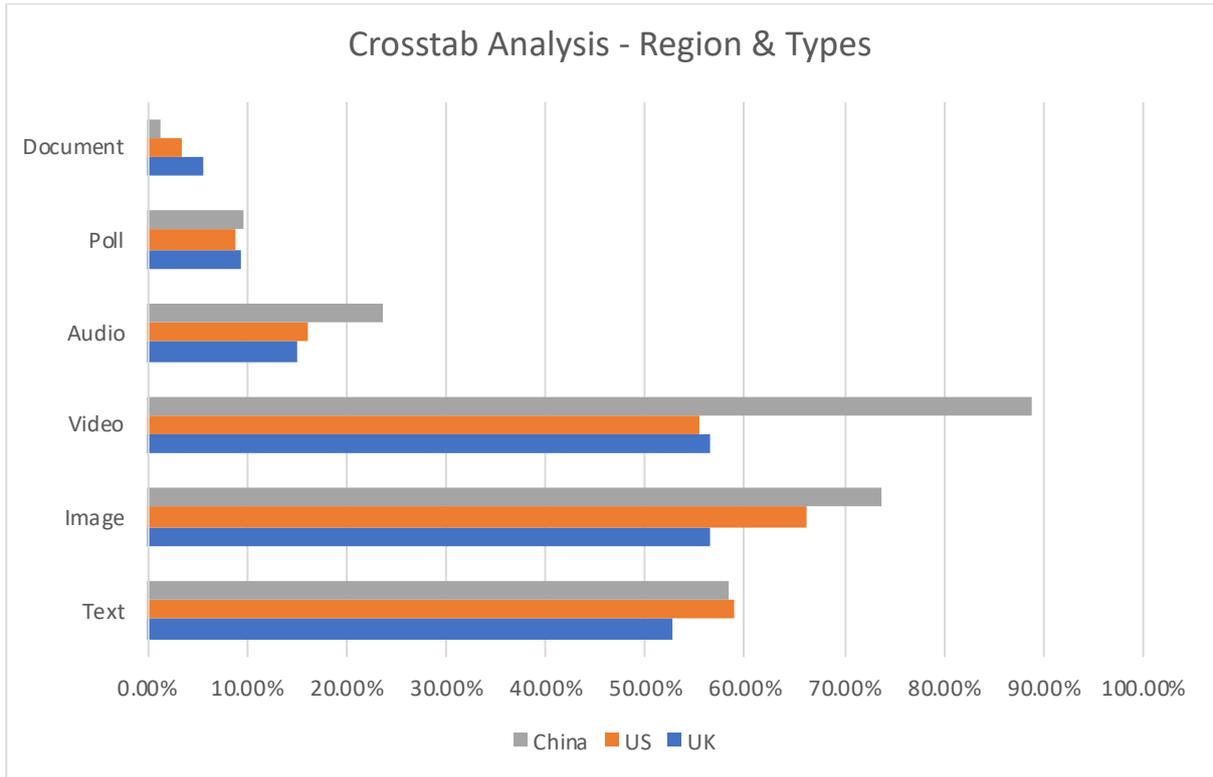
Figure 7.7 Crosstab analysis – Region & Content Type

As shown in Table 7.6 and figure 7.7, in general, the content creation of video, image, and text in the three countries accounted for much greater proportions than the other three content types, which shows that the three types of video, image and text Content creation is dominant in the content creative platform. In addition, the percentage of content creative platforms from China that support users to publish videos is much higher than that of platforms from the UK and US, which may indicate that in China, video-type content creation is the general trend.

Table 7.7 Crosstab Analysis – Technological Access & Content Themes

Themes	Phone		Tablet		Computer		Smartwatch		SmartTV	
	N	Percentage	N	Percentage	N	Percentage	N	Percentage	N	Percentage
Entertainments	102	100.00%	62	60.78%	67	65.69%	6	5.88%	7	6.86%
Education	45	100.00%	32	71.11%	33	73.33%	3	6.67%	4	8.89%

Lifestyle	91	100.00%	5 8	63.74%	5 7	62.64%	1 1	12.09%	7	7.69%
Business	31	100.00%	2 4	77.42%	2 1	67.74%	3	9.68%	2	6.45%
Politics	24	100.00%	2 1	87.50%	1 9	79.17%	2	8.33%	3	12.50%
Arts	39	100.00%	2 8	71.79%	2 6	66.67%	3	7.69%	3	7.69%

Figure 7.8 Crosstab analysis – technological access & Content themes

All samples can be obtained through mobile phones, because the samples are collected through the mobile phone's Apple App Store. Regardless of the content and theme of the platform, the proportion of accessing contents by phones, tablets and computers is much greater than that of Smartwatch and smart TV. This shows that the use of phones, tablets and computers for content sharing is the main trend. In addition, among the platforms that can be obtained using smartwatch, the content theme with the highest proportion is *Lifestyle*, which may be related to the

function of the digital device. One of the main purposes of smartwatch is to monitor physical health, so platforms that support the post of related contents will develop the smartwatch technological access method. Similarly, among the platforms that can obtain content through smartTV, the largest proportion is platforms with political-related content. This can be explained as that users are more inclined to unilaterally obtain such content but not through interaction. The interactive functions provided by smartTV are relatively limited, and the large screen can efficiently output content to audiences, thereby meeting the needs of users.

Table 7.8 Crosstab Analysis – technological access & Content types

Content Types	Phone		Tablet		Computer		Smartwatch		SmartTV	
	N	Percentage	N	Percentage	N	Percentage	N	Percentage	N	Percentage
Text	82	25.31%	52	26.00%	59	27.57%	8	24.24%	3	14.29%
Image	94	29.01%	60	30.00%	62	28.97%	9	27.27%	5	23.81%
Video	100	30.86%	58	29.00%	64	29.91%	10	30.30%	9	42.86%
Audio	29	8.95%	17	8.50%	15	7.01%	5	15.15%	3	14.29%
Poll	14	4.32%	9	4.50%	10	4.67%	1	3.03%	1	4.76%
Document	5	1.54%	4	2.00%	4	1.87%	0	0.00%	0	0.00%
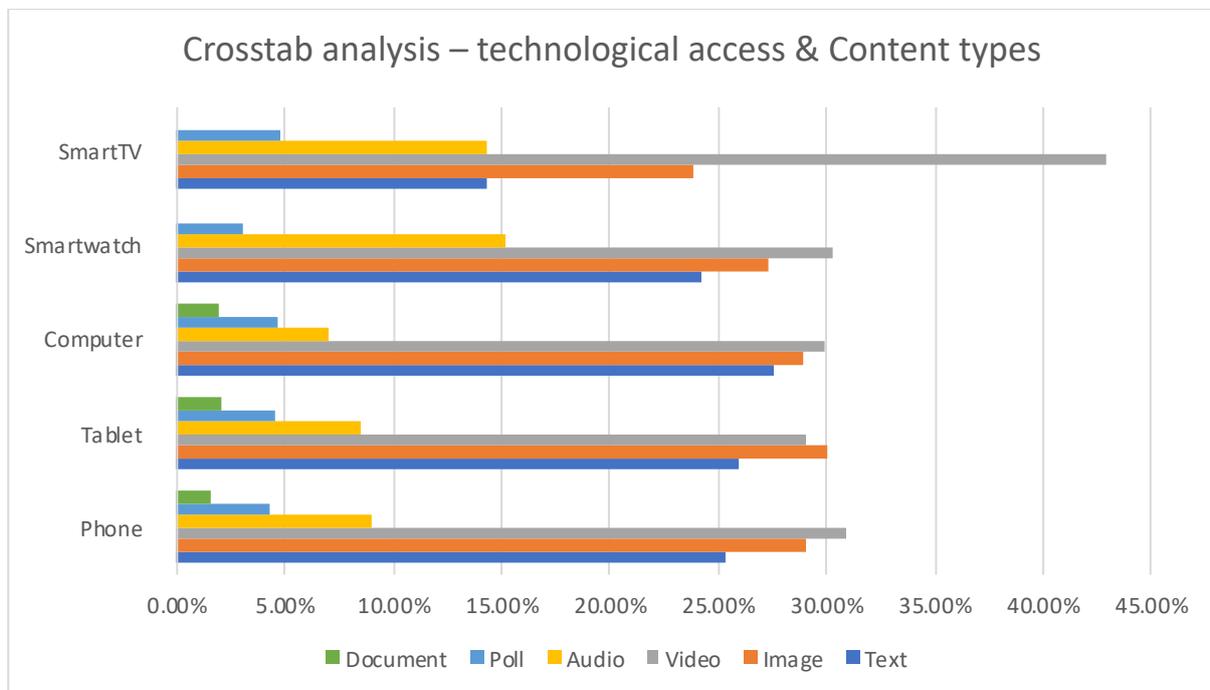
Figure 7.9 Crosstab analysis – technological access & Content types

Table 7.8 and figure 7.9 show the number and proportion of content types supported by different digital devices. Not surprisingly, nearly half of the platforms that can obtain content through *smartTV* support video content, because video is the main form of content output for *smartTV*. In addition, platforms that support document content sharing can only be obtained through *phone*, *tablet*, and *computer*, because it is more difficult to read and operate documents using the other two digital devices.

Table 7.9 Crosstab Analysis – Region & Technological Design

Technological Design	UK		US		China	
	N	Percentage	N	Percentage	N	Percentage
Synchronous	4	7.55%	5	8.93%	4	5.56%
Asynchronous	34	64.15%	34	60.71%	29	40.28%
Hybrid	15	28.30%	17	30.36%	39	54.17%
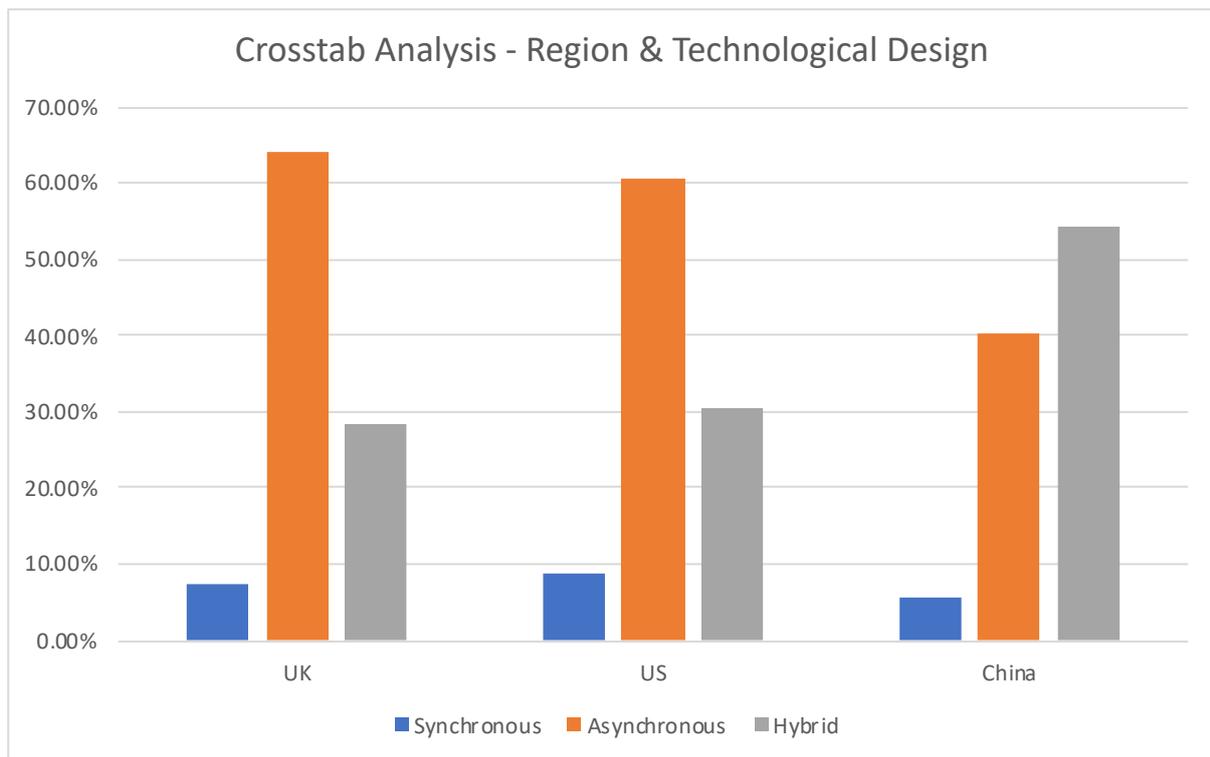
Figure 7.10 Crosstab Analysis – Region & Technological Design

Table 7.9 and Figure 7.10 show the results of cross-analysis of region and technical design. In the three countries, the distribution characteristics of the technical design of the UK and US platforms are relatively similar, and

asynchronous content sharing is dominant. The platforms from China are different. More than half of the platforms use hybrid technological design, and support both asynchronous and synchronous content transmission.

Table 7.10 Crosstab Analysis – Technological Access & Technological Design

Technological Access	Synchronous		Asynchronous		Hybrid	
	N	Percentage	N	Percentage	N	Percentage
Phone	11	57.89%	75	40.32%	57	40.71%
Tablet	1	5.26%	50	26.88%	38	27.14%
Computer	7	36.84%	48	25.81%	34	24.29%
Smartwatch	0	0.00%	9	4.84%	5	3.57%
SmartTV	0	0.00%	4	2.15%	6	4.29%
Sum	19	100.00%	186	100.00%	140	100.00%
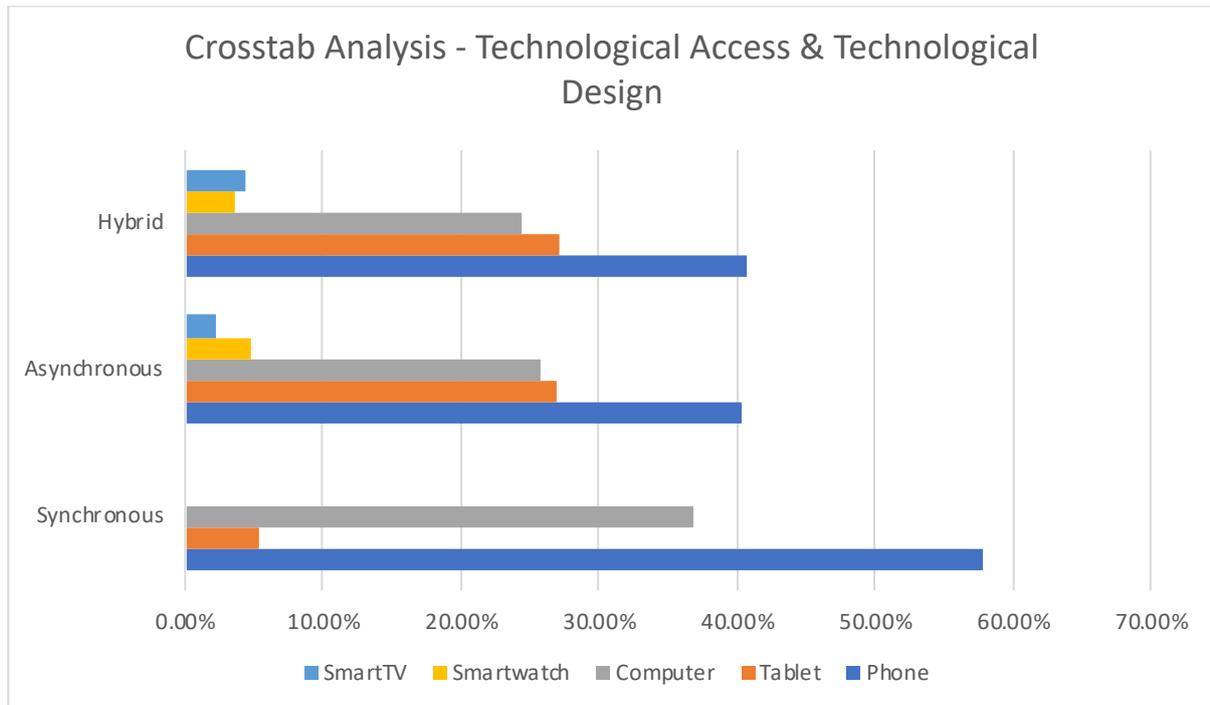
Figure 7.11 Crosstab Analysis – Technological Access & Technological Design

In all 143 samples, all platforms that use synchronous technology for content transmission cannot be obtained through SmartTV and smartwatch. This may be explained as the difficulty of achieving content interaction through SmartTV and smartwatch, as the platform feature that relies on synchronous technology for content transmission is the real-time interaction between viewers and producers. It is worth noting that in platforms that rely on synchronous technology for content transmission, the proportion of content that can be obtained through tablets is also very small, less than 10%.

Table 7.11 Crosstab Analysis – Content Themes & Technological Design

Themes	Synchronous		Asynchronous		Hybrid	
	N	Percentage	N	Percentage	N	Percentage
Entertainments	7	53.85%	44	30.34%	51	29.31%
Education	0	0.00%	17	11.72%	28	16.09%
Lifestyle	6	46.15%	40	27.59%	45	25.86%
Business	0	0.00%	15	10.34%	16	9.20%
Politics	0	0.00%	9	6.21%	15	8.62%
Arts	0	0.00%	20	13.79%	19	10.92%
Sum	13	100.00%	145	100.00%	174	100.00%
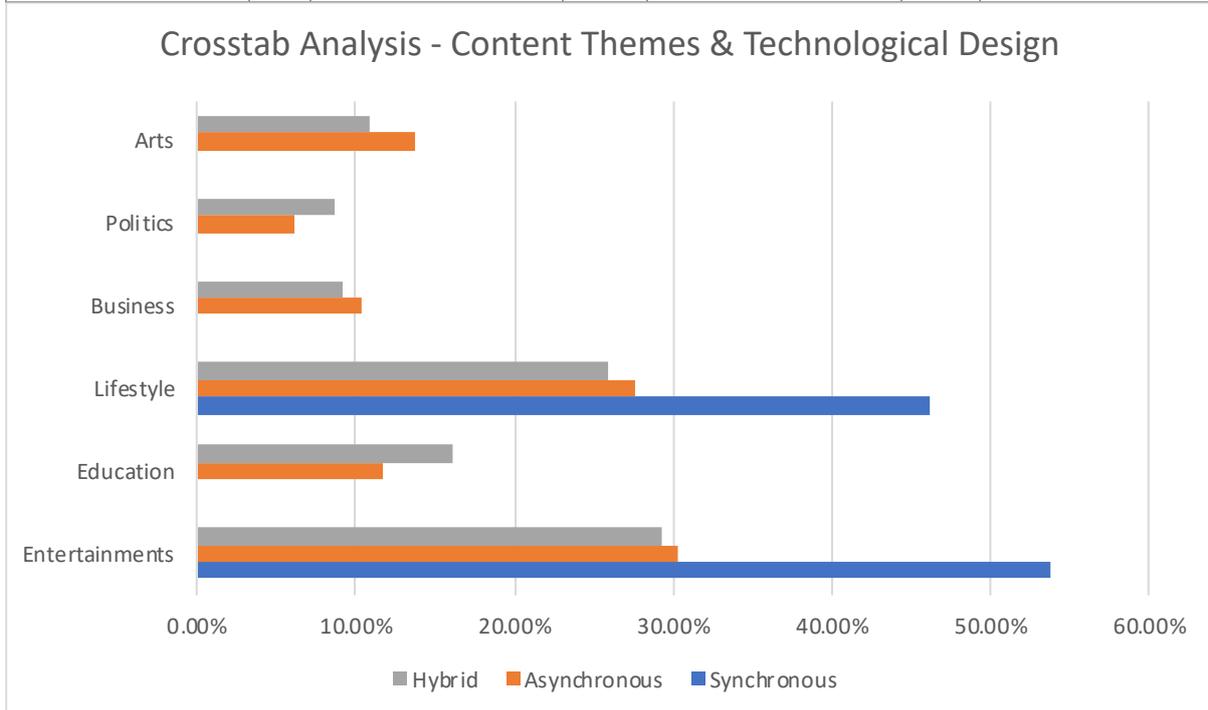
Figure 7.12 Crosstab Analysis – Content Themes & Technological Design

As shown in Figure 7.12, all platforms that rely on synchronous technology for content transmission focus on providing lifestyle-related or entertainment-related content. In platforms that provide these two types of content, the percentage of using synchronous technology is about 50%. This may indicate that the content of these two themes is more suitable for sharing using synchronous technology, because on the one hand, compared with other themes, these two themes do not need to consume too much creativity of the producers, so that the producers can continue to output content. On the other hand, since these two themes are closer to the lives of users, audiences are more likely to have a sense of trust with producers when receiving content on these two themes.

Table 7.12 Crosstab Analysis – Content Types& Technological Design

Type	Synchronous		Asynchronous		Hybrid	
	N	Percentage	N	Percentage	N	Percentage
Text	2	13.33%	50	29.76%	30	21.28%
Image	3	20.00%	57	33.93%	34	24.11%
Video	9	60.00%	41	24.40%	50	35.46%
Audio	1	6.67%	8	4.76%	20	14.18%
Poll	0	0.00%	7	4.17%	7	4.96%
Document	0	0.00%	5	2.98%	0	0.00%
Sum	15	100.00%	168	100.00%	141	100.00%
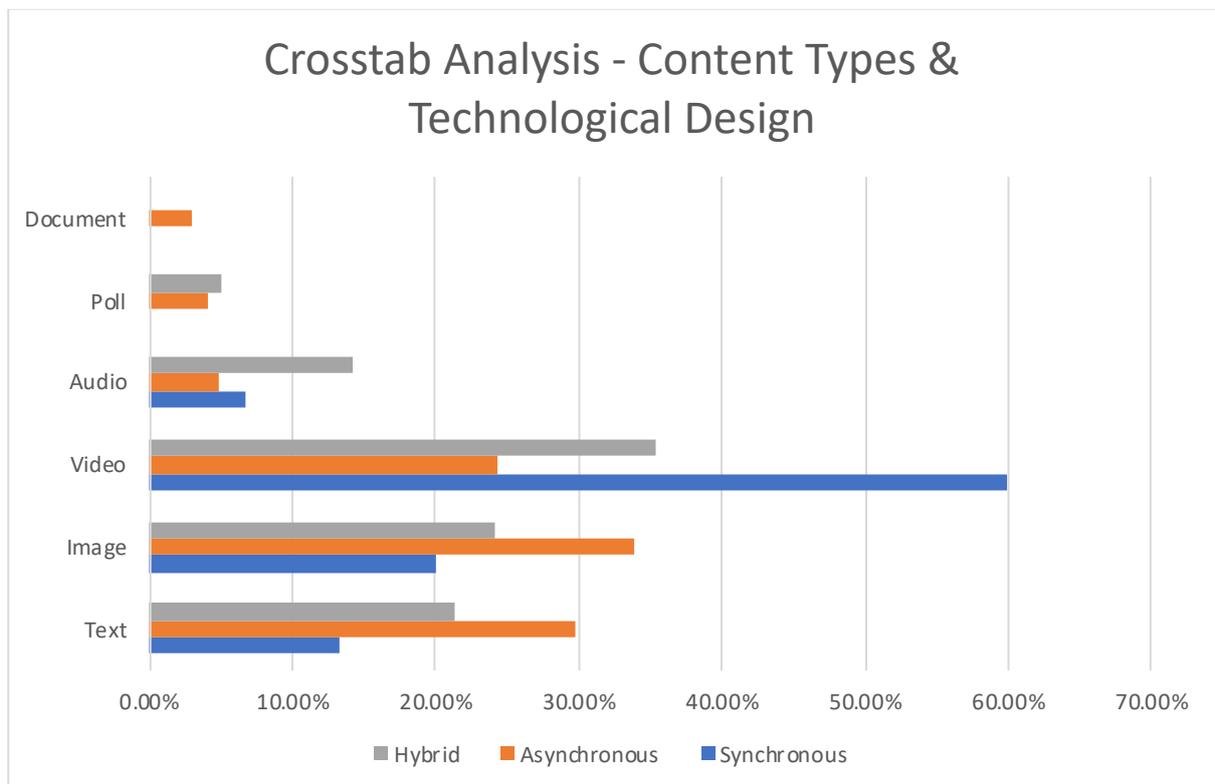
Figure 7.13 Crosstab Analysis – Content Types & Technological Design

Of the platforms that support video content sharing, 60 per cent are designed to deliver content using synchronous technology, while platforms that support image and text content sharing use asynchronous technology. This is easy to understand, because the content transmission of content creative platforms is a process from one (content producer) to many (audiences), and *synchronous* technology emphasizes real-time interaction between users, and the use of video content types can attract audiences to a greater extent. In addition, among the platforms that support Audio content types, the technology that accounts for the largest proportion is the *hybrid* technology design, which means that the platform provides both *synchronous* technology and *asynchronous* technology.

Table 7.13 Crosstab Analysis – Size Group & Technological Design

SizeGroup	Synchronous		Asynchronous		Hybrid	
	N	Percentage	N	Percentage	N	Percentage
1	5	45.45%	25	33.33%	6	10.53%
2	2	18.18%	21	28.00%	12	21.05%
3	3	27.27%	18	24.00%	15	26.32%
4	1	9.09%	11	14.67%	24	42.11%
Sum	11	100.00%	75	100.00%	57	100.00%
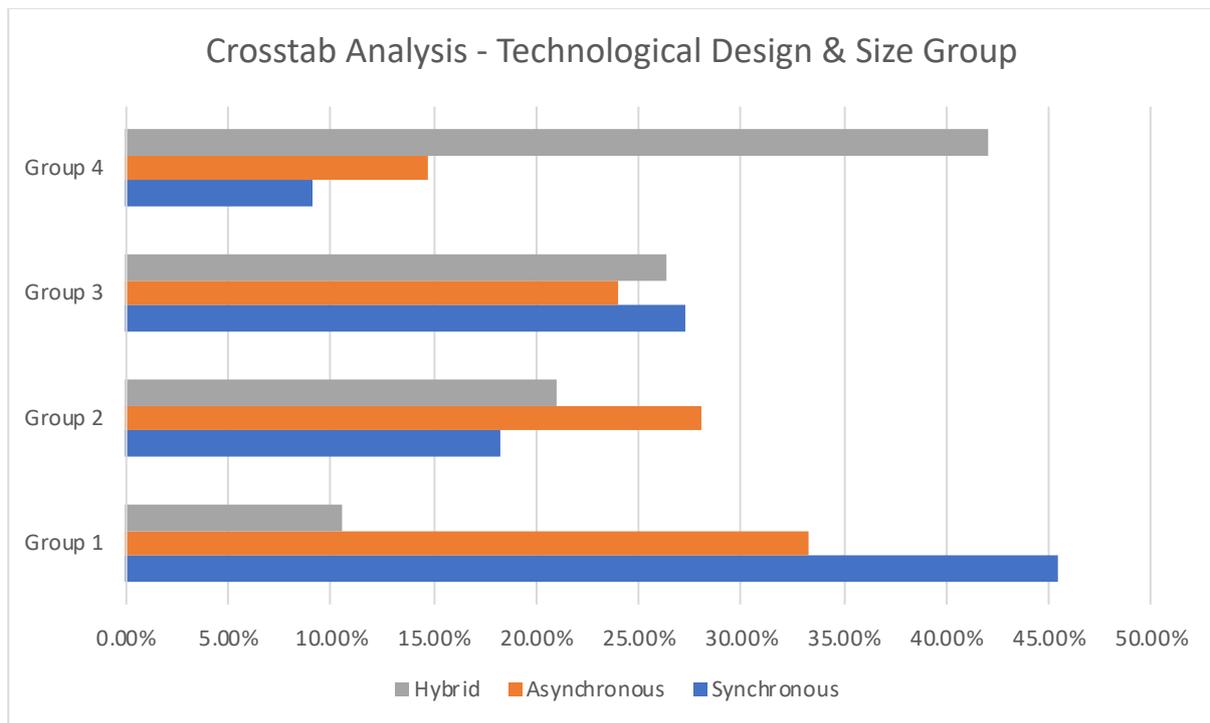
Figure 7.14 Crosstab Analysis – Size Group & Technological Design

The platform size of Group 1-Group 4 is increasing. Figure 7.14 clearly describes the relationship between the size of the platforms and Technological design. Generally speaking, the smaller the platform, the more it only focuses on a certain technological design (synchronous or asynchronous), while the larger-scale platform mostly adopts the hybrid technological design.

Table 7.14 Crosstab Analysis – Profit Model & Technological Design

Profit Model	Synchronous		Asynchronous		Hybrid	
	N	Percentage	N	Percentage	N	Percentage
Direct Revenue	3	27.27%	26	34.67%	13	22.81%
Indirect Revenue	0	0.00%	10	13.33%	4	7.02%

Rirect and Indirect Revenue	4	36.36%	6	8.00%	10	17.54%
No Revenue	4	36.36%	33	44.00%	30	52.63%
Sum	11	100.00%	75	100.00%	57	100.00%
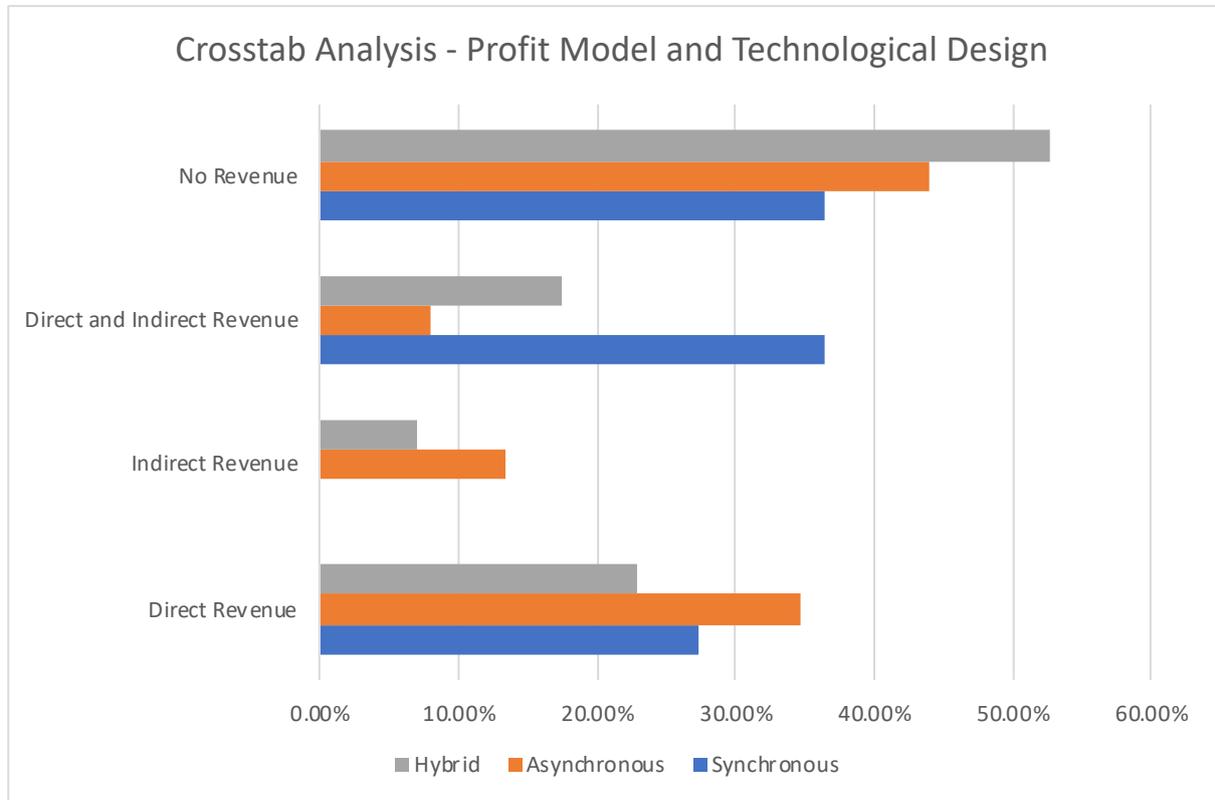
Figure 7.15 Crosstab Analysis – Profit Model & Technological Design

Table 7.14 and figure 7.15 are cross-analysis of profit model and technological design. We can see that the vast majority of platforms that use synchronous technology for content dissemination will provide revenue for content producers. At the same time, such platforms will not provide only indirect revenue for content producers. In other words, they will provide direct revenue or both direct revenue and indirect revenue for content producers. This may be because, compared to platforms that use asychronous technology for content dissemination, the threshold for content producers on platforms using sychronous technology is higher-because sychronous technology requires them to share content in a relatively fixed and continuous time period. At the same time, producers have a single choice when using asychronous technology for content dissemination. In other words, unlike asychronous technology for content dissemination, using sychronous for content sharing can only choose a single platform (or a limited platform). As a result, the number of content producers on such platforms is not as large as that of

platforms using asychronous technology. This situation encourages the platform to retain producers by increasing their returns.

1.   Description of the group *Europe (excluding the UK)*

The data were divided into four groups, including Europe (excluding the UK), the UK, US and China. Table 1 shows the distribution of respondents from countries other than the UK in the Europe group. Germany and the Netherlands had the most respondents, with 67 and 57 respectively, followed by respondents from France (17) and Greece (13). As shown in Table 7.15, most of the respondents are from Western Europe.

Table 7.15 Composition of the Group Europe (excluding the UK)

No	Country Reside	Count
1	Germany	67
2	Netherlands	57
3	France	17
4	Greece	13
5	Romania	9
6	Denmark	8
7	Hungary	7
8	Estonia	6
9	Switzerland	5
10	Austria	4
11	Ireland	4
12	Poland	4
13	Portugal	4
14	Spain	4
15	Sweden	4
16	Belgium	3
17	Finland	3
18	Italy	2
19	Lithuania	2
20	Norway	1
22	Slovakia	1
	SUM	226

2.   Data Overview

After removing the 299 samples that did not answer the required questions, the distribution of the remaining samples in the four regional groups is shown in Table 2 and Figure 2. Overall, the sample size was average across each group. Notably, only English version surveys are included in the group Europe (excluding the UK), UK and US, while the group China includes 233 Chinese version surveys and 34 English version surveys.

Table 7.16 Data overview of four groups

Group	Count
Europe (excluding the UK)	225
UK	244
US	281
China	267
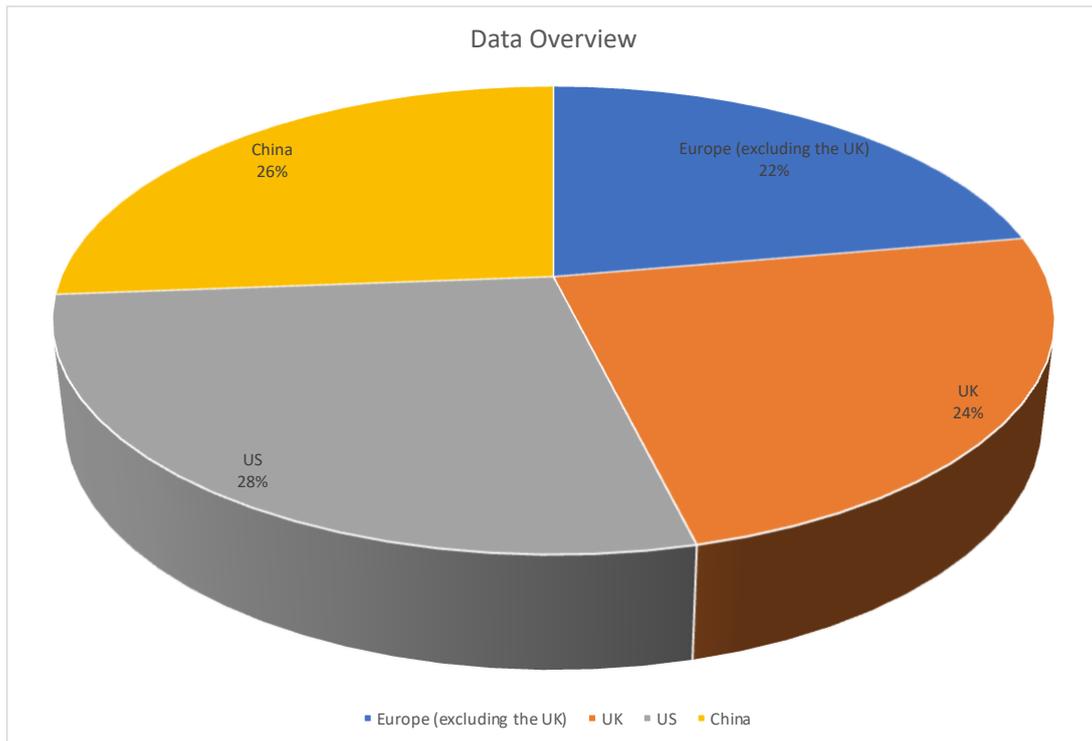
Figure 7.16 Data overview of four groups

Table 7.17 and Figure 7.17 illustrate the distribution of platform users and content creators among the four groups. The number of platform users in group China is the largest among the four groups. However, the number of both platform users and content creators in group Europe is only 99. Interestingly, 31 respondents in the US group were content creators but not platform users. Tables 7.17 - 7.21 present the details of the distribution of platform users and content creators in each group.

Table 7.17 Distribution of platform users and content creators in four groups

	Platform Users	**Content Creators**	**Both Platform Users and Content Creators**
Europe (excluding the UK)	148	109	98
UK	155	130	111
US	169	155	124
China	223	141	139

SUM	695	535	472
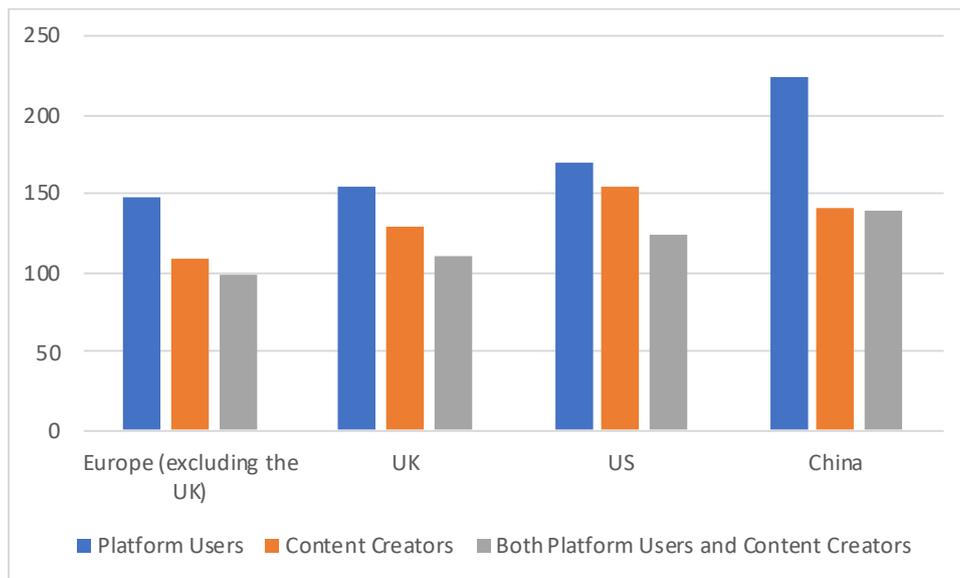
Figure 7.17 Distribution of platform users and content creators in four groups

Table 7.18 Distribution of platform users and content creators in the group Europe (excluding the UK)

Europe (exclude UK)		Platform Users		SUM
		No	Yes	
Content Creators	No	67	49	116
	Yes	11	98	109
SUM		78	147	225

Table 7.19 Distribution of platform users and content creators in the group the UK

UK		Platform Users		SUM
		No	Yes	
Content Creators	No	70	44	114
	Yes	19	111	130
SUM		89	155	244

Table 7.20 Distribution of platform users and content creators in the group the US

US		Platform Users		SUM
		No	Yes	
Content Creators	No	81	45	126
	Yes	31	124	155
SUM		112	169	281

Table 7.21 Distribution of platform users and content creators in the group China

China		Platform Users		SUM
		No	Yes	
Content Creators	No	42	84	126

	Yes	2	139	141
SUM		44	223	267

3. Platform Users

3.1 Platform use behaviour

Table 7.22 describes the characteristics of the 10 most frequently used platforms by platform users in the Europe (excluding the UK), UK and US samples. The table combines previous online content analysis data. It can be seen that the content of these platforms contains different themes, and only the platform *Pinterest* contains a single theme (art). In addition, these platforms can be accessed in at least two ways (for example, Phone and PC), and the contents on the platforms can be easily obtained. Only two platforms, *Instagram* and *Pinterest*, require registration before accessing content. Finally, all platforms use asynchronous communication technology, and some platforms such as Instagram and YouTube use both asynchronous communication and synchronous communication technology. This may indicate that communication technology for asynchronous communication still dominates in content creative platforms.

Table 7.23 of the document platform description describes the characteristics of the 10 platforms most commonly used by platform users in the group China sample. This table proves that under different contexts, the most popular platforms among platform users have the characteristics of multi-theme, diverse access to the platform, easy access to content, and asynchronous communication technology-dominated features. Tables 7.23-26 and Figures 7.18-21 show the details of the platforms used by respondents in each group.

Table 7.22 10 most frequently used platforms by platform users in the Europe (excluding the UK), UK and US

Platforms	Category	content themes		content types		Access to the platform		Ease access to UGC		The technological design of interaction dichotomously	Revenue	Platform Users			
		Count	Themes	Count	Types	Count	Ways	Whether UGC can be accessed without registration?	Whether UGC can be accessed without additional conditions?			Europe (excluding the UK)	UK	US	SUM
Instagram	Photo & Video	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	3	Text; Image; Video	2	Phone; Computer	No	Yes	hybrid	no revenue	104	94	87	285
YouTube	Photo & Video	3	Entertainments; Education; Lifestyle	1	Video	4	Phone; Tablet; Computer; Smart TV	Yes	Yes	hybrid	direct revenue	91	90	97	278
Pinterest	Lifestyle	1	Arts	1	Image	3	Phone; Tablet; Computer	No	Yes	asynchronous	No revenue	60	47	60	167
Twitter	News	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	4	Text; Image; Video; Audio; Poll	4	Phone; Tablet; Computer; Smart TV	Yes	Yes	hybrid	indirect revenue	39	65	50	154

Platform	Category														
LinkedIn	Business	2	Education; Business	5	Text; Image; Video; Poll; Document	3	Phone; Tablet; Computer	Yes	Yes	asynchronous	No revenue	66	32	27	125
Reddit	News	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	4	Text; Image; Video; Poll	3	Phone; Tablet; Computer	Yes	Yes	asynchronous	no revenue	35	46	44	125
Facebook	Social Networking	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	3	Text; Image; Video	4	Phone; Tablet; Computer; Smart TV	Yes	Yes	hybrid	indirect revenue	51	32	35	118
Snapchat	Photo & Video	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	2	Image; Video	2	Phone; Computer	Yes	Yes	asynchronous	direct revenue	27	34	36	97
TikTok International	Entertainment	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	1	Video	3	Phone; Tablet; Computer	Yes	Yes	hybrid	direct revenue	41		50	91
Twitch	Photo & Video	4	Entertainments; Education;	1	Video	4	Phone; Tablet; Computer;	Yes	Yes	hybrid	direct revenue	23	22	26	71

			Lifestyle; Politics				Smart TV								
wikipedia	Reference	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	3	Text; Image; Document	3	Phone; Tablet; Computer	Yes	Yes	asynchronous	no revenue	**33**	**14**	**17**	**64**

Table 7. 10 most frequently used platforms by platform users in China

Platforms	Category	content themes		content types		Access to the platform		Ease access to UGC		The technological design of interaction dichotomously	Revenue	Platform Users
		Count	Themes	Count	Types	Count	Ways	Whether UGC can be accessed without registration?	Whether UGC can be accessed without additional conditions?			China
Weibo（微博）	Social Networking	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	4	Text; Image; Video; Radio; Poll	3	Phone; Tablet; Computer	Yes	Yes	hybrid	direct revenue + indirect revenue	**122**
TikTok（抖音）	Photo & Video	3	Entertainments; Education; Lifestyle	2	Image; Video	2	Phone; Tablet	Yes	Yes	hybrid	indirect revenue	**107**
Bilibili（哔哩哔哩）	Entertainment	4	Entertainments; Education; Lifestyle; Arts	4	Text; Image; Video	3	Phone; Tablet; Computer	Yes	no	hybrid	direct revenue + indirect revenue	**90**

213

					; Audio						
Xiaohongshu（小红书）	Social Networking	4	Entertainments; Education; Lifestyle; Arts	2	Image; Video	2	Phone; Tablet	No	Yes	hybrid	indirect revenue	69
Wangyi Cloud Music（网易云音乐）	Medical	1	Entertainments	4	Text; Image; Video; Audio	3	Phone; Computer; Smartwatch	No	No	asynchronous	direct revenue	65
Dianping（大众点评）	Lifestyle	1	Lifestyle	3	Text; Image; Video	4	Phone; Tablet; Computer; Smartwatch	Yes	Yes	asynchronous	no revenue	52
Zhihu（知乎）	Social Networking	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	3	Text; Image; Video	3	Phone; Tablet; Computer	Yes	Yes	hybrid	direct revenue + indirect revenue	45
Quanmin Karaoke（全民 K 歌）	Entertainment	1	Entertainments	2	Video; Audio	2	Phone; Tablet	No	Yes	hybrid	direct revenue	32
Douban（豆瓣）	Social Networking	4	Entertainments; Lifestyle; Business; Arts	3	Text; Image; Video	3	Phone; Tablet; Computer	Yes	Yes	asynchronous	no revenue	30
Qunaer（去哪儿旅行）	Travel	1	Lifestyle	3	Text; Image; Video	3	Phone; Tablet; Computer	Yes	Yes	asynchronous	direct revenue	30

Table 7.23 Europe (excluding the UK) platforms use behaviour

No	Platform	No Chinese Platform	Include Chinese Platform	Sum	Note
1	Instagram	96	8	104	
2	YouTube	75	16	91	
3	LinkedIn	62	4	66	
4	Pinterest	52	8	60	
5	Facebook	42	9	51	
6	TikTok International	35	6	41	
7	Twitter	30	9	39	
8	Reddit	28	7	35	
9	Wikipedia	28	5	33	
10	Snapchat	19	8	27	
11	Twitch	19	4	23	
12	Tumblr	17	2	19	
13	Goodreads	11	2	13	
14	Quora	8	4	12	
15	Behance	8	3	11	
16	Tap by Wattpad	7	3	10	
17	Tripadvisor Travels and Hotels	8	1	9	
18	SoundCloud	5	3	8	
19	Patreon	5	2	7	
20	HelloTalk	4	0	4	
21	WebComics	1	3	4	
22	TikTok （抖音）	0	4	4	
23	Brainly	2	1	3	
24	OLIO	2	1	3	
25	Medium	2	1	3	
26	NewNew	0	3	3	
27	Ailiao （爱聊）	0	3	3	
28	5sing（5sing 原创音乐）	0	3	3	
29	Meme live（么么直播）	0	3	3	
30	Weibo（微博）	0	3	3	
31	frog	2	0	2	
32	Answers	2	0	2	
33	Sketchar	1	1	2	
34	AnyStories	1	1	2	
35	Strava	1	1	2	
36	Dianping（大众点评）	0	2	2	
37	Xiaohongshu（小红书）	0	2	2	
38	ZEPETO	0	2	2	

39	Changba （唱吧）	0	2	2	
40	Mixcloud	0	2	2	
41	Bilibili (哔哩哔哩),	0	2	2	
42	IMVU	0	2	2	
43	MangaToon	0	2	2	
44	MeetMe	0	2	2	
45	Wattpad	0	2	2	
46	Quanmin Karaoke （全民 K 歌）	0	2	2	
47	Amino	1	0	1	
48	Weverse	1	0	1	
49	Wishbone	1	0	1	
50	Yubo	1	0	1	
51	Good0verl & Books Web Novels	1	0	1	
52	Mixcloud	1	0	1	
53	Clapper	1	0	1	
54	Lobby	1	0	1	
55	HiNovel	1	0	1	
56	WeHeartIt	1	0	1	Others
57	DeviantArt	1	0	1	Others
58	Spotify	1	0	1	Others
59	Discord	1	0	1	Others
60	Artstation	1	0	1	Others
61	ao3	1	0	1	Others
62	canva	1	0	1	Others
63	Landing Space	1	0	1	Others
64	Dewu（得物）	0	1	1	
65	iFunny	0	1	1	
66	Mascot	0	1	1	
67	Nurture	0	1	1	
68	PlantSnap	0	1	1	
69	Powder	0	1	1	
70	Skout	0	1	1	
71	Triller	0	1	1	
72	wit	0	1	1	
73	Douban（豆瓣）	0	1	1	
74	edge	0	1	1	
75	Haixiuxiuchang（嗨秀秀场）	0	1	1	
76	Haokan Video (好看视频)	0	1	1	

77	Jinrixiaoyuan （今日校园）	0	1	1	
78	Jiuxiu Streaming （九秀直播）	0	1	1	
79	Kuaishou（快手）	0	1	1	
80	Kugou Streaming （酷狗直播）	0	1	1	
81	Lizhi（荔枝）	0	1	1	
82	Lvzhou（绿洲）	0	1	1	
83	Meipian（美篇）	0	1	1	
84	Tencent Now Streaming （腾讯 Now 直播）	0	1	1	
85	Ximalaya FM（喜马拉雅 FM）	0	1	1	
86	NovelCat	0	1	1	
87	21 Buttons	0	1	1	
88	Qingting FM（蜻蜓 FM）	0	1	1	
89	Weifeng（威锋）	0	1	1	
90	Daily Yoga（每日瑜伽）	0	1	1	
91	Meipai（美拍）	0	1	1	
92	Meiyou（美柚）	0	1	1	
93	Pipixia（皮皮虾）	0	1	1	
94	TapTap	0	1	1	
95	ZEPETO（崽崽）	0	1	1	
96	BiGO LIVE	0	1	1	
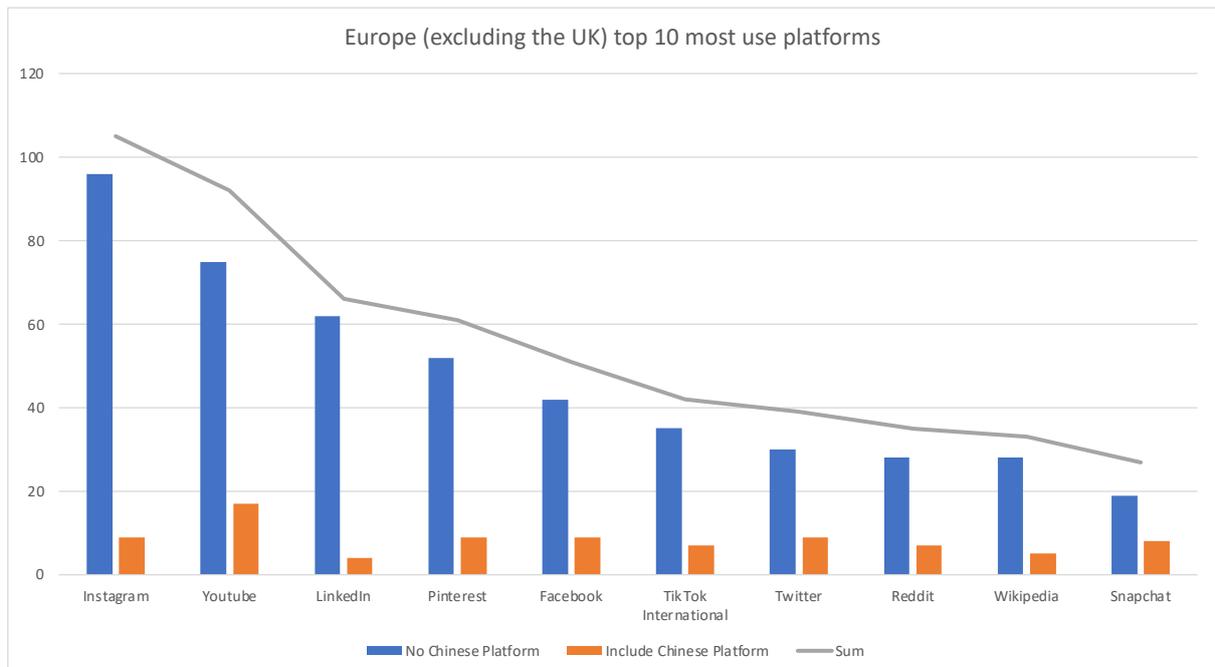
Figure 7.18 Europe (excluding the UK) top 10 most use platforms

Table 7.24 UK platforms use behaviour

No	Platform	No Chinese Platform	Include Chinese Platform	Sum	Note
1	Instagram	84	10	94	
2	YouTube	69	21	90	
3	Twitter	57	8	65	
4	TikTok International	48	2	50	
5	Pinterest	40	7	47	
6	Reddit	42	4	46	
7	Snapchat	27	7	34	
8	LinkedIn	28	4	32	
9	Facebook	25	7	32	
10	Twitch	19	3	22	
11	Tumblr	16	3	19	
12	wikipedia	10	4	14	
13	Quora	9	4	13	
14	Goodreads	12	1	13	
15	Tripadvisor Travels and Hotels	10	1	11	
16	Nurture	7	3	10	
17	Wattpad	6	3	9	
18	Patreon	5	3	8	
19	NovelCat	4	3	7	
20	21 Buttons	5	2	7	
21	Behance	5	1	6	
22	Strava	4	2	6	
23	Bilibili (哔哩哔哩)	0	6	6	
24	Yubo	0	6	6	
25	Issuu	2	3	5	
26	OLIO	4	1	5	
27	Changba （唱吧)	0	5	5	
28	Weibo（微博)	0	5	5	
29	iFunny	4	0	4	
30	GoodNoverl & Books Web Novels	3	1	4	
31	Powder	1	3	4	
32	SoundCloud	2	2	4	
33	PlantSnap	1	3	4	
34	Xiaohongshu（小红书)	0	4	4	
35	NewNew	0	4	4	
36	karaoke	2	1	3	
37	Dianping（大众点评)	0	3	3	
38	Skinseed for Minecraft Skins	0	3	3	
39	Mixcloud	0	3	3	
40	ZEPETO	0	3	3	

41	Ailiao （爱聊）	0	3	3	
42	TikTok （抖音）	0	3	3	
43	Tap by Wattpad	1	1	2	
44	ABPV America's best pics&vids	1	1	2	
45	FanFiction.Net	1	1	2	
46	Weverse	1	1	2	
47	Sketchar	1	1	2	
48	archive of our own	2	0	2	Others
49	Quanmin Karaoke （全民 K 歌）	0	2	2	
50	Tieba（百度贴吧）	0	2	2	
51	Dreame	0	2	2	
52	Douban（豆瓣）	0	2	2	
53	AcFun	0	2	2	
54	Haixiuxiuchang（嗨秀秀场）	0	2	2	
55	Huya Streaming （虎牙直播）	0	2	2	
56	Jianshu（简书）	0	2	2	
57	Podbean Podcast App&Player	0	2	2	
58	Cece Xingzuo（测测星座）	0	2	2	
59	Daily Yoga（每日瑜伽）	0	2	2	
60	Douyu Streaming （斗鱼）	0	2	2	
61	Jinrixiaoyuan （今日校园）	0	2	2	
62	Linggan (灵感)	0	2	2	
63	Mamabang（妈妈帮）	0	2	2	
64	Meipai（美拍）	0	2	2	
65	VUE Vlog	0	2	2	
66	Jiuxiu Streaming（九秀直播）	0	2	2	
67	HelloTalk	1	0	1	
68	frog	1	0	1	
69	Amino	1	0	1	
70	MangaToon	1	0	1	
71	Reese's Book Club	1	0	1	
72	Discord	1	0	1	Others
73	5sing（5sing 原创音乐）	0	1	1	
74	Xiecheng（携程旅行）	0	1	1	
75	Ximalaya FM（喜马拉雅 FM）	0	1	1	
76	Zhihu（知乎）	0	1	1	
77	BiGO LIVE	0	1	1	
78	Brainly	0	1	1	

79	Caffeine: Live streaming,Cartoon Social	0	1	1	
80	Castbox	0	1	1	
81	Clapper	0	1	1	
82	Coco	0	1	1	
83	Color Therapy Coloring Number	0	1	1	
84	Likee	0	1	1	
85	Lobby	0	1	1	
86	Medium	0	1	1	
87	Skout	0	1	1	
88	Triller	0	1	1	
89	Wishbone	0	1	1	
90	1Auto	0	1	1	
91	MeetMe	0	1	1	
92	ZEPETO（崽崽）	0	1	1	
93	Diyidan（第一弹）	0	1	1	
94	edge	0	1	1	
95	IMVU	0	1	1	
96	Meiyou（美柚）	0	1	1	
97	Qingting FM（蜻蜓 FM）	0	1	1	
98	Uplive	0	1	1	
99	Dewu（得物）	0	1	1	
100	Faceteng（脸疼）	0	1	1	
101	Lizhi（荔枝）	0	1	1	
102	Meipian（美篇）	0	1	1	
103	Wangyi Cloud Music（网易云音乐）	0	1	1	
104	Peiyinxiu（配音秀）	0	1	1	
105	Kugou Streaming（酷狗直播）	0	1	1	
106	Lvzhou（绿洲）	0	1	1	
107	Qunaer（去哪儿旅行）	0	1	1	
108	TapTap	0	1	1	
109	Weishi（微视）	0	1	1	
110	Wodao（我岛）	0	1	1	
111	Xiuse Live（秀色直播）	0	1	1	
112	Yi Streaming（一直播）	0	1	1	

11 3	Yinyu（音遇）	0	1	1	
11 4	Reese's Book Club	0	1	1	
11 5	Pipixia（皮皮虾）	0	1	1	
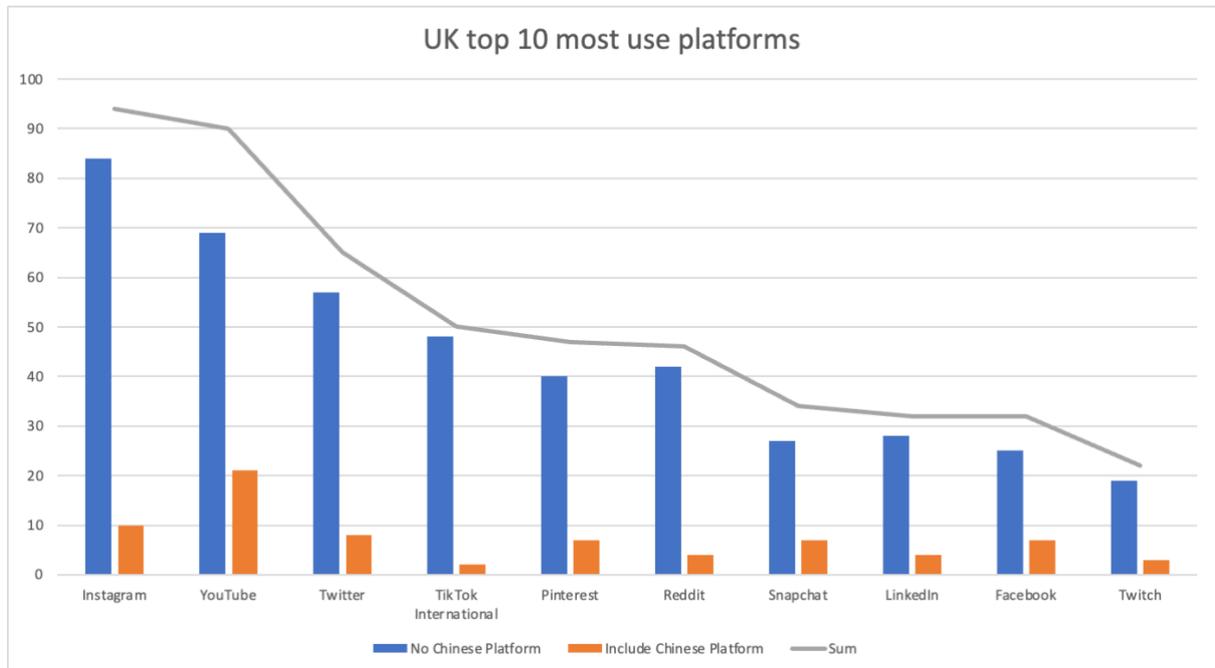
Figure 7.19 UK top 10 most use platforms

Table 7.25 US platforms use behaviour

No	Platform	No Chinese Platform	Include Chinese Platform	Su m	Note
1	YouTube	65	32	97	
2	Instagram	77	10	87	
3	Pinterest	49	11	60	
4	Twitter	40	10	50	
5	TikTok International	46	4	50	
6	Reddit	32	12	44	
7	Snapchat	29	7	36	
8	Facebook	27	8	35	
9	LinkedIn	22	5	27	
10	Twitch	21	5	26	
11	Tumblr	22	3	25	
12	TikTok （抖音）	0	18	18	
13	wikipedia	13	4	17	
14	Goodreads	15	2	17	
15	Quora	5	9	14	
16	Patreon	7	4	11	

17	Bilibili (哔哩哔哩)	0	11	11	
18	Weibo（微博）	0	9	9	
19	iFunny	6	2	8	
20	Wattpad	5	3	8	
21	SoundCloud	2	5	7	
22	Behance	7	0	7	
23	Tripadvisor Travels and Hotels	5	1	6	
24	OLIO	3	3	6	
25	Douban（豆瓣）	0	6	6	
26	Xiaohongshu（小红书）	0	6	6	
27	Yubo	0	6	6	
28	Dianping（大众点评）	0	6	6	
29	Quanmin Karaoke （全民 K 歌）	0	6	6	
30	Nurture	2	3	5	
31	Triller	5	0	5	
32	WebNovel	1	4	5	
33	Douyu Streaming （斗鱼）	0	5	5	
34	Wangyi Cloud Music（网易云音乐）	0	5	5	
35	ZEPETO	0	5	5	
36	frog	4	0	4	
37	21 Buttons	1	3	4	
38	WebComics	3	1	4	
39	Amino	2	2	4	
40	Dewu（得物）	0	4	4	
41	AcFun	0	4	4	
42	Mixcloud	0	4	4	
43	NewNew	0	4	4	
44	NovelCat	2	1	3	
45	PlantSnap	1	2	3	
46	Skinseed for Minecraft Skins	1	2	3	
47	Weverse	1	2	3	
48	Sketchar	1	2	3	
49	Kuaishou（快手）	0	3	3	
50	Smule: Social Karaoke	0	3	3	
51	Singing	0	3	3	
52	Tap by Wattpad	0	3	3	
53	Daily Yoga（每日瑜伽）	0	3	3	
54	Changba （唱吧）	0	3	3	
55	Meiyou（美柚）	0	3	3	
56	Peiyinxiu（配音秀）	0	3	3	

57	Zhihu（知乎）	0	3	3	
58	Ailiao （爱聊）	0	3	3	
59	Meme live（么么直播）	0	3	3	
60	Changya（唱鸭）	0	3	3	
61	GoodNovel & Books Web Novels	2	0	2	
62	Medium	2	0	2	
63	Brainly	1	1	2	
64	HiNovel	2	0	2	
65	IMVU	1	1	2	
66	MeetMe	1	1	2	
67	archive of our own	2	0	2	others
68	Tieba（百度贴吧）	0	2	2	
69	Lvzhou（绿洲）	0	2	2	
70	Answers	0	2	2	
71	5sing（5sing 原创音乐）	0	2	2	
72	Diyidan（第一弹）	0	2	2	
73	Meipai（美拍）	0	2	2	
74	Lizhi（荔枝）	0	2	2	
75	ABPV America's best pics&vids	0	2	2	
76	Meipian（美篇）	0	2	2	
77	Xiecheng（携程旅行）	0	2	2	
78	Reese's Book Club	0	2	2	
79	HelloTalk	1	0	1	
80	FanFiction.Net	1	0	1	
81	Color Therapy Coloring Number	1	0	1	
82	Issuu	1	0	1	
83	loforo.com	1	0	1	others
84	Discord	1	0	1	others
85	Telegram	1	0	1	others
86	nextdoor	1	0	1	others
87	Skout	0	1	1	
88	Hupu（虎扑）	0	1	1	
89	Jinrixiaoyuan （今日校园）	0	1	1	
90	Jiuxiu Streaming（九秀直播）	0	1	1	
91	Huya Streaming （虎牙直播）	0	1	1	
92	Powder	0	1	1	
93	Xiuse Live（秀色直播）	0	1	1	

94	Mafengwo（马蜂窝旅游）	0	1	1	
95	Mamabang（妈妈帮）	0	1	1	
96	Tencent Now Streaming（腾讯 Now 直播）	0	1	1	
97	MangaToon	0	1	1	
98	Weishi（微视）	0	1	1	
99	Ximalaya FM（喜马拉雅 FM）	0	1	1	
100	karaoke	0	1	1	
101	FanFiction.Net	0	1	1	
102	Qingting FM（蜻蜓 FM）	0	1	1	
103	Podbean Podcast App&Player	0	1	1	
104	Cece Xingzuo（测测星座）	0	1	1	
105	Timing	0	1	1	
106	AnyStories	0	1	1	
107	Caffeine: Live streaming	0	1	1	
108	edge	0	1	1	
109	Yinjie（音街）	0	1	1	
110	Zuiyou（最右）	0	1	1	
111	Lofter	0	1	1	others
112	Pixiv	0	1	1	Others
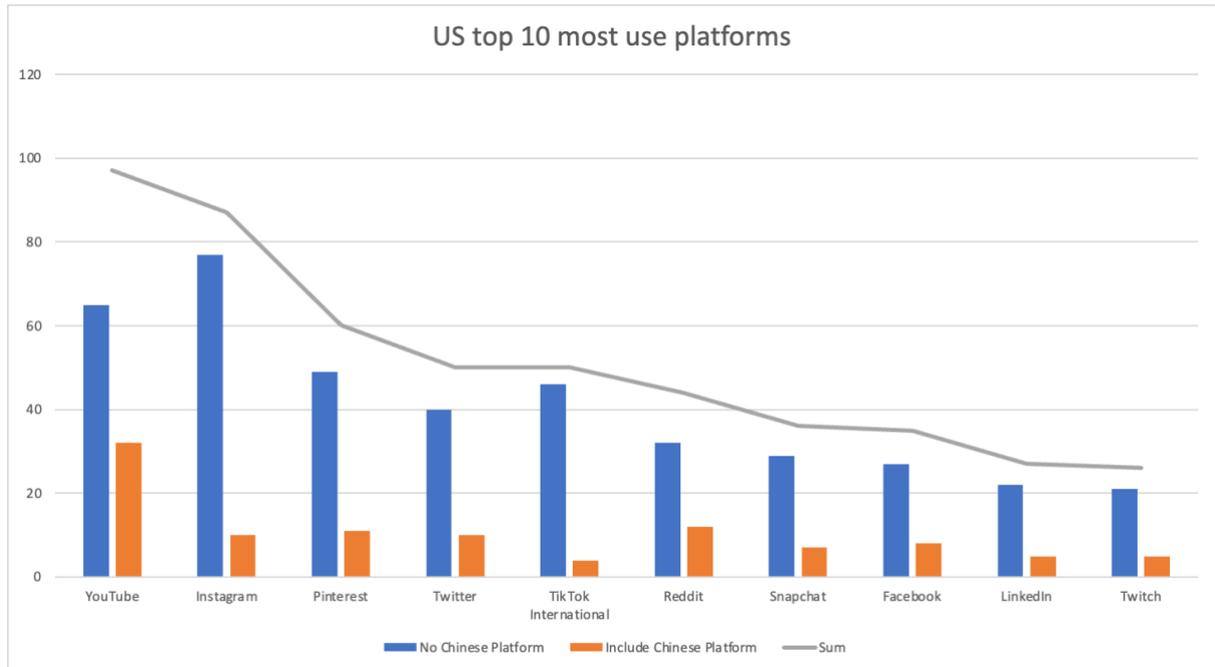
Figure 7.20 US top 10 most use platforms

Table 7.26 China platforms use behaviour

No	Platform	Chinese Survey	English Survey	Sum	Note
1	Weibo（微博）	118	4	122	
2	Tiktok（抖音）	102	5	107	
3	Bilibili（哔哩哔哩）	84	6	90	
4	Xiaohongshu（小红书）	67	2	69	
5	Wangyi Cloud Music（网易云音乐）	64	1	65	
6	Dianping（大众点评）	49	3	52	
7	Zhihu（知乎）	42	3	45	
8	Quanmin Karaoke（全民 K 歌）	27	5	32	
9	Douban（豆瓣）	28	2	30	
10	Qunaer（去哪儿旅行）	29	1	30	
11	Dewu（得物）	28	1	29	
12	Ximalaya FM（喜马拉雅 FM）	24	2	26	
13	Weishi（微视）	22	0	22	
14	Kuaishou（快手）	19	1	20	
15	Tieba（百度贴吧）	15	2	17	
16	Xiachufang（下厨房）	15	0	15	
17	YouTube	7	7	14	
18	Xiecheng（携程旅行）	12	0	12	
19	Changba（唱吧）	7	4	11	
20	Quanmin Short Video（全民小视频）	9	0	9	
21	Hupu（虎扑）	8	1	9	

22	Douyu Streaming （斗鱼）	7	1	8	
23	Yingke Streaming（映客直播）	7	0	7	
24	Tuchong（图虫）	7	0	7	
25	Quora	1	5	6	
26	Twitter	3	3	6	
27	Keep	6	0	6	
28	Huya Streaming （虎牙直播）	5	1	6	
29	Instagram	4	1	5	
30	Weifeng（威锋）	5	0	5	
31	Facebook	2	2	4	
32	LinkedIn	1	2	3	
33	Tencent Now Streaming（腾讯 Now 直播）	3	0	3	
34	Haokan Video (好看视频)	3	0	3	
35	TapTap	3	0	3	
36	Peiyinxiu（配音秀）	3	0	3	
37	Meipai（美拍）	3	0	3	
38	Kugou Streaming（酷狗直播）	2	1	3	
39	Reddit	1	2	3	
40	Lizhi（荔枝）	2	1	3	
41	frog	2	0	2	
42	OLIO	2	0	2	
43	Pinterest	1	1	2	
44	5sing（5sing 原创音乐）	1	1	2	
45	Cece Xingzuo（测测星座）	2	0	2	
46	AcFun	2	0	2	
47	Changya（唱鸭）	2	0	2	
48	Mafengwo（马蜂窝旅游）	2	0	2	
49	Jianshu（简书）	1	1	2	
50	Yinyu（音遇）	2	0	2	
51	edge	2	0	2	
52	Yubo	0	2	2	
53	Snapchat	0	2	2	
54	Goodreads	1	0	1	
55	MangaToon	1	0	1	
56	NewNew	1	0	1	
57	21 Buttons	1	0	1	
58	HelloTalk	1	0	1	
59	IMVU	1	0	1	
60	Twitch	1	0	1	
61	iFunny	1	0	1	

62	Nurture	1	0	1	
63	Uplive	1	0	1	
64	TikTok International	1	0	1	
65	wikipedia	1	0	1	
66	Podbean Podcast App&Player	1	0	1	
67	Tangdou（糖豆）	1	0	1	
68	Lvzhou（绿洲）	1	0	1	
69	Meiyou（美柚）	1	0	1	
70	Jinrixiaoyuan（今日校园）	1	0	1	
71	Amino	1	0	1	
72	Kaoyanbang (考研帮)	1	0	1	
73	Pipixia（皮皮虾）	1	0	1	
74	Timing（踢米）	1	0	1	
75	Zuiyou（最右）	1	0	1	
76	Yuepaoquan（悦跑圈）	1	0	1	
77	Xiaoheihe for Steam（小黑盒）	1	0	1	
78	WebComics	1	0	1	
79	Qingting FM（蜻蜓 FM）	1	0	1	
80	Skout	1	0	1	
81	Yinjie（音街）	1	0	1	
82	Diyidan（第一弹）	1	0	1	
83	Xiaoyuzhou（小宇宙）	1	0	1	Others
84	Weixin（微信朋友圈）	1	0	1	Others
85	Toutiao（今日头条）	1	0	1	Others
86	Baidu（百度）	1	0	1	Others
87	Wangyi（网易）	1	0	1	Others
88	Qie（企鹅）	1	0	1	Others
89	Yidian（一点）	1	0	1	Others
90	Dayu（大鱼）	1	0	1	Others
91	karaoke	0	1	1	
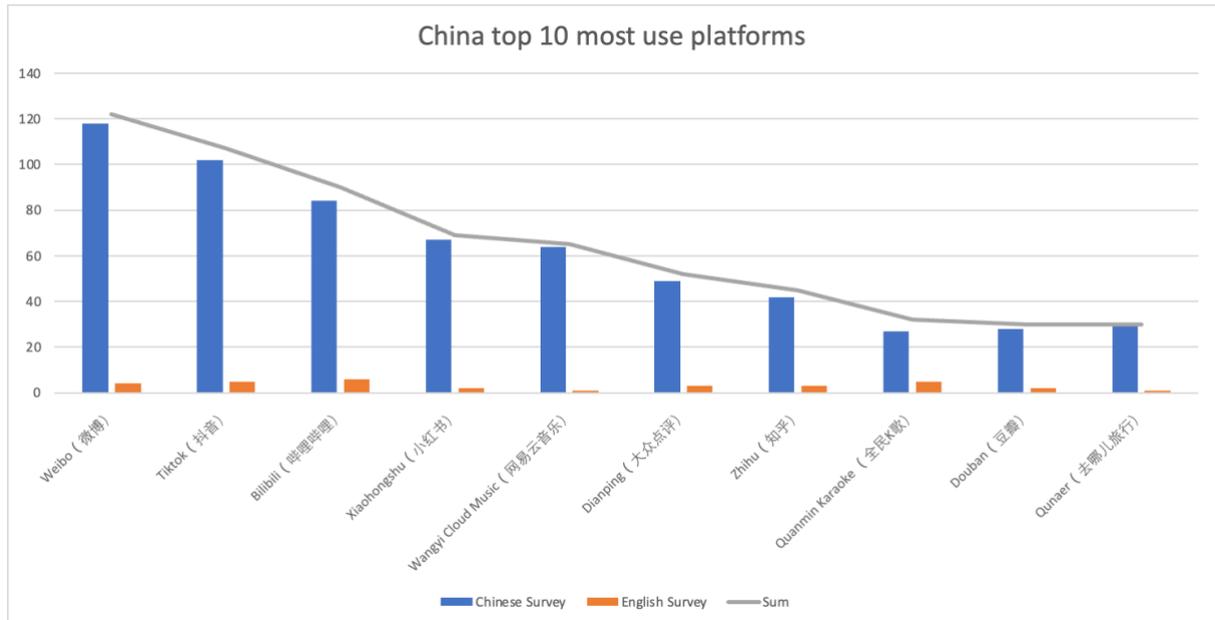
Figure 7.21 China top 10 most use platforms

3.2 Gender

Table 7.27 and Figure 7.22 show the gender distribution of respondents in the four groups. In general, women are far more represented than men, especially in groups Europe and US. This may lead to gender bias.

Tables 7.28 – 7.33 show the details of the gender distribution for each group.

Table 7.27 Gender distribution of platform users in four groups

Gender	Female	Male	Others	Prefer not to say	NA
Europe (excluding the UK)	100	36	4	3	4
UK	94	46	8	3	4
US	108	46	8	3	4
China	118	85	2	12	6
SUM	434	213	22	21	18
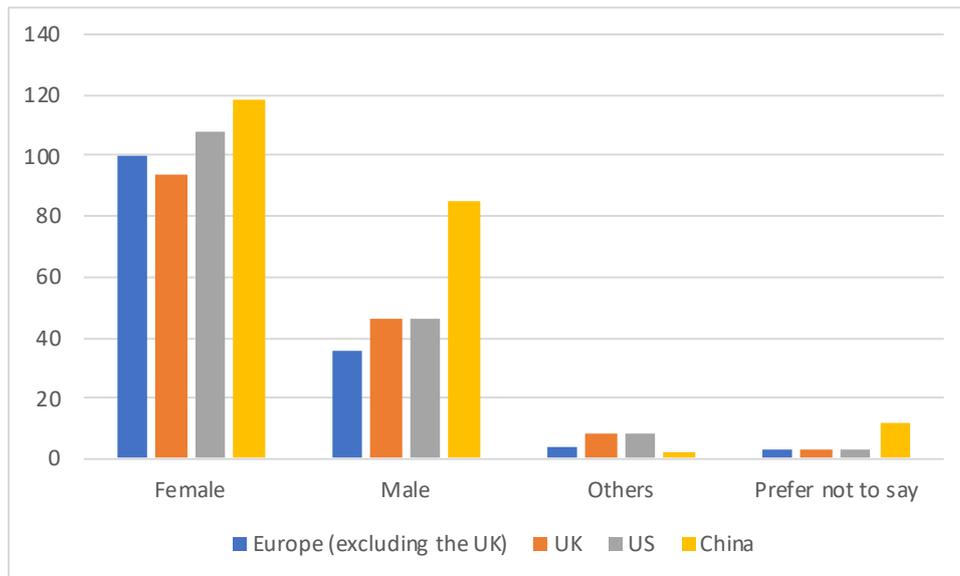
Figure 7.22 Gender distribution of platform users in four groups

Table 7.28 Gender distribution of platform users in Europe (excluding the UK)

Europe (excluding the UK)		Platform Users		SUM
		No	Yes	
Gender	Female	46	100	146
	Male	25	36	61
	Others	3	4	7
	Prefer not to say	3	3	6
	NA	1	4	5
SUM		78	147	226

Table 7.29 Gender distribution of platform users in the UK

UK		Platform Users		SUM
		No	Yes	
Gender	Female	56	94	150
	Male	24	46	70
	Others	6	8	14
	Prefer not to say	2	3	5
	NA	1	4	5
SUM		89	155	244

Table 7.30 Gender distribution of platform users in the US

US		Platform Users		SUM
		No	Yes	
Gender	Female	62	108	170
	Male	34	46	80
	Others	11	8	19

Prefer not to say	2	3		5
NA	3	4		7
SUM	112	169		281

Table 7.31 Gender distribution of platform users in China

China		Platform Users		SUM
		No	Yes	
Gender	Female	18	118	136
	Male	23	85	108
	Others	1	2	3
	Prefer not to say	1	12	13
	NA	1	6	7
SUM		44	223	267

3.3 Age

Table 7.32 and Figure 7.23 illustrate the age distribution of platform users in the four groups. In general, the samples were mostly distributed in the 18-24 and 25-34 age groups.

Tables 7.22 - 7.36 illustrate the details of the age distribution.

Table 7.32 Age distribution of platform users in four groups

Age	Europe (excluding the UK)	UK	US	China	SUM
Under 15	1	2	1	1	5
16-17	3	3	10	1	17
18-24	88	107	106	56	357
25-34	45	28	36	102	211
35-44	5	10	11	27	53
45-54	2	2	2	14	20
55-64	0	1	2	17	20
65 or older	1	0	0	2	3
NA	2	2	1	3	8
SUM	147	155	169	223	695
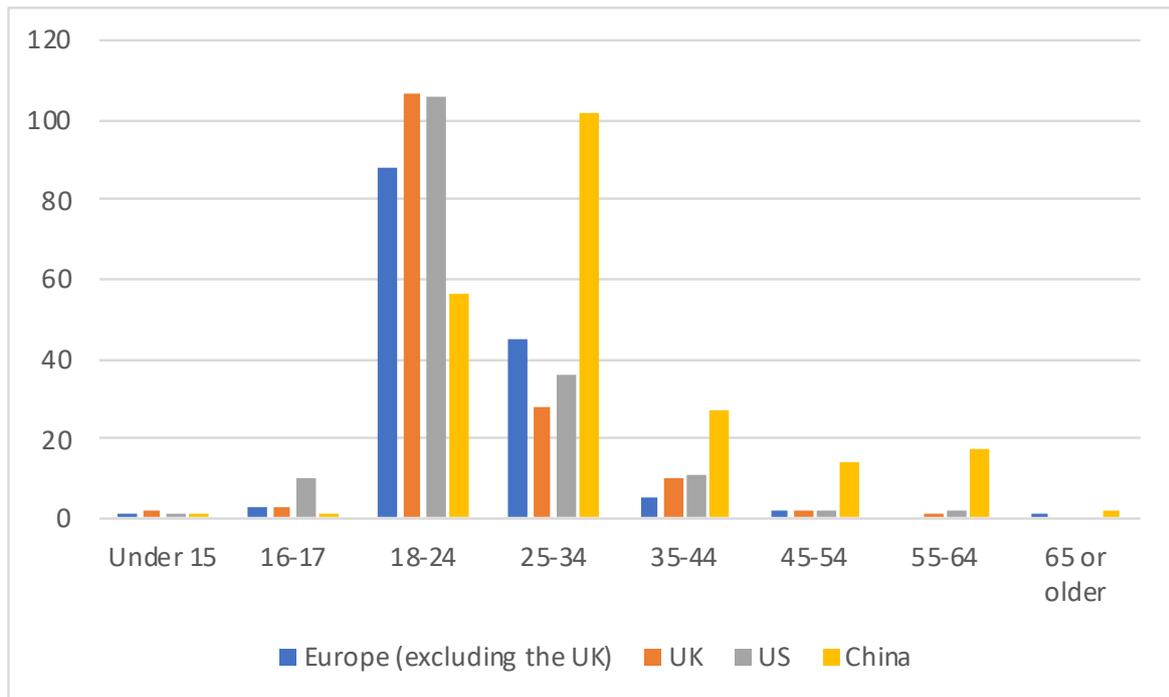
Figure 7.23 Age distribution of platform users in four groups

Table 7.33 Age distribution of platform users in Europe (excluding the UK)

Europe (excluding the UK)		Platform Users		SUM
		No	Yes	
Age	Under 15	0	1	1
	16-17	1	3	4
	18-24	42	87	129
	25-34	28	46	74
	35-44	7	5	12
	45-54	0	2	2
	55-64	0	0	0
	65 or older	0	1	1
	NA	0	2	2
SUM		78	147	225

Table 7.34 Age distribution of platform users in the UK

UK		Platform Users		SUM
		No	Yes	
Age	Under 15	4	2	6
	16-17	5	3	8
	18-24	56	107	163
	25-34	16	28	44
	35-44	4	10	14
	45-54	3	2	5
	55-64	1	1	2

		No			
	65 or older	0	0	0	
	NA	0	2	2	
SUM		89	155	244	

Table 7.35 Age distribution of platform users in the US

US		Platform Users		SUM
		No	Yes	
Age	Under 15	3	1	4
	16-17	6	10	16
	18-24	65	106	171
	25-34	24	36	60
	35-44	10	11	21
	45-54	0	2	2
	55-64	2	2	4
	65 or older	0	0	0
	NA	2	1	3
SUM		112	169	281

Table 7.36 Age distribution of platform users in China

China		Platform Users		SUM
		No	Yes	
Age	Under 15	2	1	3
	16-17	1	1	2
	18-24	9	56	65
	25-34	13	102	115
	35-44	4	27	31
	45-54	8	14	22
	55-64	4	17	21
	65 or older	2	2	4
	NA	1	3	4
SUM		44	223	267

3.4 Income

The personal income context of China, the US, and the UK is different, so different options are used in the survey to target different income groups (the content of the options is designed according to the data published by the government to ensure that the number of people under each category is similar). In general, personal income can be divided into 5 levels, where level 1 represents the least income and level 5 represents the most income. Through these five categories, a participant's income status can be identified. Since the questionnaire was designed for only

three countries, China, UK, and US, participants in Europe (excluding the UK) used the same options as the US when answering this question.

Table 7.37 and Figure 7.24 show the personal income distribution of platform users. It is worth noting that the income of platform users in all four groups is concentrated in the first category, which also means that the income of these participants belongs to the least group. In addition, as the income level increases, the number of platform users from China decreases steadily, while the number of platform users from the other four countries shows a significant drop from the first level to the second level of income. Table 7.38-7.41 detail the personal income distribution of platform users in the four groups.

Table 7.37 Income distribution of platform users in four groups

| Personal Income	Europe (excluding the UK)	UK	US	China	SUM
1	109	86	110	70	376
2	19	22	19	59	121
3	5	15	11	43	77
4	6	10	13	30	63
5	2	16	7	12	42
NA	6	6	9	9	30
SUM	147	155	169	223	695
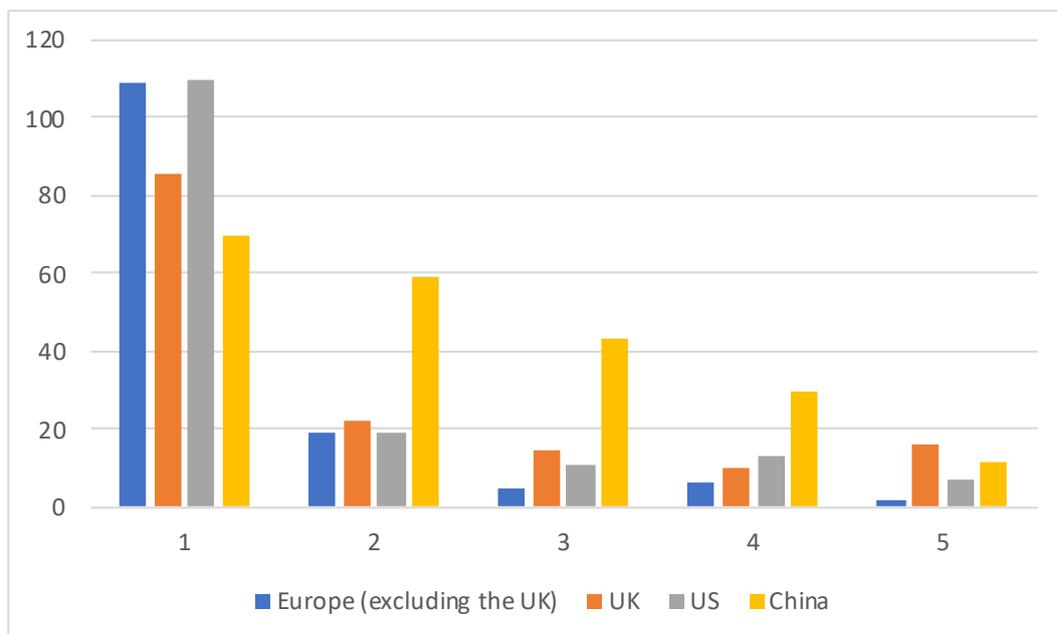
Figure 7.24 Income distribution of platform users in four groups

Table 7.38 Income distribution of platform users in Europe (excluding the UK)

Europe		Platform Users		SUM
		No	Yes	
Personal Income	1	67	109	176
	2	6	19	25
	3	4	5	9
	4	1	6	7
	5	0	2	2
	NA	0	6	6
SUM		78	147	225

Table 7.39 Income distribution of platform users in the UK

UK		Platform Users		SUM
		No	Yes	
Personal Income	1	48	86	134
	2	18	22	40
	3	11	15	26
	4	5	10	15
	5	4	16	20
	NA	3	6	9
SUM		89	155	244

Table 7.40 Income distribution of platform users in the US

US		Platform Users		SUM
		No	Yes	
Personal Income	1	67	110	177
	2	19	19	38
	3	8	11	19
	4	8	13	21
	5	3	7	10
	NA	7	9	16
SUM		112	169	281

Table 7.41 Income distribution of platform users in China

China		Platform Users		SUM
		No	Yes	
Personal Income	1	19	70	89
	2	6	59	65
	3	6	43	49
	4	8	30	38
	5	4	12	16

	NA	1	9	10
SUM		44	223	267

3.5 Education

Table 7.42 and Figure 7.25 show the distribution of the education status of platform users in the sample. It can be seen that the majority of platform users in all four groups have a bachelor's degree or above - this may be explained by the method of the sample distribution. In addition, there are significantly more platform users from China with a master's degree or above than other countries in the sample. Also, because China's education system is different from the UK and the US, participants from China were counted using different options for their education. The most obvious difference is that there are no 'some college, no degree' and 'professional degree' options in China.

Table 7.43-7.46 detail the education distribution of platform users in four groups.

Table 7.42 Education distribution of platform users in four groups

| Education	Europe (excluding the UK)	UK	US	China	SUM
None	2	1	3	3	9
Lower than high school graduate	4	2	13	15	34
High school graduate	22	36	23	6	87
Some college, no degree	19	23	36	0	78
Associate's degree, occupational	7	5	16	27	55
Associate's degree, academic Bachelor's degree	52	64	52	92	260
Master's degree	33	18	19	66	136
Professional degree	0	0	2	0	2
Doctoral degree	5	5	4	12	26
SUM	144	154	168	221	687
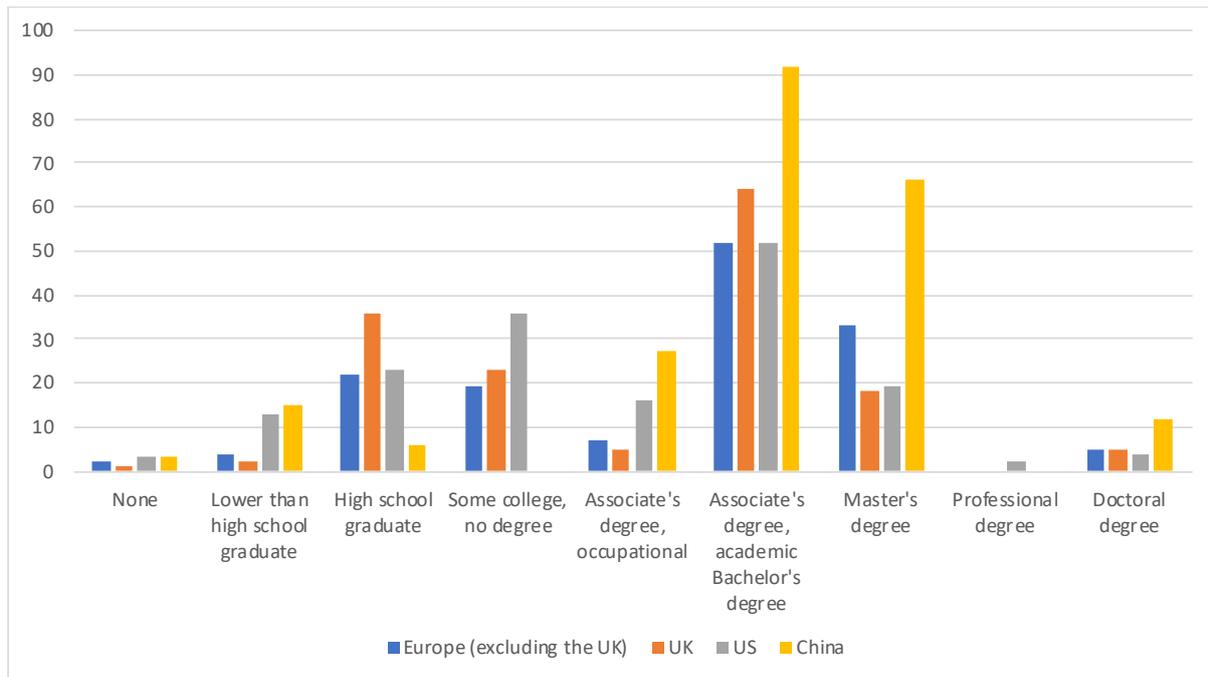
Figure 7.25 Education distribution of platform users in four groups

Table 7.43 Education distribution of platform users in Europe (excluding the UK)

Europe (excluding the UK)		Platform User		SUM
		No	Yes	
Education	None	4	2	6
	Lower than high school graduate	2	4	6
	High school graduate	16	22	38
	Some college, no degree	3	19	22
	Associate's degree, occupational	2	7	9
	Associate's degree, academic Bachelor's degree	32	52	84
	Master's degree	19	33	52
	Professional degree	0	0	0
	Doctoral degree	0	5	5
SUM		78	144	222

Table 7.44 Education distribution of platform users in the UK

UK		Platform User		SUM
		No	Yes	
Education	None	4	1	5
	Lower than high school graduate	4	2	6
	High school graduate	25	36	61
	Some college, no degree	20	23	43
	Associate's degree, occupational	6	5	11
	Associate's degree, academic Bachelor's degree	22	64	86

		7	18	25
	Master's degree	7	18	25
	Professional degree	1	0	1
	Doctoral degree	0	5	5
SUM		89	154	243

Table 7.45 Education distribution of platform users in the US

US		**Platform User**		**SUM**
		No	Yes	
Education	None	5	3	8
	Lower than high school graduate	4	13	17
	High school graduate	21	23	44
	Some college, no degree	23	36	59
	Associate's degree, occupational	13	16	29
	Associate's degree, academic Bachelor's degree	32	52	84
	Master's degree	13	19	32
	Professional degree	0	2	2
	Doctoral degree	0	4	4
SUM		111	168	279

Table 7.46 Education distribution of platform users in China

China		**Platform User**		**SUM**
		No	Yes	
Education	None	1	3	4
	Primary School	5	4	9
	Junior High School	5	11	16
	High School	3	6	9
	College	6	27	33
	Bachelor's degree	12	92	104
	Master's degree	11	66	77
	Doctoral degree	0	12	12
SUM		43	221	264

4. Content Creators

4.1 Content created behaviour

Table 7.47 of the document platform description shows details of the 10 most frequently authored platforms by content creators in the group Europe, UK and US. These platforms largely match the platforms that are most commonly used by platform users. It is worth noting that content creators do not consider whether the platform

can bring in revenue when choosing a creation platform. Table 7.48, which describes the group of Chinese respondents, also confirms this phenomenon.

Tables 7.49 – 7.52 and Figures 7.26 – 7.29 illustrate the details of these platforms.

Table 7.47 10 most frequently authored platforms by content creators in Europe, UK and US

Platforms	Category	content themes		content types		Access to the platform		Ease access to UGC		The technological design of interaction dichotomously	Revenue	Platform Users			
		Count	Themes	Count	Types	Count	Ways	Whether UGC can be accessed without registration?	Whether UGC can be accessed without additional conditions?			Europe (excluding the UK)	UK	US	SUM
Instagram	Photo & Video	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	3	Text; Image; Video	2	Phone; Computer	No	Yes	hybrid	no revenue	**69**	61	63	193
YouTube	Photo & Video	3	Entertainments; Education; Lifestyle	1	Video	4	Phone; Tablet; Computer; Smart TV	Yes	Yes	hybrid	direct revenue	**31**	46	54	131
Pinterest	Lifestyle	1	Arts	1	Image	3	Phone; Tablet; Computer	No	Yes	asynchronous	No revenue	**15**	25	33	73
Twitter	News	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	4	Text; Image; Video; Audio; Poll	4	Phone; Tablet; Computer; Smart TV	Yes	Yes	hybrid	indirect revenue	**28**	24	30	82
LinkedIn	Business	2	Education; Business	5	Text; Image; Video;	3	Phone; Tablet; Computer	Yes	Yes	asynchronous	No revenue	**26**	21	21	68

					Poll; Document										
Reddit	News	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	4	Text; Image; Video; Poll	3	Phone; Tablet; Computer	Yes	Yes	asynchronous	no revenue	**18**	22	20	60
Facebook	Social Networking	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	3	Text; Image; Video	4	Phone; Tablet; Computer; Smart TV	Yes	Yes	hybrid	indirect revenue	**31**	16	27	74
Snapchat	Photo & Video	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	2	Image; Video	2	Phone; Computer	Yes	Yes	asynchronous	direct revenue	**14**	27	30	71
TikTok International	Entertainment	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	1	Video	3	Phone; Tablet; Computer	Yes	Yes	hybrid	direct revenue	**18**	37	38	93
Twitch	Photo & Video	4	Entertainments; Education; Lifestyle; Politics	1	Video	4	Phone; Tablet; Computer; Smart TV	Yes	Yes	hybrid	direct revenue	**8**	7	9	24

240

| Tumblr | Social Networking | 6 | Entertainments; Education; Lifestyle; Business; Politics; Arts | 4 | Text; Image; Video; Audio | 3 | Phone; Tablet; Computer | No | Yes | asynchronous | no revenue | **7** | 15 | 19 | 41 |

Table 7.48 10 most frequently authored platforms by content creators in China

Platforms	Category	content themes		content types		Access to the platform		Ease access to UGC		The technological design of interaction dichotomously	Revenue	Platform Users
		Count	Themes	Count	Types	Count	Ways	Whether UGC can be accessed without registration?	Whether UGC can be accessed without additional conditions?			China
Weibo（微博)	Social Networking	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	4	Text; Image; Video; Radio; Poll	3	Phone; Tablet; Computer	Yes	Yes	hybrid	direct revenue + indirect revenue	**83**
TikTok (抖音)	Photo & Video	3	Entertainments; Education; Lifestyle	2	Image; Video	2	Phone; Tablet	Yes	Yes	hybrid	indirect revenue	**73**
Bilibili (哔哩哔哩)	Entertainment	4	Entertainments; Education; Lifestyle; Arts	4	Text; Image; Video; Audio	3	Phone; Tablet; Computer	Yes	no	hybrid	direct revenue + indirect revenue	**36**

Dianping (大众点评)	Lifestyle	1	Lifestyle	3	Text; Image; Video	4	Phone; Tablet; Computer; Smartwatch	Yes	Yes	asynchronous	no revenue	**31**
Xiaohongshu (小红书)	Social Networking	4	Entertainments; Education; Lifestyle; Arts	2	Image; Video	2	Phone; Tablet	No	Yes	hybrid	indirect revenue	**26**
Quanmin Karaoke (全民 K 歌)	Entertainment	1	Entertainments	2	Video; Audio	2	Phone; Tablet	No	Yes	hybrid	direct revenue	**23**
Dewu (得物)	Sports	3	Entertainments; Lifestyle; Business	2	Image; Video	2	iPad iPhone	Yes	Yes	hybrid	direct and indirect revenue	**22**
Kuaishou (快手)	Photo & Video	3	Entertainments; Education; Lifestyle	1	Video	2	Phone; Tablet	Yes	Yes	hybrid	direct and indirect revenue	**21**
Weishi (微视)	Photo & Video	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	1	Video	2	Phone; Tablet	No	Yes	hybrid	no revenue	**21**
Zhihu (知乎)	Social Networking	6	Entertainments; Education; Lifestyle; Business; Politics; Arts	3	Text; Image; Video	3	Phone; Tablet; Computer	Yes	Yes	hybrid	direct revenue + indirect revenue	**18**

Table 7.49 Europe (excluding the UK) platforms that content creators create contents

No	Platform	No Chinese Platform	Include Chinese Platform	Sum	Note
1	Instagram	63	6	69	
2	Facebook	26	5	31	
3	YouTube	23	8	31	
4	Twitter	23	5	28	
5	LinkedIn	26	0	26	
6	Reddit	16	2	18	
7	TikTok International	18	0	18	
8	Pinterest	14	1	15	
9	Snapchat	12	2	14	
10	Twitch	8	0	8	
11	Tumblr	5	2	7	
12	Behance	5	2	7	
13	Mixcloud	2	2	4	
14	Quora	3	1	4	
15	Wattpad	4	0	4	
16	SoundCloud	4	0	4	
17	Yubo	1	3	4	
18	Goodreads	3	0	3	
19	Medium	3	0	3	
20	ZEPETO	1	2	3	
21	NovelCat	1	2	3	
22	TikTok International	0	3	3	
23	FanFiction.Net	1	1	2	
24	Strava	2	0	2	
25	Discord	2	0	2	others
26	Amino	1	0	1	
27	AnyStories	1	0	1	
28	Cartoon Social	1	0	1	
29	Sketchar	1	0	1	
30	MangaToon	1	0	1	
31	Triller	1	0	1	
32	GoodNovel & Books Web Novels	1	0	1	
33	Tripadvisor Travels and Hotels	1	0	1	
34	HelloTalk	1	0	1	
35	BiGO LIVE	1	0	1	
36	IMVU	1	0	1	

37	Lobby	1	0	1	
38	ao3	1	0	1	others
39	telegram	1	0	1	others
40	Dribbble	1	0	1	others
41	Answers	0	1	1	
42	PlantSnap	0	1	1	
43	5sing（5sing 原创音乐）	0	1	1	
44	Quanmin Karaoke （全民 K 歌）	0	1	1	
45	Weibo（微博）	0	1	1	
46	wikipedia	0	1	1	
47	TikTok （抖音）	0	1	1	
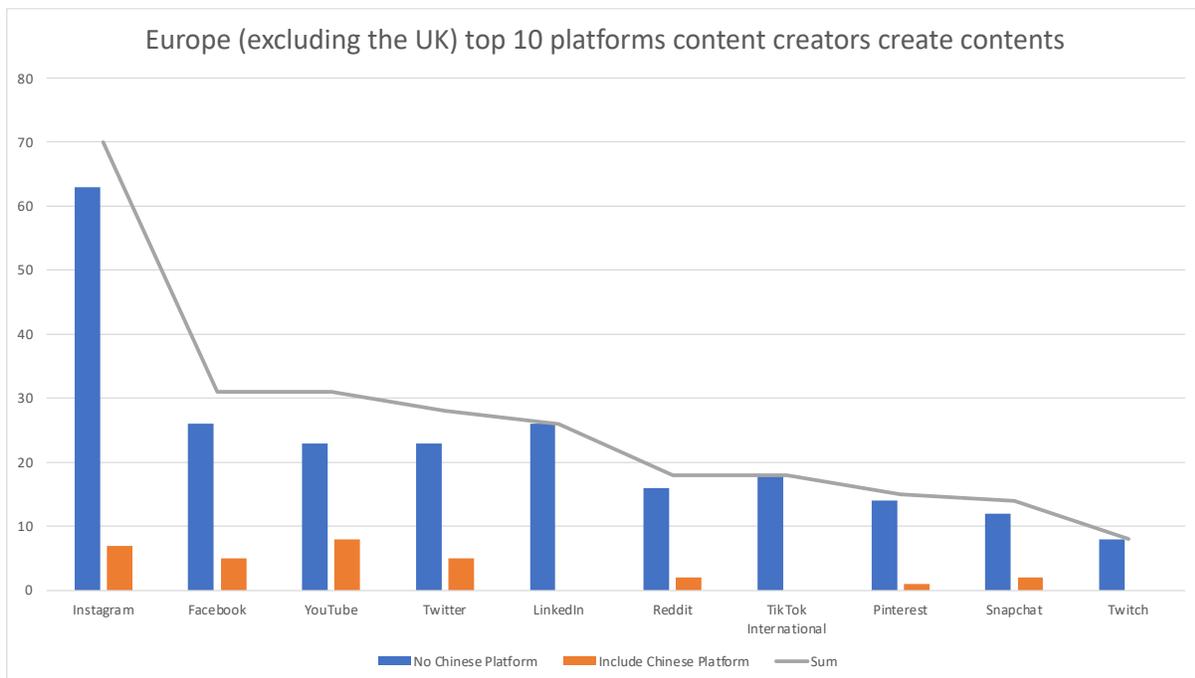
Figure 7.26 Europe (excluding the UK) top 10 platforms content creators create contents

Table 7.50 UK platforms that content creators create contents

No	Platform	No Chinese Platform	Include Chinese Platform	Sum	Note
1	Instagram	53	8	61	
2	YouTube	28	18	46	
3	TikTok International	31	6	37	
4	Snapchat	22	5	27	
5	Pinterest	17	8	25	
6	Twitter	19	5	24	
7	Reddit	12	10	22	

8	LinkedIn	18	3	21	
9	Facebook	14	2	16	
10	Tumblr	13	2	15	
11	Quora	4	6	10	
12	Tripadvisor Travels and Hotels	7	1	8	
13	Goodreads	6	1	7	
14	Twitch	6	1	7	
15	Yubo	0	7	7	
16	Nurture	4	2	6	
17	OLIO	4	2	6	
18	21 Buttons	3	3	6	
19	frog	5	0	5	
20	wikipedia	2	2	4	
21	Wattpad	2	2	4	
22	GoodNovel & Books Web Novels	4	0	4	
23	Strava	2	2	4	
24	Issuu	1	3	4	
25	Mixcloud	1	3	4	
26	TikTok （抖音）	0	4	4	
27	Weibo（微博）	0	4	4	
28	Xiaohongshu（小红书）	0	4	4	
29	Ailiao （爱聊）	0	4	4	
30	NovelCat	2	1	3	
31	Podbean Podcast App&Player	3	0	3	
32	Tap by Wattpad	2	1	3	
33	Amino	1	2	3	
34	FanFiction.Net	1	2	3	
35	5sing（5sing 原创音乐）	0	3	3	
36	Patreon	0	3	3	
37	BiGO LIVE	2	0	2	
38	Triller	2	0	2	
39	SoundCloud	1	1	2	
40	iFunny	2	0	2	
41	Sketchar	1	1	2	
42	HiNovel	2	0	2	
43	Behance	1	1	2	
44	PlantSnap	1	1	2	
45	Archive of our own	1	1	2	others

46	NewNew	0	2	2	
47	Cece Xingzuo（测测星座）	0	2	2	
48	Dewu（得物）	0	2	2	
49	ZEPETO	0	2	2	
50	AcFun	0	2	2	
51	Changba （唱吧）	0	2	2	
52	Douyu Streaming （斗鱼）	0	2	2	
53	Peiyinxiu（配音秀）	0	2	2	
54	Reese's Book Club	1	0	1	
55	Likee	1	0	1	
56	Mascot	1	0	1	
57	HelloTalk	1	0	1	
58	AnyStories	1	0	1	
59	Answers	1	0	1	
60	MangaToon	1	0	1	
61	Medium	1	0	1	
62	MeetMe	1	0	1	
63	flickr	1	0	1	others
64	Douban（豆瓣）	0	1	1	
65	Haixiuxiuchang（嗨秀秀场）	0	1	1	
66	Zuiyou（最右）	0	1	1	
67	Bilibili (哔哩哔哩)	0	1	1	
68	Dianping（大众点评）	0	1	1	
69	Faceteng（脸疼）	0	1	1	
70	Mamabang（妈妈帮）	0	1	1	
71	Meipai（美拍）	0	1	1	
72	Tuchong（图虫）	0	1	1	
73	Wangyi Cloud Music（网易云音乐）	0	1	1	
74	Weishi（微视）	0	1	1	
75	Skout	0	1	1	
76	WebNovel	0	1	1	
77	1Auto	0	1	1	
78	Smule: Social Karaoke Singing	0	1	1	
79	Changya（唱鸭）	0	1	1	
80	Quanmin Karaoke （全民 K 歌）	0	1	1	
81	Zhihu（知乎）	0	1	1	
82	Meiyou（美柚）	0	1	1	

| 83 | Any | 0 | 1 | 1 | other s |
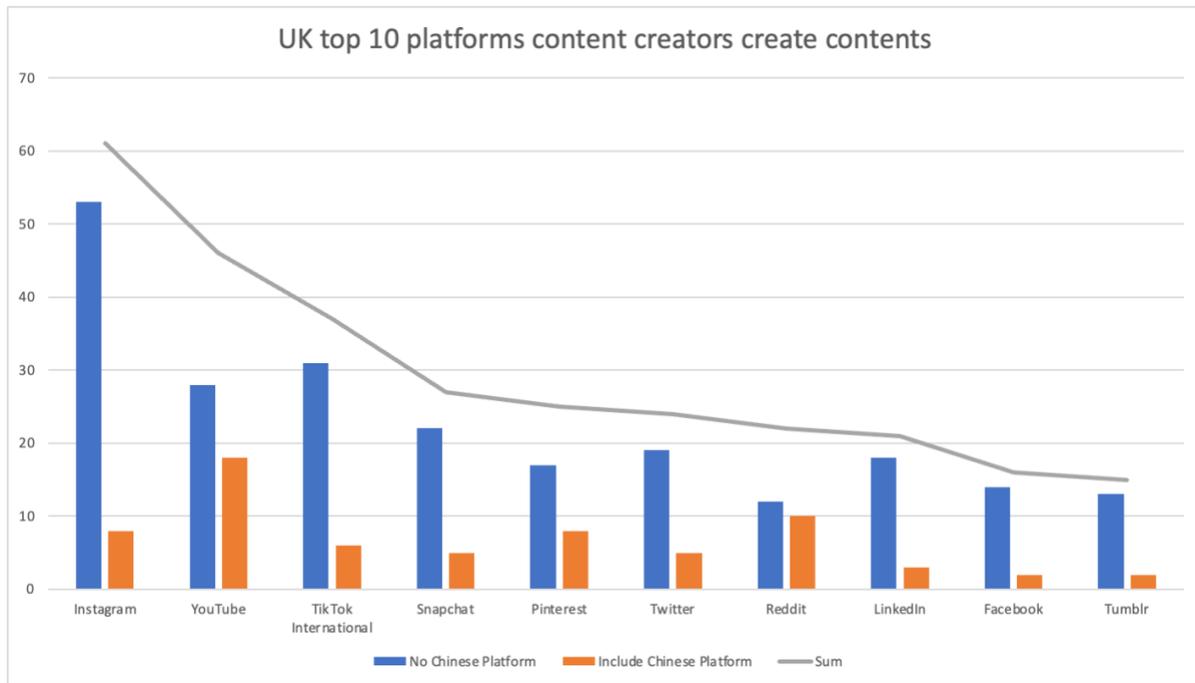
Figure 7.27 UK top 10 platforms content creators create contents

Table 7.51 US platforms that content creators create contents

No	Platform	No Chinese Platform	Include Chinese Platform	Sum	Note
1	Instagram	58	5	63	
2	YouTube	29	25	54	
3	TikTok International	31	7	38	
4	Pinterest	26	7	33	
5	Twitter	26	4	30	
6	Snapchat	24	6	30	
7	Facebook	24	3	27	
8	LinkedIn	21	0	21	
9	Reddit	20	0	20	
10	Tumblr	17	2	19	
11	NovelCat	6	7	13	
12	Yubo	0	13	13	
13	TikTok （抖音）	0	10	10	
14	Twitch	7	2	9	
15	Goodreads	6	2	8	
16	iFunny	7	1	8	

17	Mixcloud	0	8	8	
18	Reddit	0	8	8	
19	wikipedia	5	2	7	
20	Quora	2	5	7	
21	GoodNovel & Books Web Novels	5	1	6	
22	OLIO	6	0	6	
23	Triller	4	1	5	
24	21 Buttons	2	3	5	
25	Patreon	3	2	5	
26	karaoke	1	4	5	
27	Xiaohongshu（小红书）	0	5	5	
28	Wattpad	3	1	4	
29	Nurture	1	3	4	
30	ABPV America's best pics&vids	1	3	4	
31	AcFun	0	4	4	
32	Changba （唱吧）	0	4	4	
33	Bilibili (哔哩哔哩)	0	4	4	
34	NewNew	0	4	4	
35	Meiyou（美柚）	0	4	4	
36	Tap by Wattpad	2	1	3	
37	Behance	2	1	3	
38	SoundCloud	2	1	3	
39	Answers	3	0	3	
40	Strava	2	1	3	
41	frog	3	0	3	
42	Powder	1	2	3	
43	Reese's Book Club	1	2	3	
44	Smule: Social Karaoke Singing	1	2	3	
45	Kuaishou（快手）	0	3	3	
46	Dianping（大众点评）	0	3	3	
47	5sing（5sing 原创音乐）	0	3	3	
48	Sketchar	0	3	3	
49	Quanmin（全民 K 歌）	0	3	3	
50	FanFiction.Net	2	0	2	
51	Tripadvisor Travels and Hotels	2	0	2	
52	PlantSnap	2	0	2	
53	HelloTalk	2	0	2	
54	Weverse	2	0	2	
55	Ailiao （爱聊）	0	2	2	

56	Cece Xingzuo（测测星座）	0	2	2	
57	edge	0	2	2	
58	Haokan Video (好看视频)	0	2	2	
59	Meipian（美篇）	0	2	2	
60	Answers	0	2	2	
61	Brainly	0	2	2	
62	Dewu（得物）	0	2	2	
63	Podbean Podcast App&Player	0	2	2	
64	Amino	0	2	2	
65	Wangyi Cloud Music（网易云音乐）	0	2	2	
66	Weibo（微博）	0	2	2	
67	OLIO	0	2	2	
68	HiNovel	1	0	1	
69	Medium	1	0	1	
70	MeetMe	1	0	1	
71	loforo.com	1	0	1	others
72	FIMFiction.net	1	0	1	others
73	DeviantArt	1	0	1	others
74	Archive of Our Own	1	0	1	others
75	Figma	1	0	1	others
76	Canva	1	0	1	others
77	ZEPETO	0	1	1	
78	Changya（唱鸭）	0	1	1	
79	Jinrixiaoyuan （今日校园）	0	1	1	
80	Kugou Streaming（酷狗直播）	0	1	1	
81	PlantSnap	0	1	1	
82	Skout	0	1	1	
83	Tripadvisor Travels and Hotels	0	1	1	
84	Weverse	0	1	1	
85	Peiyinxiu（配音秀）	0	1	1	
86	Pipixia（皮皮虾）	0	1	1	
87	Quanmin short video（全民小视频）	0	1	1	
88	MangaToon	0	1	1	
89	Skinseed for Minecraft Skins	0	1	1	
90	WebComics	0	1	1	

91	WebNovel	0	1	1	
92	Wishbone	0	1	1	
93	Lvzhou（绿洲）	0	1	1	
94	Timing	0	1	1	
95	Xiecheng（携程旅行）	0	1	1	
96	Ximalaya FM（喜马拉雅 FM）	0	1	1	
97	Zhihu（知乎）	0	1	1	
98	AnyStories	0	1	1	
99	Yinjie（音街）	0	1	1	
100	Meme live（么么直播）	0	1	1	
101	Douyu Streaming （斗鱼）	0	1	1	
102	Huya Streaming （虎牙直播）	0	1	1	
103	Lofter	0	1	1	others
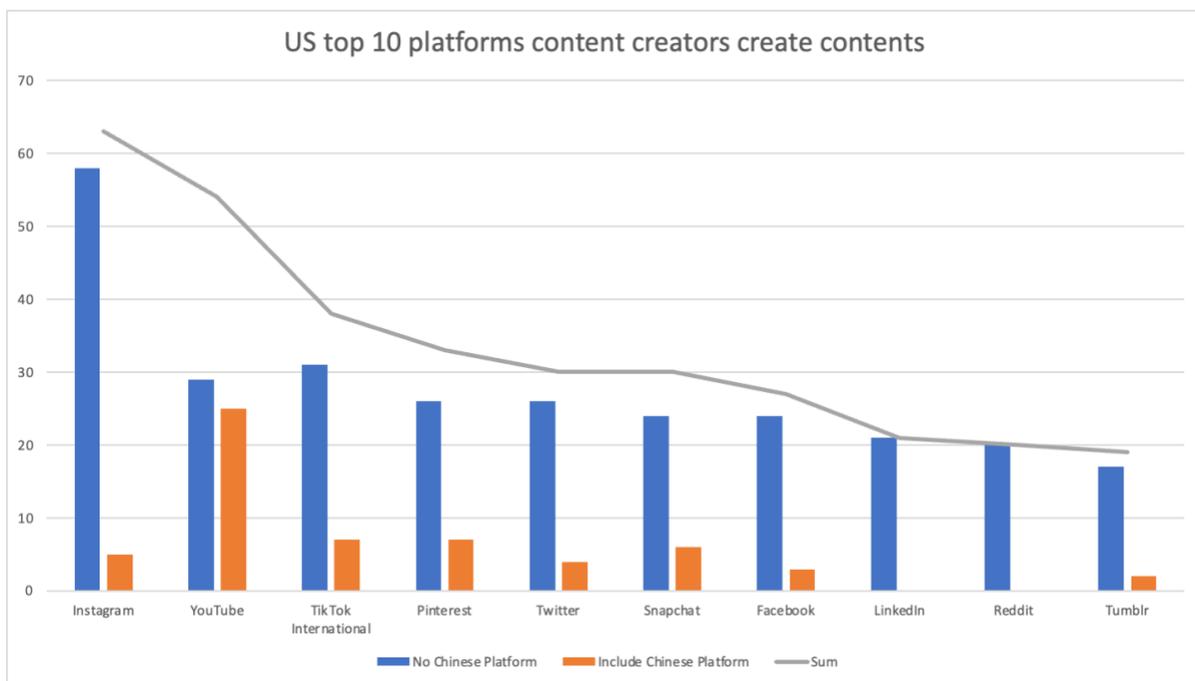
Figure 7.28 US top 10 platforms content creators create contents

Table 7.52 China platforms that content creators create contents

No	Platform	Chinese Survey	English Survey	Sum	Note
1	Weibo（微博）	80	3	83	
2	TikTok （抖音）	69	4	73	
3	Bilibili (哔哩哔哩)	31	5	36	
4	Dianping（大众点评）	28	3	31	

5	Xiaohongshu（小红书）	23	3	26	
6	Quanmin Karaoke （全民 K 歌）	19	4	23	
7	Dewu（得物）	22	0	22	
8	Kuaishou（快手）	21	0	21	
9	Weishi（微视）	21	0	21	
10	Zhihu（知乎）	18	0	18	
11	Wangyi Cloud Music（网易云音乐）	15	1	16	
12	Qunaer（去哪儿旅行）	12	1	13	
13	Douban（豆瓣）	10	1	11	
14	Tieba（百度贴吧）	8	1	9	
15	Yingke Streaming（映客直播）	7	0	7	
16	Changba （唱吧）	4	1	5	
17	Weifeng（威锋）	5	0	5	
18	Ximalaya FM（喜马拉雅 FM）	2	2	4	
19	Tencent Now Streaming（腾讯 Now 直播）	2	2	4	
20	Tuchong（图虫）	3	1	4	
21	YouTube	0	4	4	
22	Keep	4	0	4	
23	Xiachufang（下厨房）	2	1	3	
24	Reddit	2	1	3	
25	Pipixia（皮皮虾）	2	1	3	
26	Twitter	2	1	3	
27	Quanmin Short Video（全民小视频）	3	0	3	
28	Jianshu（简书）	3	0	3	
29	Mixcloud	0	2	2	
30	Quora	1	1	2	
31	Yubo	0	2	2	
32	Ailiao （爱聊）	0	2	2	
33	Meipian（美篇）	2	0	2	
34	Castbox	2	0	2	
35	Mafengwo（马蜂窝旅游）	2	0	2	
36	Yuepaoquan（悦跑圈）	2	0	2	
37	Douyu（斗鱼）	2	0	2	
38	Diyidan（第一弹）	2	0	2	
39	Mafengwo（马蜂窝旅游）	0	1	1	
40	Twitch	0	1	1	
41	Timing	0	1	1	
42	Answers	0	1	1	

43	Daily Yoga（每日瑜伽）	0	1	1	
44	Powder	0	1	1	
45	Sketchar	0	1	1	
46	TapTap	0	1	1	
47	5sing（5sing 原创音乐）	0	1	1	
48	Xiuse Live（秀色直播）	0	1	1	
49	WebComics	0	1	1	
50	WebNovel	0	1	1	
51	HiNovel	1	0	1	
52	Likee	1	0	1	
53	Patreon	1	0	1	
54	Smule: Social Karaoke Singing	1	0	1	
55	Skout	1	0	1	
56	Uplive	1	0	1	
57	Haokan Video（好看视频）	1	0	1	
58	Zuiyou（最右）	1	0	1	
59	Caffeine: Live streaming	1	0	1	
60	PlantSnap	1	0	1	
61	Kaoyanbang（考研帮）	1	0	1	
62	Hupu（虎扑）	1	0	1	
63	Huya Streaming （虎牙直播）	1	0	1	
64	Calorie Counter +	1	0	1	
65	Cece Xingzuo（测测星座）	1	0	1	
66	Lizhi（荔枝）	1	0	1	
67	Yinjie（音街）	1	0	1	
68	edge	1	0	1	
69	Wodao（我岛）	1	0	1	
70	Kugou Streaming（酷狗直播）	1	0	1	
71	Xiecheng（携程旅游）	1	0	1	
72	Wechat Gongzhonghao（微信公众号）	1	0	1	others
73	Toutiao（今日头条）	1	0	1	others
74	Qie（企鹅）	1	0	1	others
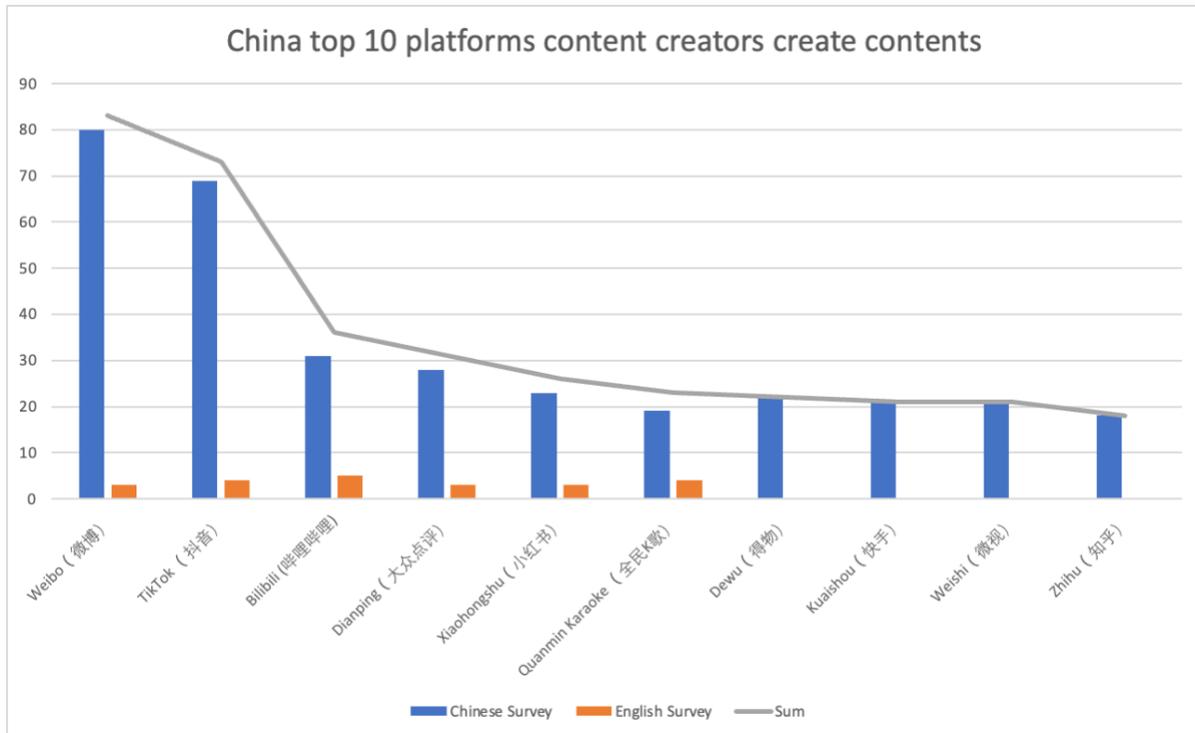
Figure 7.29 China top 10 platforms content creators create contents

4.2 Gender

Like platform users, the gender distribution of content creators also faces the problem of more females than males.

See details from Table 7.53 – 7.57 and figure 7.30.

Table 7.53 Gender distribution of content creators in four groups

| Gender	Female	Male	Others	Prefer not to say	NA	SUM
Europe (excluding the UK)	71	30	1	3	4	109
UK	77	36	11	2	4	130
US	96	40	12	4	3	155
China	73	52	0	11	5	141
SUM	317	158	24	20	16	535

253
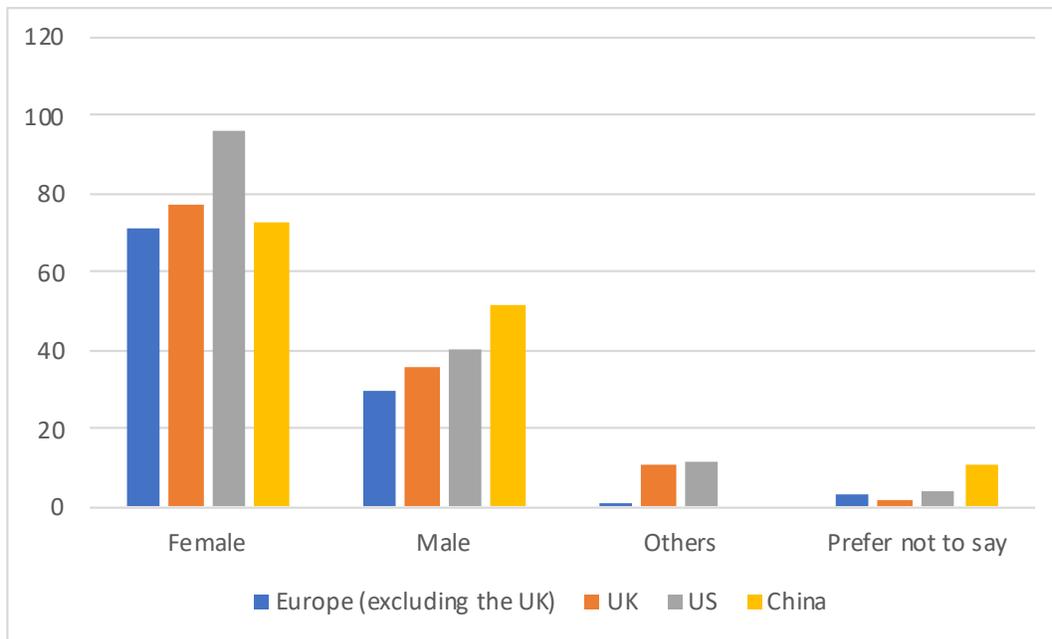
Figure 7.30 Gender distribution of content creators in four groups

Table 7.54 Gender distribution of content creators in Europe (excluding the UK)

Europe (excluding the UK)		Content Creators		SUM
		No	Yes	
Gender	Female	75	71	146
	Male	31	30	61
	Others	6	1	7
	Prefer not to say	3	3	6
	NA	1	4	5
SUM		116	109	225

Table 7.55 Gender distribution of content creators in the UK

UK		Content Creators		SUM
		No	Yes	
Gender	Female	73	77	150
	Male	34	36	70
	Others	3	11	14
	Prefer not to say	3	2	5
	NA	1	4	5
SUM		114	130	244

Table 7.56 Gender distribution of content creators in the US

US	Content Creators	SUM

		No	Yes	
Gender	Female	74	96	170
	Male	40	40	80
	Others	7	12	19
	Prefer not to say	1	4	5
	NA	4	3	7
SUM		126	155	281

Table 7.57 Gender distribution of content creators in China

China		**Content Creators**		**SUM**
		No	Yes	
Gender	Female	63	73	136
	Male	56	52	108
	Others	3	0	3
	Prefer not to say	2	11	13
	NA	2	5	7
SUM		126	141	267

4.3 Age

Similar to platform users, the content creators in the sample are mostly concentrated in the 18-24 and 25-34 age groups.

The Chinese sample is more concentrated in the 25-34 age group, while other groups content creators are more concentrated in the 18-24 age group. Tables 42-45 detail the age distribution of content creators in the four groups. See details from Table 7.58 – 7.62 and figure 7.31.

Table 7.58 Age distribution of content creators in four groups

|	**Europe (excluding the UK)**	**UK**	**US**	**China**	**SUM**
Under 15	1	1	1	1	4
16-17	4	3	9	1	17
18-24	66	86	98	35	285
25-34	31	27	36	66	160
35-44	3	8	6	24	41
45-54	1	1	1	6	9
55-64	0	2	3	5	10
65 or older	1	0	0	1	2
NA	2	2	1	2	7
SUM	109	130	155	141	535
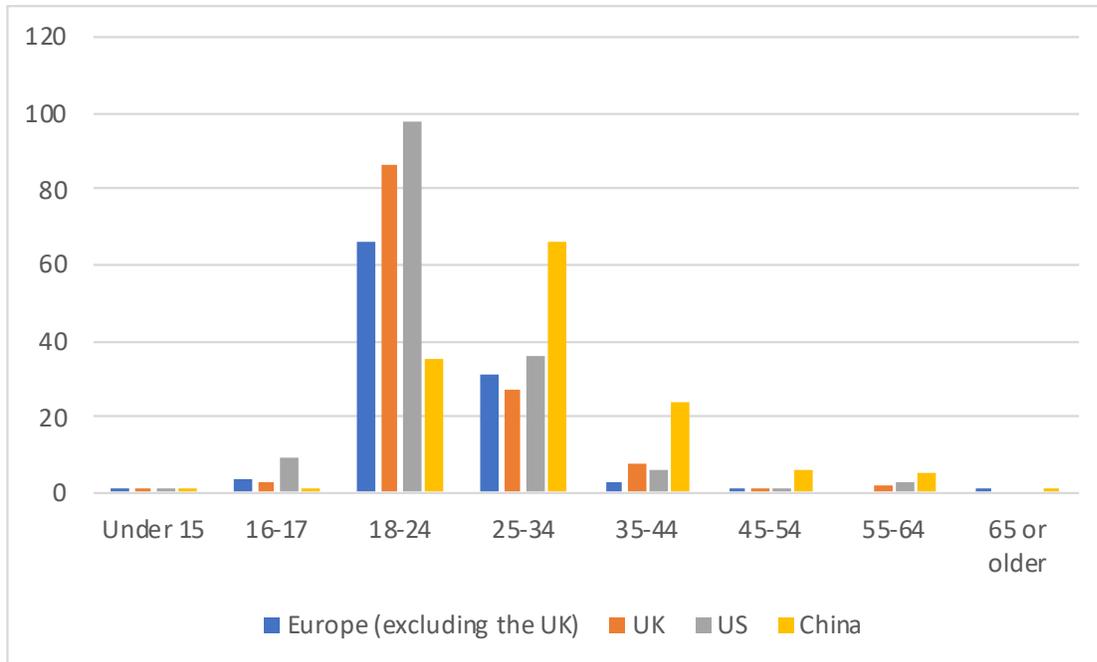
Figure 7.31 Age distribution of content creators in four groups

Table 7.59 Age distribution of content creators in Europe (excluding the UK)

Europe (excluding the UK)		Content Creators		SUM
		No	Yes	
Age	Under 15	0	1	1
	16-17	0	4	4
	18-24	63	66	129
	25-34	43	31	74
	35-44	9	3	12
	45-54	1	1	2
	55-64	0	0	0
	65 or older	0	1	1
	NA	0	2	2
SUM		116	109	225

Table 7.60 Age distribution of content creators in the UK

UK		Content Creators		SUM
		No	Yes	
Age	Under 15	5	1	6
	16-17	5	3	8
	18-24	77	86	163
	25-34	17	27	44
	35-44	6	8	14

		45-54	4	1	5
		55-64	0	2	2
		65 or older	0	0	0
		NA	0	2	2
SUM			114	130	244

Table 7.61 Age distribution of content creators in the US

US		Content Creators		SUM
		No	Yes	
Age	Under 15	3	1	4
	16-17	7	9	16
	18-24	73	98	171
	25-34	24	36	60
	35-44	15	6	21
	45-54	1	1	2
	55-64	1	3	4
	65 or older	0	0	0
	NA	2	1	3
SUM		126	155	281

Table 7.62 Age distribution of content creators in China

China		Content Creators		SUM
		No	Yes	
Age	Under 15	2	1	3
	16-17	1	1	2
	18-24	30	35	65
	25-34	49	66	115
	35-44	7	24	31
	45-54	16	6	22
	55-64	16	5	21
	65 or older	3	1	4
	NA	2	2	4
SUM		126	141	267

4.4 Job count

As shown in Table 7.63 and Figure 7.32, most of the content creators have at least 1 job, and few creators create content without a job. In the UK and US, there are relatively more creators without jobs. Tables 7.64 – 7.67 detail the job count distribution of content creators in the four groups.

Table 46. Job count distribution of content creators in four groups
Table 7.63 Job count distribution of content creators in four groups

Job Count	Europe (excluding the UK)	UK	US	China	SUM
0	26	49	48	26	149
1	54	53	64	70	241
2	17	16	33	35	101
3 and more	10	12	10	9	41
NA	2	0	0	1	3
SUM	109	130	155	141	535
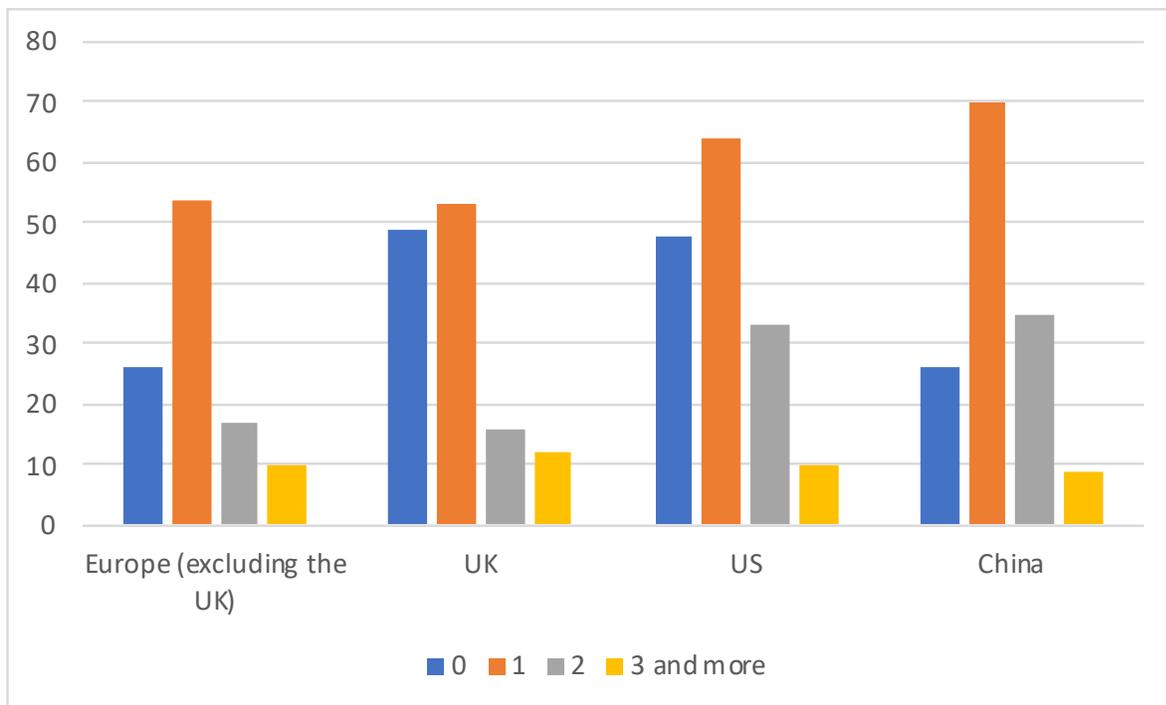
Figure 7.32 Job count distribution of content creators in four groups

Table 7.64 Job count distribution of content creators in Europe (excluding the UK)

Europe (excluding the UK)		Content Creators		SUM
		No	Yes	
Job Count	0	36	26	62
	1	60	54	114

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		2	18	17	35
	3 and more		2	10	12
	NA		0	2	2
SUM			116	109	225

<p align="center">Table 7.65 Job count distribution of content creators in the UK</p>

UK		Content Creators		SUM
		No	Yes	
Job Count	0	49	49	98
	1	49	53	102
	2	9	16	25
	3 and more	7	12	19
	NA	0	0	0
SUM		114	130	244

<p align="center">Table 7.66 Job count distribution of content creators in the US</p>

US		Content Creators		SUM
		No	Yes	
Job Count	0	48	48	96
	1	62	64	126
	2	12	33	45
	3 and more	3	10	13
	NA	1	0	1
SUM		126	155	281

<p align="center">Table 7.67 Job count distribution of content creators in China</p>

China		Content Creators		SUM
		No	Yes	
Job Count	0	33	26	59
	1	73	70	143
	2	17	35	52
	3 and more	2	9	11
	NA	1	1	2
SUM		126	141	267

4.5 Income

Table 7.68 and Figure 7.33 show the personal income distribution of content creators. Unlike platform users, the personal income of most content creators living in China is more evenly distributed among the first three categories,

which means that it is not just the lowest income groups that create content. In other four countries, however, it is still the lowest-income groups that create content. Table 7.69 – 7.72 detail the personal income distribution of content creators in the five countries.

Table 7.68 Income distribution of content creators in four groups

Personal Income	Europe (excluding the UK)	UK	US	China	SUM
Level 1	85	69	95	40	289
Level 2	13	23	20	41	97
Level 3	3	11	12	33	59
Level 4	2	9	13	17	41
Level 5	1	11	5	5	22
NA	5	7	10	5	27
SUM	109	130	155	141	535
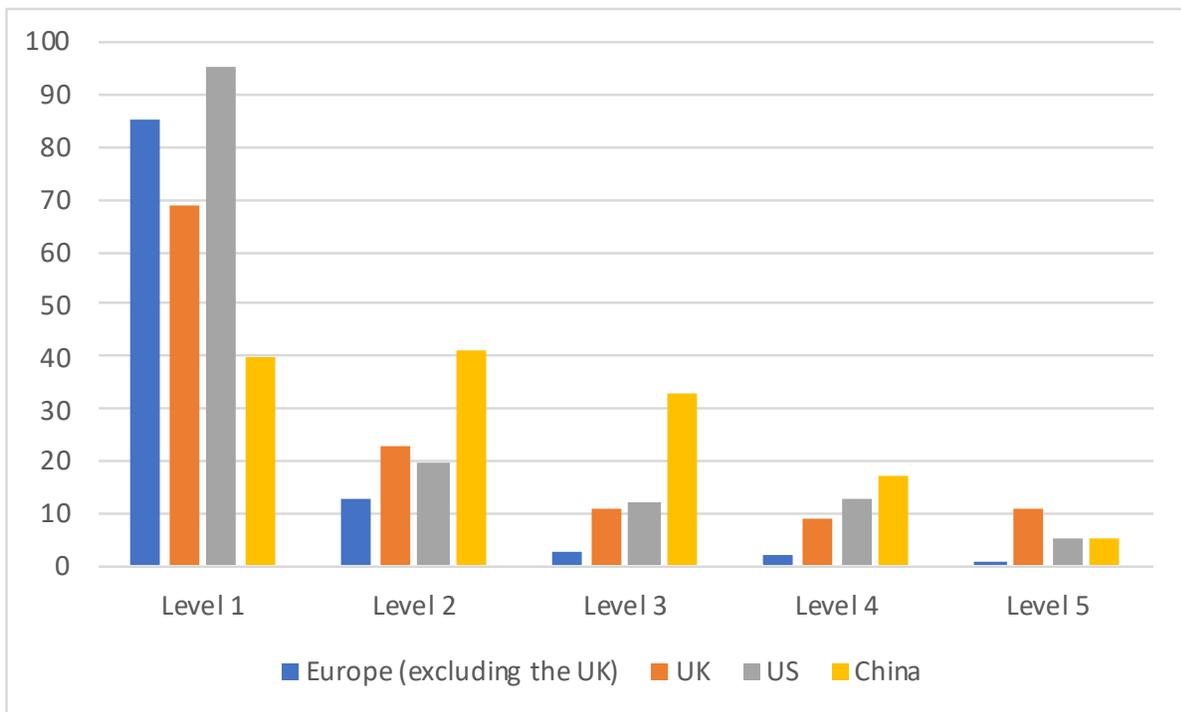
Figure 7.33 Income distribution of content creators in four groups

Table 7.69 Income distribution of content creators in Europe (excluding the UK)

Europe (excluding the UK)		Content Creators		SUM
		No	Yes	
Personal Income	1	81	85	166
	2	12	13	25
	3	6	3	9

	4	5	2	7
	5	1	1	2
	NA	1	5	6
SUM		106	109	215

Table 7.70 Income distribution of content creators in the UK

UK		Content Creators		SUM
		No	Yes	
Personal Income	1	65	69	134
	2	17	23	40
	3	15	11	26
	4	6	9	15
	5	9	11	20
	NA	2	7	9
SUM		114	130	244

Table 7.71 Income distribution of content creators in the US

US		Content Creators		SUM
		No	Yes	
Personal Income	1	82	95	177
	2	18	20	38
	3	7	12	19
	4	8	13	21
	5	5	5	10
	NA	6	10	16
SUM		126	155	281

Table 7.72 Income distribution of content creators in China

China		Content Creators		SUM
		No	Yes	
Personal Income	1	49	40	89
	2	24	41	65
	3	16	33	49
	4	21	17	38
	5	11	5	16
	NA	5	5	10
SUM		126	141	267

4.6 Education

Table 7.73 and Figure 7.34 show the distribution of educational attainment of content creators in the sample. Similar to the education distribution of platform users, most content creators have a bachelor's degree and above. Among them, there are far more content creators from China with master's degrees than those from other countries. A significant proportion of content creators from the UK and US have only a high school or 'some college, no degree' qualification.

Table 7.74 – 7.77 detail the education distribution of content creators in the four groups.

Table 7.73 Education distribution of content creators in four groups

Education	Europe (excluding the UK)	UK	US	China	SUM
None	2	0	4	1	7
Lower than high school graduate	4	3	10	3	20
High school graduate	17	30	26	3	76
Some college, no degree	12	21	29	0	62
Associate's degree, occupational	6	6	17	20	49
Associate's degree, academic Bachelor's degree	36	49	51	61	197
Master's degree	24	16	12	43	95
Professional degree	0	0	2	0	2
Doctoral degree	5	4	2	9	20
SUM	106	129	153	140	528
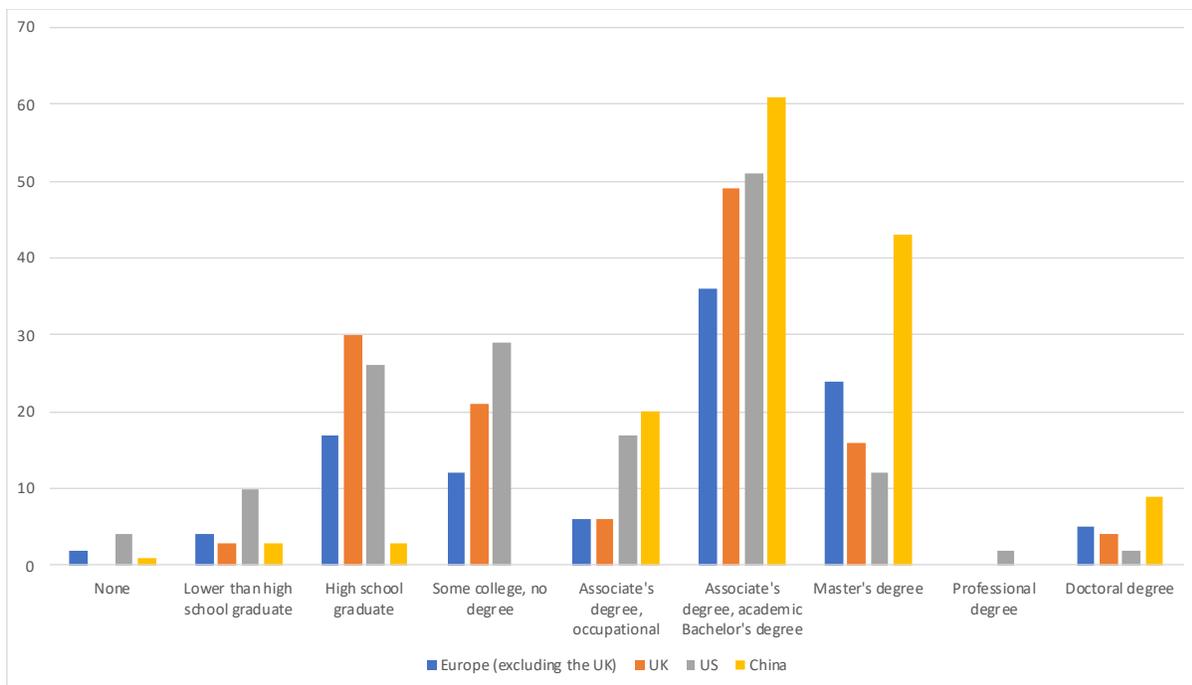
Figure 7.34 Education distribution of content creators in four groups

Table 7.74 Education distribution of content creators in Europe (excluding the UK)

Europe (excluding the UK)		Content Creator		SUM
		No	Yes	
Education	None	4	2	6
	Lower than high school graduate	2	4	6
	High school graduate	21	17	38
	Some college, no degree	10	12	22
	Associate's degree, occupational	3	6	9
	Associate's degree, academic Bachelor's degree	48	36	84
	Master's degree	28	24	52
	Professional degree	0	0	0
	Doctoral degree	0	5	5
SUM		116	106	222

Table 7.75 Education distribution of content creators in the UK

UK		Content Creator		SUM
		No	Yes	
Education	None	5	0	5
	Lower than high school graduate	3	3	6
	High school graduate	31	30	61

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		No	Yes	
	Some college, no degree	22	21	43
	Associate's degree, occupational	5	6	11
	Associate's degree, academic Bachelor's degree	37	49	86
	Master's degree	9	16	25
	Professional degree	1	0	1
	Doctoral degree	1	4	5
SUM		114	129	243

Table 7.76 Education distribution of content creators in the US

US		Content Creator		SUM
		No	Yes	
Education	None	4	4	8
	Lower than high school graduate	7	10	17
	High school graduate	18	26	44
	Some college, no degree	30	29	59
	Associate's degree, occupational	12	17	29
	Associate's degree, academic Bachelor's degree	33	51	84
	Master's degree	20	12	32
	Professional degree	0	2	2
	Doctoral degree	2	2	4
SUM		126	153	279

Table 7.77 Education distribution of content creators in China

China		Content Creator		SUM
		No	Yes	
Education	None	3	1	4
	Primary School	7	2	9
	Junior High School	15	1	16
	High School	6	3	9
	College	13	20	33
	Bachelor's degree	43	61	104
	Master's degree	34	43	77
	Doctoral degree	3	9	12
SUM		124	140	264

Study on the use of Content Creative Platform

Q52
 Study on the use of **Content Creative Platform**

Dear Sir or Madam,
 You are invited to participate in my research on the use of **Content Creative Platforms** by completing the following questionnaire. The aim of this research project is to understand how content creative platforms are used as well as how and why content is provided/shared on platforms.

 Content creative platforms are open platforms that provide content creators with creative resources or sharing features. Platform users can search, enjoy, create or share contents with other users on those platforms. These platforms include short video platforms (such as TikTok, Youtube), microblogging platforms (eg, Twitter), live broadcast platforms (eg, Twitch), novel creation platforms (eg, Goodreads), as well as other types of platforms.

 The research is conducted as part of my PhD studies at Durham University Business School (United Kingdom) and my supervisors are Professor Bernd Brandl, Associate Professor Jeremy Aroles and Associate Professor Peter Hamilton.

 The questionnaire is structured in different sections and starts with questions on how content creative platforms are used. Then the questionnaire explores the motivation and background behind the use or creation of online contents. At the end of the questionnaire, you will be asked some personal information.

 I recommend that you answer the questions in the order that they appear – simply click on the next button at the end of each set of questions. You can also use the **contents of the questionnaire** (shown on the next page as well as provided as a menu on each page) to move between the different sets of questions.

 All answers are tracked and saved automatically so you can answer some questions later (if you wish) and you can also return to the questionnaire at any time. You can see how many questions are not answered on the **progress bar**, which is shown at the beginning of each section.

Please note that all answers and information submitted will be handled with strict confidentiality. Any analysis used from the results you supply within the questionnaire will be fully anonymized and your name will never be made available or accessible in any project outcomes. Of course, if you wish, we will make the final study available to you.

Completing the questionnaire will take around 10-15 minutes. I would be grateful if you could provide an answer to all questions but if there are any questions you do not feel comfortable answering, please skip these questions and proceed.

If you prefer using Mandarin to participate in this research, please click 内容创作平台使用情况研究.

If you have any questions or if you need any further information, please contact me by email: Yin Liang *(yin.liang@durham.ac.uk)*

Thank you for your time and cooperation.

End of Block: Study on the use of Content Creative Platform

Start of Block: General Questions*

Q72
Listed below are a number of general questions related to Content Creative Platforms use situation.

Q85 Could you please leave your email address for us to follow up on our research?

_____

Q86 Have you filled out this questionnaire before?
This survey was published in 2022.

○ Yes (1)

○ No (2)

Q1 Have you ever used contents from content creative platforms?

○ No (1)

○ Yes (2)

Q2 Have you ever created and uploaded contents on content creative platforms?

○ No (1)

○ Yes (2)

Q74 Have you ever read/ used/ created/ uploaded Chinese contents (Mandarin or Cantonese) on content creative platforms?

○ No (1)

○ Yes (2)

Page Break ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯

✳

Q59 Please select the content creative platforms that you often use.
*You can select no more than **5** content creative platform that you often use on the list below.*

Please note you can add any platforms you often use but not shown on the list below at the end of the list.

☐   21 Buttons (1)

☐   ABPV America's best pics&vids (538)

☐   Amino (539)

☐   Answers (540)

☐   AnyStories (541)

☐   Behance (542)

☐   BiGO LIVE (543)

☐   Brainly (544)

☐   Caffeine: Live streaming (545)

☐   Calorie Counter + (546)

☐   Cartoon Social (547)

☐   Castbox (548)

☐   Clapper (549)

☐   Coco (550)

☐   Color Therapy Coloring Number (551)

☐   Dog Scanner (552)

☐   Dreame (553)

☐ Facebook (554)

☐ FanFiction.Net (555)

☐ frog (556)

☐ GoodNoverl & Books Web Novels (557)

☐ Goodreads (558)

☐ HelloTalk (559)

☐ Hinovel (560)

☐ iFunny (561)

☐ IMVU (562)

☐ Instagram (563)

☐ Issuu (564)

☐ karaoke (565)

☐ Likee (566)

☐ LinkedIn (567)

☐ Lobby (568)

☐ MangaToon (569)

☐ Mascot (570)

☐ Medium (571)

- [ ] MeetMe (572)

- [ ] Mixcloud (573)

- [ ] NewNew (574)

- [ ] NovelCat (575)

- [ ] Nurture (576)

- [ ] OLIO (577)

- [ ] Patreon (578)

- [ ] Pinterest (579)

- [ ] PlantSnap (580)

- [ ] Podbean Podcast App&Player (581)

- [ ] Powder (582)

- [ ] Quora (583)

- [ ] Reddit (584)

- [ ] Reese's Book Club (585)

- [ ] Sketchar (586)

- [ ] Skinseed for Minecraft Skins (587)

- [ ] Skout (588)

- [ ] Smule: Social Karaoke Singing (589)

☐ Snapchat (590)

☐ SoundCloud (591)

☐ Strava (592)

☐ Tap by Wattpad (593)

☐ TikTok International (594)

☐ Triller (595)

☐ Tripadvisor Travels and Hotels (596)

☐ Tumblr (597)

☐ Twitch (598)

☐ Twitter (599)

☐ Uplive (600)

☐ Wattpad (601)

☐ WebComics (602)

☐ Webnovel (603)

☐ Weverse (605)

☐ wikipedia (606)

☐ Wishbone (607)

☐ wit (608)

☐ YesAuto (610)

☐ YouTube (611)

☐ Yubo (612)

☐ ZEPETO (613)

☐ Others (Please specify)*You can insert more than one platform(s), please use semicolons(;) to separate different platforms.* (614)

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Q77 Please select the content creative platforms that you often use.
*You can select no more than **5** content creative platform that you often use on the list below.*

Please note you can add any platforms you often use but not shown on the list below at the end of the list.

- [ ] 21 Buttons (1)

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- [ ] Amino (5)

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- [ ] karaoke (31)

- [ ] Likee (32)

- [ ] LinkedIn (33)

- [ ] Lobby (34)

- [ ] MangaToon (35)

- [ ] Mascot (36)

- [ ] Medium (37)

- [ ] MeetMe (38)

- [ ] Mixcloud (39)

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☐   Zuiyou（最右） (147)

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![*]

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☐   YouTube (611)

☐   Yubo (612)

☐   ZEPETO (613)

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Q78
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☐   Others (Please specify)*You can insert more than one platform(s), please use semicolons(;) to separate different platforms.* (148)

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Page Break ——————————————————————————————————————

Q71
Listed below are a number of statements regarding the use of Content Creative Platforms.

Q4 Please provide the details on how often you use *content creative platforms for different aims.*
I use content creative platform to...

	Never (1)	Less often (2)	2-3 times per month (3)	Once per week (4)	2-3 times per week (5)	Daily (6)
... search or enjoy entertainment contents* uploaded by other content creators. (1)	○	○	○	○	○	○
... search education contents* uploaded by other content creators. (2)	○	○	○	○	○	○
... search or enjoy lifestyle contents* uploaded by other content creators. (3)	○	○	○	○	○	○
... search business contents* uploaded by other content creators. (4)	○	○	○	○	○	○
... search political contents* uploaded by other content creators. (5)	○	○	○	○	○	○
... search art contents* uploaded by other content creators. (6)	○	○	○	○	○	○

Q46
Entertainment contents include gaming, music, TV shows, sports, media, movies, books, etc.
 Education contents include science, Campus, study, knowledge sharing, etc.
 Lifestyle contents include home, food, drink, travel, fitness, outdoors, fashion, beauty, hobbies, interests, celebrations, well-being, health, luxury, technology, etc.
 Business contents include finance, careers, consumer goods, ecommerce, non-profit and organisations, etc.
 Political contents include policies, law, military, etc.
 Art contents include culture, history, design, etc.

End of Block: Questions on the use of Content Creative Platforms

Start of Block: Questions on the creation of contents

Q70
 Listed below are a number of statements regarding the creation of contents.

Q44 Please provide the details on how often you use *content creative platforms for different aims.*
I use content creative platform to...

	Never (6)	Less often (7)	2-3 times per month (8)	Once per week (9)	2-3 times per week (10)	Daily (11)
... create and share entertainment contents *. (1)	○	○	○	○	○	○
... create and share education contents*. (2)	○	○	○	○	○	○
... create and share lifestyle contents * . (3)	○	○	○	○	○	○
... create and share business contents*. (4)	○	○	○	○	○	○
... create and share politics contents*. (5)	○	○	○	○	○	○
... create and share art contents*. (6)	○	○	○	○	○	○

Q47
Entertainment contents* include gaming, music, TV shows, sports, media, movies, books, etc.
 Education contents* include science, Campus, study, knowledge sharing, etc.
 Lifestyle contents* include home, food, drink, travel, fitness, outdoors, fashion, beauty, hobbies, interests, celebrations, well-being, health, luxury, technology, etc.
 Business contents* include finance, careers, consumer goods, ecommerce, non-profit and organisations, etc.
 Political contents* include policies, law, military, etc.
 Art contents* include culture, history, design, etc.

End of Block: Questions on the creation of contents

Start of Block: Questions on the motivation of use and content provision

Q69
Listed below are a number of statements regarding the motivation of use and content provision.

Motivation
Why do you <u>create and upload contents</u> to content creative platforms?
 Please select the extent you agree or disagree with the following motivations.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
To *entertain* **others** (1)	○	○	○	○	○
To *entertain* **myself** (2)	○	○	○	○	○
To *reflect or relive on* **my experiences** (3)	○	○	○	○	○
To *stay in touch* with **family/ friends** (4)	○	○	○	○	○
To *express* **myself creatively** (5)	○	○	○	○	○
To *document* **personal experiences** (6)	○	○	○	○	○
To *help* **other people** (7)	○	○	○	○	○
Because **good brand** *should be supported*/ **good experience** *should be shared (8)*	○	○	○	○	○
Because I *want to contribute* to **a pool of information** (9)	○	○	○	○	○
To *express* **my anger** about a negative experience I had (10)	○	○	○	○	○
To *vent* **negative feelings** (11)	○	○	○	○	○
It helps me *overcome* **negative experiences** (12)	○	○	○	○	○
To *warn* **others** (13)	○	○	○	○	○
Because I can *get* **monetary rewards** for it (14)	○	○	○	○	○

| Because I can *get* **non-monetary rewards** for it (e.g., reputation, exposure, etc.) (15) | ○ | ○ | ○ | ○ | ○ |

Display This Question:

    If Have you ever used contents from content creative platforms? = Yes

    Or Have you ever created and uploaded contents on content creative platforms? = Yes

Q68
Listed below are a number of statements regarding the context of platform use.

Display This Question:

    If Have you ever created and uploaded contents on content creative platforms? = Yes

Work powerlessness

The following statements describe the contextual factors when you work on virtual contents. To what extent do you agree with the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I have *a good deal of freedom* when I work on virtual contents. (1)	○	○	○	○	○
I **should** have *a good deal of freedom* when I work on virtual contents. (2)	○	○	○	○	○
I have the opportunity to *exercise my own judgement* when I work on virtual contents. (3)	○	○	○	○	○
I **should** have the opportunity to *exercise my own judgement* when I work on virtual contents. (4)	○	○	○	○	○
I have *little control* over how I work on virtual contents. (5)	○	○	○	○	○
I **should** have *little control* over how I work on virtual contents. (6)	○	○	○	○	○
I make most work decisions *without* first consulting other people (e.g., platform workers, team members). (7)	○	○	○	○	○
I **should** make most work decisions *without* first consulting other people (e.g., platform workers, team members). (8)	○	○	○	○	○
I am not able to *make changes* on my work procedures of virtual contents. (9)	○	○	○	○	○
I **should** not be able to *make changes* on my work procedures of virtual contents. (10)	○	○	○	○	○

My daily activities are largely determined by *external factors* (e.g., platform; audiences; market). (11)	○	○	○	○	○
My daily activities **should** be largely determined by *external factors* (e.g., platform; audiences; market). (12)	○	○	○	○	○
I make my *own decisions* in the performance of my role when I work on virtual contents. (13)	○	○	○	○	○
I **should** make my *own decisions* in the performance of my role when I work on virtual contents. (14)	○	○	○	○	○

Page Break

Life powerlessness

The following statements describe the contextual factors on your life. To what extent do you agree with the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I have **little control** over the things that happen to me. (1)	○	○	○	○	○
There is really **no way** I can solve some of the problems I have. (2)	○	○	○	○	○
There is **little I can do** to change many of the important things in my life. (3)	○	○	○	○	○
I often feel **helpless** in dealing with problems of life. (4)	○	○	○	○	○
Sometimes I feel that I am **being pushed** around in life. (5)	○	○	○	○	○
What happens to me in the future **mostly** depends on **me**. (6)	○	○	○	○	○
I can do **just about anything** I really set my mind to do. (7)	○	○	○	○	○

End of Block: Questions on the context of platform use

Start of Block: Questions on attitudes

Q66
 Listed below are a number of statements concerning personal attitudes and traits.

Question on attitude

Please select the option that reflects the extent to which you agree with the following statements

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
It is sometimes **hard for me to go on** with my work *if I am not encouraged. (1)*	○	○	○	○	○
I sometimes **feel resentful** *when I don't get my way. (2)*	○	○	○	○	○
There have been times when I felt like **rebelling against people in authority** *even though I knew they were right. (3)*	○	○	○	○	○
No matter who I'm talking to, I'm always **a good listener. (4)**	○	○	○	○	○
There have been **occasions** *when I took advantage of someone. (5)*	○	○	○	○	○
I'm always willing to **admit it** *when I make a mistake. (6)*	○	○	○	○	○
I sometimes try to **get even** rather than *forgive and forget. (7)*	○	○	○	○	○
I am always **courteous**, *even to people who are disagreeable. (8)*	○	○	○	○	○
I have **never been irked** *when people expressed ideas very different from my own. (9)*	○	○	○	○	○
There have been times when *I was **quite jealous** of the good fortune of others.* (10)	○	○	○	○	○
I am sometimes **irritated by people** *who ask favours of me*. (11)	○	○	○	○	○

I have never **deliberately** said something *that hurt someone's feelings*. (12)

○   ○   ○   ○   ○

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Page Break ——————————————————————————

Q11 Please tick the category on the right that conforms to the frequency with which you have carried out the following acts.

	Never (1)	Once (2)	More than once (3)	Often (4)	Very often (5)
I have **given directions** to a stranger. (2)	○	○	○	○	○
I have **made change** for a stranger. (3)	○	○	○	○	○
I have **given money** to a charity. (4)	○	○	○	○	○
I have **given money** to a stranger who needed it (or asked me for it). (5)	○	○	○	○	○
I have **donated goods or clothes** to a charity. (6)	○	○	○	○	○
I have **donated blood. (7)**	○	○	○	○	○
I have **helped carry a stranger's belongings** (books, parcels, etc.). (8)	○	○	○	○	○
I have **delayed an elevator and held the door open** for a stranger. (9)	○	○	○	○	○
I have **allowed someone to go ahead of me** in a lineup (e.g., in the supermarket). (10)	○	○	○	○	○
I have **given a stranger a lift** in my car. (11)	○	○	○	○	○
I have **pointed out a clerk's error** (in a bank, at the supermarket) in undercharging me for an item. (12)	○	○	○	○	○
I have **let a neighbour** whom I didn't know too well **borrow an item of some value to me** (e.g., a dish, tools, etc.). (13)	○	○	○	○	○

I have **bought 'charity' product deliberately** because I knew it was a good cause. (14)	○	○	○	○	○
I have **helped a classmate** who I did not know that well **with a homework assignment** when my knowledge was greater than his or hers. (15)	○	○	○	○	○
I have **before being asked, voluntarily looked after a neighbour's pets or children** without being paid for it. (16)	○	○	○	○	○
I have **offered to help a handicapped or elderly stranger** across a street. (17)	○	○	○	○	○
I have **offered my seat** on a bus or train to a stranger who was standing. (18)	○	○	○	○	○
I have helped an acquaintance to **move households. (19)**	○	○	○	○	○

Page Break

Q12 To what extent do you agree with the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
Supporting other people makes me very happy. (1)	○	○	○	○	○
I do NOT **feel obligated** to perform selfless acts towards others. (2)	○	○	○	○	○
I do NOT **have a great feeling of happiness** when I have acted unselfishly. (3)	○	○	○	○	○
I **feel indebted** to stand up for other people. (4)	○	○	○	○	○
When I was able to help other people, I always **felt good afterwards. (5)**	○	○	○	○	○
I do NOT regard it as my duty to **act selflessly. (6)**	○	○	○	○	○
Helping people who are doing not well does NOT raise my own mood. (7)	○	○	○	○	○
I feel **a strong duty** to help other people in every situation where it is possible for me. (8)	○	○	○	○	○

End of Block: Questions on attitudes

Start of Block: Questions on Work-life Balance

Q67
 Listed below are a number of statements concerning work-life balance.

Q13 To what extent do you agree with the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I have **a clear set of goals and aims** to enable me to do my virtual contents related works (1)	○	○	○	○	○
I feel able to **voice opinions and influence changes** in my virtual contents related works (2)	○	○	○	○	○
I have **the opportunity to use my abilities** when I do virtual contents related works (3)	○	○	○	○	○
I **feel well** at the moment (4)	○	○	○	○	○
The platform(s) on which I work **provide(s) adequate facilities and flexibility for me** to fit work in around my family life (5)	○	○	○	○	○
My current working hours / patterns **suit my personal circumstances (6)**	○	○	○	○	○
I often **feel under pressure** when I do virtual contents related works (7)	○	○	○	○	○
When I finish a good virtual content it is **acknowledged by the platform(s) I worked for (8)**	○	○	○	○	○
Recently, I have been **feeling unhappy and depressed (9)**	○	○	○	○	○
I am **satisfied with my life (10)**	○	○	○	○	○
I am **encouraged to develop new skills (11)**	○	○	○	○	○
I am **involved in decisions that affect me** in my virtual contents related works (12)	○	○	○	○	○

The platform(s) I worked for **provide(s) me with what I need to do my virtual contents related works effectively (13)**	○	○	○	○	○
The platform(s) I worked for **actively promotes flexible working hours / patterns (14)**	○	○	○	○	○
In most ways my life is **close to ideal (15)**	○	○	○	○	○
I work in a **safe environment (16)**	○	○	○	○	○
Generally things **work out well for me (17)**	○	○	○	○	○
I am satisfied with **the career opportunities available for me here (18)**	○	○	○	○	○
I often **feel excessive levels of stress** at virtual contents related works (19)	○	○	○	○	○
I am **satisfied with the training I receive** in order to perform my present virtual contents related works (20)	○	○	○	○	○
Recently, I have been **feeling reasonably happy** all things considered (21)	○	○	○	○	○
My working conditions are **satisfactory (22)**	○	○	○	○	○
I am **involved in decisions of platforms I worked for** in my own virtual contents related works (23)	○	○	○	○	○
I am **satisfied with the overall quality** of my working life (24)	○	○	○	○	○

Page Break

Q14 To what extent do you agree with the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I am satisfied with **the way I divide my time** between virtual contents related works and personal or family life. (1)	○	○	○	○	○
I am satisfied with **the way I divide my attention** between virtual contents related works and home. (2)	○	○	○	○	○
I am satisfied with **the extent** my virtual contents related work life and my personal or family life **fit together. (3)**	○	○	○	○	○
I am satisfied with **my ability** to balance the needs of my virtual contents related works with those of my personal or family life. (4)	○	○	○	○	○
I am satisfied with **the opportunity I have** to perform my virtual contents related works well and yet be able to perform home-related duties adequately. (5)	○	○	○	○	○

End of Block: Questions on Work-life Balance

Start of Block: Technical Questions

Q64
In this section, you will be asked some technical questions regarding your digital devices use behaviour.

Q15 Do you use a computer off campus/ outside workplaces?

○ No (1)

○ Yes (2)

※

Q16 Where do you use the computer off campus/ outside workplaces?
Please select and sort between 1 to 3 items, and drag them to the box on the right of the screen.

Please drag up to 3 statements to this box

_____ Where I live (1)

_____ Internet café (2)

_____ School/college (3)

_____ Friend/relative (4)

_____ Community centre (5)

_____ Public library (6)

_____ Residence (7)

_____ Other (please list) (8)

Q17 Can you connect to the Internet off campus/ outside workplaces?

○ No (1)

○ Yes (2)

Q18 What type of connection do you most often use?

○ Broadband (ADSL) (1)

○ Cellphone (GPRS,3G/ 4G/5G, etc.) (2)

○ Wireless (3)

Q19 When did you first start using a computer?

○ Within the last 5 years (1)

○ 6 to 10 years ago (2)

○ 11 to 15 years ago (3)

○ More than 16 years ago (4)

Q20 How did you originally learn to use a computer?
Please select the extent you agree with the following statements.

	Strongly disagree (6)	Somewhat disagree (7)	Neither agree nor disagree (8)	Somewhat agree (9)	Strongly agree (10)
By myself. (1)	○	○	○	○	○
From my family. (2)	○	○	○	○	○
From friends. (3)	○	○	○	○	○
At school. (4)	○	○	○	○	○
Through community course. (5)	○	○	○	○	○
Through a training course at university. (6)	○	○	○	○	○

Q21 If you learnt how to use a computer by other ways, please specify here:

_____

Q22 Where do you seek help when you have a problem doing something with ICTs*?
Please select the extent you agree with the following statements.
 Information and Communication Technologies (ICTs)* is a broader term for Information Technology (IT), which refers to all communication technologies, including the internet, wireless networks, cell phones, computers, software, middleware, video-conferencing, social networking, and other media applications and services enabling users to access, retrieve, store, transmit, and manipulate information in a digital form.

	Definitely false (1)	Probably false (2)	Neither true nor false (3)	Probably true (4)	Definitely true (5)
I solve it **by myself. (1)**	○	○	○	○	○
I ask **my friends** for help. (2)	○	○	○	○	○
I ask **my family** for help. (3)	○	○	○	○	○
I ask **the institutional IT support** for help. (4)	○	○	○	○	○
I refer to **manual/ help pages. (5)**	○	○	○	○	○
I ask **the platform IT support department. (6)**	○	○	○	○	○

Q23 If you have other ways to solve the problem when you use ICTs, please specify here:

_____

End of Block: Technical Questions

Q65
 This is the last part of the questionnaire. The questions in this section are related to your personal details.

Q24 In which country do you currently reside?

○ The United Kingdom of Great Britain and Northern Ireland (1)

○ United States of America (2)

○ China (3)

○ Other country / region (4)

Q25 Do you have a paid work / job?

○ No (1)

○ Yes (2)

Q26 Do you have a job/ work that currently has no financial return?

○ No (1)

○ Yes (2)

Q27 How confident are you that you will get financial rewards in this job/ work in the future?

○ No confidence at all (1)

○ Not quite confident (2)

○ Confident   (3)

○ Very confident (4)

Q28 How many jobs/ works do you have?

○ 0 (1)

○ 1 (2)

○ 2 (3)

○ 3 and more (4)

Q29 Please select the reason why you do not have a job/work currently (multiple choices question).

☐   I am a student. (1)

☐   I am unable to work. (2)

☐   I am looking for a new job. (3)

☐   I was laid off. (4)

☐   I lost my previous job due to personal reasons. (5)

☐   I am retired. (6)

☐   I am a homemaker. (7)

☐   Other reasons (please specify) (8)

_____

Q30 Do you have a job/ work under an employment contract?

○ No (1)

○ Yes (2)

Q31 Do you have a job/ work with a contract or other arrangement (your contract does not have to be written)?

○ No (1)

○ Yes (2)

Q32 How many hours per week do you work for pay?

○ 0 (1)

○ 1 – 20 (2)

○ 21 – 40 (3)

○ 41 – 50 (4)

○ More than 50 (5)

Q33 What is your highest qualification level?

○ None (1)

○ Lower than high school graduate (2)

○ High school graduate (3)

○ Some college, no degree (4)

○ Associate's degree, occupational (5)

○ Associate's degree, academic Bachelor's degree (6)

○ Master's degree (7)

○ Professional degree (8)

○ Doctoral degree (9)

Q34 What is your highest education level?

○ I did not go to school (1)

○ primary school (2)

○ junior high school (3)

○ high school (4)

○ college (5)

○ Bachelor's degree   (6)

○ Master's degree (7)

○ Doctoral degree (8)

Q35 What is your personal income per week?

○ equals and lower than £200 (1)

○ More than £200 and less or equals than £300   (2)

○ More than £300 and less or equals than £400   (3)

○ More than £400 and less or equals than £550 (4)

○ More than £550 (5)

Q36 What is your personal income per year?

○ Less than ¥60000 (1)

○ More than ¥60001 and less than or equals ¥100000 (2)

○ More than ¥100001 and less than or equals ¥150000 (3)

○ More than ¥150001 and less than or equals ¥300000 (4)

○ More than ¥300001 (5)

Q37 What is your personal income per year?

○ Less than or equals $36,618 (1)

○ More than $36,619 and less than or equals $50,962 (2)

○ More than $50963 and less than or equals $70,689 (3)

○ More than $70,690 and less than or equals $108,234 (4)

○ More than $108,235 (5)

Q38 What is your age?

○ Under 15 (1)

○ 16 - 17 (8)

○ 18 - 24 (2)

○ 25 - 34 (3)

○ 35 - 44 (4)

○ 45 - 54 (5)

○ 55 - 64 (6)

○ 65 or older (7)

Q39 What is your gender?

○ Female (1)

○ Male (2)

○ Others (3)

○ Prefer not to say (4)

Display This Question:

If In which country do you currently reside? = The United Kingdom of Great Britain and Northern Ireland

Q40 To which racial or ethnic group(s) do you most identify?

○ White (1)

○ Mixed or Multiple ethnic groups (2)

○ Asian or Asian British (3)

○ Black, African, Caribbean or Black British (4)

○ Other ethnic groups (5)

Q41 To which racial or ethnic group(s) do you most identify?

○ White (1)

○ Black or African American (2)

○ American Indian or Alaska Native (3)

○ Asian (4)

○ Native Hawaiian or Other Pacific Islander (5)

X→

Q43 What is your nationality?

▼ Afghanistan (1) ... Zimbabwe (1357)

End of Block: Personal Details

VI. Mandarin Version Questionnaire

内容创作平台使用情况研究

Q1 内容创作平台使用情况研究

尊敬的女士/先生，

您好！我邀请您通过填写此问卷参与我们关于**内容创作平台**使用情况的研究。本研究的目的是了解内容创作平台的使用方式以及内容在平台上被提供或分享的方式和原因。

内容创作平台是为内容创作者提供创意资源和分享功能的开放平台。平台用户可以与其他用户在这些平台上搜索、使用、创建或共享虚拟内容。这些平台包括短视频平台（如抖音、Bilibili）、微型博客平台（如微博）、直播平台（如斗鱼）、小说创作平台（如起点中文网）以及其他类型的平台。

这项研究是我在杜伦大学商学院（英国）攻读博士学位的一部分，我的导师是 Bernd Brandl 教授，Jeremy Aroles 副教授和 Peter Hamilton 副教授。

此问卷被分为了不同部分，分别探讨您使用或创建在线内容的动机和背景。在问卷的最后，您会被问及一些个人信息。

我建议您按照问题出现的顺序回答——您只需单击每组问题末尾的下一步按钮。您也可以使用**问卷目录**（在下一页出现并会在每页中作为菜单显示）以在不同的问题模块间移动。

在提交问卷前，您的所有回答都会被自动保存。因此您可以多次打开问卷，分次完成所有题目。您也可以通过在每个模块前显示的**进度条**查看您还有多少问题没有回答。

您所有提交的答案和信息我们都将严格保密。任何使用您回答和信息的分析都将会完全匿名，您的姓名不会以任何形式被获取。如果您愿意，我们会为您提供我们最终的研究结果。

完成本问卷大约需要 15-20 分钟。如果您能提供所有问题的答案，我将不胜感激。如果您有不方便回答的问题，请跳过它们并继续回答其他题目。

如果您更倾向于使用英语参与本次研究，请点击 Study on the Use of Content Creative

如果您有任何问题或需要进一步有关本研究的信息，请通过电子邮件与我联系：Yin Liang (*yin.liang@durham.ac.uk*)

非常感谢您的合作。

Q2
本模块列出了一些与内容创作平台使用情况有关的基本问题。

Q52 能否请您留下您的电子邮件地址，以便我们进行后续的研究？

_____

Q53 您之前是否填写过这份问卷？

○ 是 (1)

○ 否 (2)

Q3 您是否曾经使用过（包括阅读/观看，查找等）内容创作平台上的内容？

○ 是 (1)

○ 否 (2)

Q4 您是否曾在内容创作平台上创作或发表过内容？

○ 是 (1)

○ 否 (2)

Page Break

✳

Q5 请选择您经常使用的内容创意平台。

您可以在下面的列表中选择最多 5 个您经常使用的内容创作平台。

请注意，您可以在本列表末尾处添加任何您经常使用但未显示在列表中的平台。

☐ 爱聊 (1)

☐ 百度贴吧 (2)

☐ 哔哩哔哩 (3)

☐ 测测星座 (4)

☐ 唱吧 (5)

☐ 唱鸭 (6)

☐ 大众点评 (7)

☐ 得物 (8)

☐ 第一弹 (9)

☐ 抖音 (10)

☐ 斗鱼 (11)

☐ 豆瓣 (12)

☐ 好看视频 (13)

☐ 嗨秀秀场 (14)

☐ 虎扑 (15)

☐ 虎牙直播 (16)

☐ 简书 (17)

☐ 今日校园 (18)

☐ 九秀直播 (19)

☐ 考研帮 (20)

☐ 酷狗直播 (21)

☐ 快手 (22)

☐ 荔枝 (23)

☐ 脸疼 (24)

☐ 灵感 (25)

☐ 绿洲 (26)

☐ 妈妈帮 (27)

☐ 马蜂窝旅游 (28)

☐ 么么直播 (29)

☐ 每日瑜伽 (30)

☐ 美拍 (31)

☐ 美篇 (32)

☐ 美柚 (33)

☐ 配音秀 (34)

☐ 皮皮虾 (35)

☐ 蜻蜓 FM (36)

☐ 去哪儿旅行 (37)

☐ 全民 K 歌 (38)

☐ 全民小视频 (39)

☐ 糖豆 (40)

☐ 腾讯 Now 直播 (41)

☐ 踢米（Timing） (42)

☐ 图虫 (43)

☐ 网易云音乐 (44)

☐ 威锋 (45)

☐ 微博 (46)

☐ 微视 (47)

☐ 我岛 (48)

☐ 喜马拉雅 FM (49)

☐ 下厨房 (50)

- [ ] 小黑盒 (51)

- [ ] 小红书 (52)

- [ ] 携程旅行 (53)

- [ ] 秀色直播 (54)

- [ ] 一直播 (55)

- [ ] 音街 (56)

- [ ] 音遇 (57)

- [ ] 映客直播 (58)

- [ ] 悦跑圈 (59)

- [ ] 崽崽 (60)

- [ ] 知乎 (61)

- [ ] 最右 (62)

- [ ] 21 Buttons (63)

- [ ] 5sing 原创音乐 (64)

- [ ] ABPV America's best pics&vids (65)

- [ ] AcFun (66)

- [ ] Amino (67)

- [ ] Answers (68)

- [ ] AnyStories (69)

- [ ] Behance (70)

- [ ] BiGO LIVE (71)

- [ ] Brainly (72)

- [ ] Caffeine: Live streaming (73)

- [ ] Calorie Counter + (74)

- [ ] Cartoon Social (75)

- [ ] Castbox (76)

- [ ] Clapper (77)

- [ ] Coco (78)

- [ ] Color Therapy Coloring Number (79)

- [ ] Dog Scanner (80)

- [ ] Dreame (81)

- [ ] edge (82)

- [ ] Facebook (83)

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☐   GoodNoverl & Books Web Novels (86)

☐   Goodreads (87)

☐   HelloTalk (88)

☐   Hinovel (89)

☐   iFunny (90)

☐   IMVU (91)

☐   Instagram (92)

☐   Issuu (93)

☐   karaoke (94)

☐   Keep (95)

☐   Likee (96)

☐   LinkedIn (97)

☐   Lobby (98)

☐   MangaToon (99)

☐   Mascot (100)

☐   Medium (101)

☐   MeetMe (102)

☐   Mixcloud (103)

- [ ] NewNew (104)

- [ ] NovelCat (105)

- [ ] Nurture (106)

- [ ] OLIO (107)

- [ ] Patreon (108)

- [ ] Pinterest (109)

- [ ] PlantSnap (110)

- [ ] Podbean Podcast App&Player (111)

- [ ] Powder (112)

- [ ] Quora (113)

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- [ ] Skinseed for Minecraft Skins (117)

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- [ ] Smule: Social Karaoke Singing (119)

- [ ] Snapchat (120)

- [ ] SoundCloud (121)

☐ Strava (122)

☐ Tap by Wattpad (123)

☐ TapTap (124)

☐ TikTok International (125)

☐ Triller (126)

☐ Tripadvisor Travels and Hotels (127)

☐ Tumblr (128)

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☐ Uplive (131)

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☐ Webnovel (135)

☐ Weverse (136)

☐ wikipedia (137)

☐ Wishbone (138)

☐ wit (139)

☐ YesAuto (140)

☐ YouTube (141)

☐ Yubo (142)

☐ ZEPETO (143)

☐ 其他（请在此处列出） *您可以添加多个平台，请使用分号(;) 分隔不同的平台。* (144) _____

Page Break ————————————————————————————

Display This Question:

If 您是否曾在内容创作平台上创作或发表过内容？ = 是

Q6 请选择您经常用来创作和分享内容的内容创作平台。

您可以在下面的列表中选择最多 5 个您经常用来创作和分享内容的内容创作平台。

请注意，您可以在本列表末尾处添加任何您经常使用但未显示在列表中的平台。

- [ ] 爱聊 (1)

- [ ] 百度贴吧 (2)

- [ ] 哔哩哔哩 (3)

- [ ] 测测星座 (4)

- [ ] 唱吧 (5)

- [ ] 唱鸭 (6)

- [ ] 大众点评 (7)

- [ ] 得物 (8)

- [ ] 第一弹 (9)

- [ ] 抖音 (10)

- [ ] 斗鱼 (11)

- [ ] 豆瓣 (12)

- [ ] 好看视频 (13)

- [ ] 嗨秀秀场 (14)

- [ ] 虎扑 (15)

- [ ] 虎牙直播 (16)

- 简书 (17)

- 今日校园 (18)

- 九秀直播 (19)

- 考研帮 (20)

- 酷狗直播 (21)

- 快手 (22)

- 荔枝 (23)

- 脸疼 (24)

- 灵感 (25)

- 绿洲 (26)

- 妈妈帮 (27)

- 马蜂窝旅游 (28)

- 么么直播 (29)

- 每日瑜伽 (30)

- 美拍 (31)

- 美篇 (32)

- 美柚 (33)

☐ 配音秀 (34)

☐ 皮皮虾 (35)

☐ 蜻蜓 FM (36)

☐ 去哪儿旅行 (37)

☐ 全民 K 歌 (38)

☐ 全民小视频 (39)

☐ 糖豆 (40)

☐ 腾讯 Now 直播 (41)

☐ 踢米（Timing） (42)

☐ 图虫 (43)

☐ 网易云音乐 (44)

☐ 威锋 (45)

☐ 微博 (46)

☐ 微视 (47)

☐ 我岛 (48)

☐ 喜马拉雅 FM (49)

☐ 下厨房 (50)

- [ ] 小黑盒 (51)

- [ ] 小红书 (52)

- [ ] 携程旅行 (53)

- [ ] 秀色直播 (54)

- [ ] 一直播 (55)

- [ ] 音街 (56)

- [ ] 音遇 (57)

- [ ] 映客直播 (58)

- [ ] 悦跑圈 (59)

- [ ] 崽崽 (60)

- [ ] 知乎 (61)

- [ ] 最右 (62)

- [ ] 21 Buttons (63)

- [ ] 5sing 原创音乐 (64)

- [ ] ABPV America's best pics&vids (65)

- [ ] AcFun (66)

- [ ] Amino (67)

- [ ] Answers (68)

- [ ] AnyStories (69)

- [ ] Behance (70)

- [ ] BiGO LIVE (71)

- [ ] Brainly (72)

- [ ] Caffeine: Live streaming (73)

- [ ] Calorie Counter + (74)

- [ ] Cartoon Social (75)

- [ ] Castbox (76)

- [ ] Clapper (77)

- [ ] Coco (78)

- [ ] Color Therapy Coloring Number (79)

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- IMVU (91)

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- [ ] TapTap (124)

- [ ] TikTok International (125)

- [ ] Triller (126)

- [ ] Tripadvisor Travels and Hotels (127)

- [ ] Tumblr (128)

- [ ] Twitch (129)

- [ ] Twitter (130)

- [ ] Uplive (131)

- [ ] VUE Vlog (132)

- [ ] Wattpad (133)

- [ ] WebComics (134)

- [ ] Webnovel (135)

- [ ] Weverse (136)

- [ ] wikipedia (137)

- [ ] Wishbone (138)

- [ ] wit (139)

☐   YesAuto (140)

☐   YouTube (141)

☐   Yubo (142)

☐   ZEPETO (143)

☐   其他（请在此处列出） *您可以添加多个平台，请使用分号(;) 分隔不同的平台。* (144) _____

End of Block: 基本问题

Start of Block: 关于内容创意平台使用的问题

Display This Question:

    If 您是否曾经使用过（包括阅读/观看，查找等）内容创作平台上的内容？ = 是

Q7
本模块列出了一些关于使用内容创作平台的陈述。

Display This Question:

    If 您是否曾经使用过（包括阅读/观看，查找等）内容创作平台上的内容？ = 是

Q8 请提供您出于不同目的使用内容创作平台的频率。

我使用内容创作平台...

	从不 (1)	很少 (2)	每月 2-3 次 (3)	每周一次 (4)	每周 2-3 次 (5)	每天 (6)
... 搜索或阅读/观看 其他内容创作者上传的娱乐相关的内容*。(1)	○	○	○	○	○	○
... 搜索或阅读/观看 其他内容创作者上传的教育相关的内容*。(2)	○	○	○	○	○	○
... 搜索或阅读/观看 其他内容创作者上传的生活方式相关的内容*。(3)	○	○	○	○	○	○
... 搜索或阅读/观看 其他内容创作者上传的商业相关的内容*。(4)	○	○	○	○	○	○
... 搜索或阅读/观看 其他内容创作者上传的政治相关的内容*。(5)	○	○	○	○	○	○
... 搜索或阅读/观看 其他内容创作者上传的艺术相关的内容*。(6)	○	○	○	○	○	○

Q9
娱乐相关内容* 包括游戏、音乐、电视节目、体育、媒体、电影、书籍等。
教育相关内容* 包括科学、校园、学习、知识分享等。
生活方式相关内容* 包括家居、美食、饮品、旅游、健身、户外、时尚、美容、爱好、兴趣、庆典、幸福、健康、奢侈品、科技等。
商业相关内容* 包括金融、职业、消费品、电子商务、非营利组织等。
政治相关内容* 包括政策、法律、军事等。
艺术相关内容* 包括文化、历史、设计等。

End of Block: 关于内容创意平台使用的问题

Start of Block: 关于内容创作的问题

Q10
本模块列出了一些关于内容创作的陈述。

Q11 请详细说明您在内容创作平台上创建和分享不同主题内容的频率。
我使用内容创作平台...

	从不 (1)	很少 (2)	每月 2-3 次 (3)	每周一次 (4)	每周 2-3 次 (5)	每天 (6)
... 创作和分享 娱乐相关的内容. (1)	○	○	○	○	○	○
... 创作和分享 教育相关的内容. (2)	○	○	○	○	○	○
... 创作和分享 生活方式相关的内容. (3)	○	○	○	○	○	○
... 创作和分享 商业相关的内容. (4)	○	○	○	○	○	○
... 创作和分享 政治相关的内容. (5)	○	○	○	○	○	○
... 创作和分享 艺术相关的内容. (6)	○	○	○	○	○	○

Q12
娱乐相关内容* 包括游戏、音乐、电视节目、体育、媒体、电影、书籍等。
教育相关内容* 包括科学、校园、学习、知识分享等。
生活方式相关内容* 包括家居、美食、饮品、旅游、健身、户外、时尚、美容、爱好、兴趣、庆典、幸福、健康、奢侈品、科技等。

商业相关内容 * 包括金融、职业、消费品、电子商务、非营利组织等。
政治相关内容 * 包括政策、法律、军事等。
艺术相关内容 * 包括文化、历史、设计等。

End of Block: 关于内容创作的问题

Start of Block: 关于内容创作动机的问题

Q13
本模块列出了一些关于内容创作平台上的内容创作动机的陈述。

Q14 您**为什么**要<u>创作</u>内容并将其<u>上传</u>到内容创作平台？
请选择您多大程度上同意以下陈述。

	非常不同意 (1)	不同意 (2)	不确定 (3)	同意 (4)	非常同意 (5)
为了使**他人**感到快乐。(1)	○	○	○	○	○
为了使**我自己**感到快乐。(2)	○	○	○	○	○
为了**反思或重温**我的经历。(3)	○	○	○	○	○
为了与**家人/朋友**保持联系。(4)	○	○	○	○	○
为了创造性地**表达自己**。(5)	○	○	○	○	○
为了记录**个人经历**。(6)	○	○	○	○	○
为了**帮助他人**。(7)	○	○	○	○	○
因为**好的品牌**要支持/**好的经验**需要分享。(8)	○	○	○	○	○
因为我想为**信息库**做出贡献。(9)	○	○	○	○	○
为了**表达**我对我所经历的负面经历的**愤怒**。(10)	○	○	○	○	○
为了**发泄负面情绪**。(11)	○	○	○	○	○
这可以帮助我**克服负面经历**。(12)	○	○	○	○	○

为了**警告他人**。(13)	○	○	○	○	○
因为我可以获得**金钱奖励**。(14)	○	○	○	○	○
因为我可以获得**非金钱奖励**（例如，更佳的声誉、更多的内容曝光机会等）。(15)	○	○	○	○	○

End of Block: 关于内容创作动机的问题

Start of Block: 关于平台使用情景的问题

Display This Question:

If 您是否曾经使用过（包括阅读/观看，查找等）内容创作平台上的内容？ = 是

Or 您是否曾在内容创作平台上创作或发表过内容？ = 是

Q15
本模块列出了一些关于平台使用情景的陈述。

Display This Question:

If 您是否曾在内容创作平台上创作或发表过内容？ = 是

Q16 *以下陈述描述了您进行内容创作相关工作时的情景因素。*
您在多大程度上同意以下陈述？

	非常不同意 (1)	不同意 (2)	不确定 (3)	同意 (4)	非常同意 (5)
在进行内容创作相关工作时，我有很大的自由度。 (1)	○	○	○	○	○
在进行内容创作相关工作时，我**应该**有很大的自由度。 (2)	○	○	○	○	○
在进行内容创作相关工作时，我有机会运用自己的判断力。 (3)	○	○	○	○	○
在进行内容创作相关工作时，我**应该**有行使自己的判断力的机会。 (4)	○	○	○	○	○
我几乎无法控制如何进行内容创作相关工作。 (5)	○	○	○	○	○
在进行内容创作相关工作时，我**应该**不受控制。 (6)	○	○	○	○	○
我做出大多数与内容创作工作相关的决定时都没有事先咨询其他人（例如平台工作人员、团队成员）。 (7)	○	○	○	○	○

我**应该**在无需咨询其他人（例如，平台工作人员、团队成员）的情况下做出大多数与内容创作工作相关的决定。(8)	○	○	○	○	○
在进行内容创作相关工作时，我无法更改工作流程。(9)	○	○	○	○	○
无法更改内容创作相关工作的流程是**应该的**。(10)	○	○	○	○	○
我的日常活动很大程度上取决于外部因素（例如平台、观众、市场等）。(11)	○	○	○	○	○
我的日常活动很大程度上取决于外部因素（例如，平台、观众、市场等）是**应该的**。(12)	○	○	○	○	○
在进行内容创作相关工作中，履行角色时我会自行作出决定。(13)	○	○	○	○	○

在进行内容创作相关工作中，履行角色时我自行作出决定是**应该的**。(14)

○　　　　　○　　　　　○　　　　　○　　　　　○

Q17 *以下陈述描述了您生活中的情景因素。*
您在多大程度上同意以下陈述？

	非常不同意 (1)	不同意 (2)	不确定 (3)	同意 (4)	非常同意 (5)
我**无法控制**发生在我身上的事情。(1)	○	○	○	○	○
对于我遇到的某些问题，我**真的无法解决**。(2)	○	○	○	○	○
对于尝试改变我生活中的许多重要事情，我**无能为力**。(3)	○	○	○	○	○
在处理生活中的问题时，我常常感到**无助**。(4)	○	○	○	○	○
有时我觉得我在生活中**被推来推去**。(5)	○	○	○	○	○
未来发生在我身上的事情**由我自己决定**。(6)	○	○	○	○	○
我**几乎可以做任何**我真正下定决心要做的事情。(7)	○	○	○	○	○

Q18 *本模块列出了一些关于个人态度和特质的陈述。*

Q19 请选择您多大程度上同意以下陈述。

	非常不同意 (1)	不同意 (2)	不确定 (3)	同意 (4)	非常同意 (5)
如果没有得到鼓励，我有时**很难继续工作**。(1)	○	○	○	○	○
如果没有按照自己的方式行事，我有时会感到**不满**。(2)	○	○	○	○	○
有时我想**反抗当权者**，即使我知道他们是对的。(3)	○	○	○	○	○
不管和谁说话，我总是一个**很好的倾听者**。(4)	○	○	○	○	○
我曾经**利用过某人**。(5)	○	○	○	○	○
当我犯错时，我**愿意承认**。(6)	○	○	○	○	○
和原谅和忘记相比，有时我会**尝试讨回公道**。(7)	○	○	○	○	○
我总是**彬彬有礼**，即使对讨厌的人也是如此。(8)	○	○	○	○	○
当人们表达与我截然不同的想法时，我**从不生气**。(9)	○	○	○	○	○

有些时候我很**嫉妒**别人的好运。 (10)	○	○	○	○	○
我有时会被那些向我帮忙的**人激怒**。 (11)	○	○	○	○	○
我从来没有故意说伤害别人感受的话。 (12)	○	○	○	○	○

Page Break

Q20 请选择与您进行以下行为的频率相符的选项。

	从未 (1)	一次 (2)	超过一次 (3)	常常 (4)	总是 (5)
我曾经给一个陌生人指过路。(1)	○	○	○	○	○
我曾经为一个陌生人做出了改变。(2)	○	○	○	○	○
我曾经给慈善机构捐过钱。(3)	○	○	○	○	○
我曾经把钱给过一个有需要的陌生人（或向我要钱的陌生人）。(4)	○	○	○	○	○
我曾经向慈善机构捐赠过物品或衣服。(5)	○	○	○	○	○
我曾经献过血。(6)	○	○	○	○	○
我曾经帮助陌生人搬运过物品（比如书籍、包裹等）。(7)	○	○	○	○	○
我曾经坐电梯的时候为了等待陌生人推迟了电梯的关门时间。(8)	○	○	○	○	○
我曾经允许某人在排队的时候排在我的前面（比如在超市排队时）。(9)	○	○	○	○	○

我曾经允许陌生人**搭我的车**。(10)	○	○	○	○	○
我曾经在结账时**指出了店员少收了我的钱的错误**（比如在银行或超市）。(11)	○	○	○	○	○
我曾经将一件对我**有价值的物品**（例如，盘子、工具等）借给了一位我并不熟识的邻居。(12)	○	○	○	○	○
我曾经特意购买过**"慈善"产品**，因为我知道这会带来好的影响。(13)	○	○	○	○	○
我曾经帮助过一个我不太了解的同学**完成作业**，因为当时我掌握的知识比他（她）多。(14)	○	○	○	○	○
我曾经主动提出**自愿无偿照看邻居的宠物或孩子**。(15)	○	○	○	○	○
我曾经主动帮助陌生的残疾人或老年人**过马路**。(16)	○	○	○	○	○

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| 我曾经在公共汽车或火车上**把我的座位让给了一个站着的陌生人。**(17) | ○ | ○ | ○ | ○ | ○ |
| 我曾经帮助过一个熟人**搬家。**(18) | ○ | ○ | ○ | ○ | ○ |

Page Break

Q21 您多大程度上同意以下陈述？

	非常不同意 (1)	不同意 (2)	不确定 (3)	同意 (4)	非常同意 (5)
支持别人让我感到**很开心**。(1)	○	○	○	○	○
我觉得**没有义务**对他人做出无私行为。(2)	○	○	○	○	○
当我做出无私行为时，我**没有**很大的幸福感。(3)	○	○	○	○	○
我认为我**有义务**为其他人挺身而出。(4)	○	○	○	○	○
在我用自己的能力帮助别人后，总是**感觉很好**。(5)	○	○	○	○	○
我**不认为**做出无私行为是我的责任。(6)	○	○	○	○	○
帮助一些表现不佳的人**不会**使我心情愉悦。(7)	○	○	○	○	○
在允许的情况下，我对于帮助其他人**有强烈的责任感**。(8)	○	○	○	○	○

Display This Question:

    If 您是否曾在内容创作平台上创作或发表过内容？ = 是

Q22
本模块列出了一些关于工作与生活平衡的陈述。

Display This Question:

    If 您是否曾在内容创作平台上创作或发表过内容？ = 是

Q23 您在多大程度上同意以下陈述？

	非常不同意 (1)	不同意 (2)	不确定 (3)	同意 (4)	非常同意 (5)
我有一套**明确的目标和目标**，使我能够进行内容创作的相关工作。(1)	○	○	○	○	○
我发表的意见**能够影响**我所进行的内容创作相关工作。(2)	○	○	○	○	○
在进行内容创作相关工作时，我**有机会发挥我的能力**。(3)	○	○	○	○	○
我当前感觉**很好**。(4)	○	○	○	○	○
我所工作的平台为我提供了**足够的设施和灵活性**，以适应我的**家庭生活**。(5)	○	○	○	○	○
我目前的**工作时间/工作模式**适合我的个人情况。(6)	○	○	○	○	○
在进行内容创作相关工作时，我常感到**压力**。(7)	○	○	○	○	○
当我创作出一个好的内容时，**会得到我所工作的平台的承认**。(8)	○	○	○	○	○

最近我感到**郁闷和不开心**。(9)	○	○	○	○	○
我对我的生活**很满意**。(10)	○	○	○	○	○
我**被鼓励**学习新技能。(11)	○	○	○	○	○
我**参与了影响与内容创作相关工作的决策**(12)	○	○	○	○	○
我所工作的平台为我**提供了创作内容所需的东西**。(13)	○	○	○	○	○
我所工作的平台**积极地促进灵活的工作时间/工作模式**。(14)	○	○	○	○	○
在大多数方面，我的生活都**接近理想情况**。(15)	○	○	○	○	○
我在**安全的环境中**工作。(16)	○	○	○	○	○
通常来说，我所遇到的事情都**很顺利**。(17)	○	○	○	○	○
我对我所工作的平台上为我提供的职业机会感到**满意**。(18)	○	○	○	○	○

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| | ○ | ○ | ○ | ○ | ○ |

我经常在进行内容创作的相关工作中**感到压力过大**。(19)

我对**我接受的培训感到满意**，以便执行我目前的虚拟内容相关工作。(20)

最近，想到所有事情，我一直感到**相当高兴**。(21)

我的工作条件**令我满意**。(22)

我**参与了我在自己的内容创作相关工作的平台的决策**。(23)

我对我的工作生涯的整体质量**感到满意**。(24)

Page Break

Q24 您在多大程度上同意以下陈述？

	非常不同意 (1)	不同意 (2)	不确定 (3)	同意 (4)	非常同意 (5)
我很满意我的内容创作相关工作和个人/家庭生活之间**分配时间的方式。** (1)	○	○	○	○	○
我很满意我的内容创作相关工作和家庭之间**分配注意力的方式。** (2)	○	○	○	○	○
我很满意我的内容创作相关**工作和个人/家庭生活的融合程度。** (3)	○	○	○	○	○
我很满意我拥有**平衡内容创作相关工作的需求与个人或家庭生活需求的能力。** (4)	○	○	○	○	○
我很满意我拥有能够**同时很好地完成内容创作相关工作和充分履行与家庭相关的职责的机会。** (5)	○	○	○	○	○

End of Block: 关于工作生活平衡的问题

Q25
在本模块中，您将被问及一些有关数字设备使用行为的技术性问题。

Q26 您是否会在校外/工作场所外使用计算机？

○ 是 (1)

○ 否 (2)

Q27 您会在校外/工作场所外在哪里使用计算机？
请选择 1-3 个选项并排序，然后将它们拖到屏幕右侧的框中。

请将至多 3 个场所拖到本框中，并排序

_____ 我生活的地方 (1)

_____ 网吧 (2)

_____ 学校/学院 (3)

_____ 朋友/亲戚处 (4)

_____ 社区活动中心 (5)

_____ 公共图书馆 (6)

_____ 家 (7)

_____ 其他（请注明）(8)

Q28 您可以在校外/工作场所外连接到互联网吗？

○ 可以 (1)

○ 不可以 (2)

Q29 您最常使用哪种类型的网络连接方式？

○ 宽带 (ADSL) (1)

○ 手机（GPRS、3G/4G/5G 等） (2)

○ 无线网 (3)

Q30 您是什么时候开始使用电脑的？

○ 过去 5 年内 (1)

○ 6 到 10 年前 (2)

○ 11 到 15 年前 (3)

○ 16 年前 (4)

Q31 您最初是如何学习使用计算机的?
请选择您同意以下陈述的程度。

	非常不同意 (1)	不同意 (2)	不确定 (3)	同意 (4)	非常同意 (5)
自学。 (1)	○	○	○	○	○
家人教我的。 (2)	○	○	○	○	○
朋友教我的。 (3)	○	○	○	○	○
在学校学习的。 (4)	○	○	○	○	○
通过社区课程学习的。 (5)	○	○	○	○	○
通过大学的培训课程学习的。 (6)	○	○	○	○	○

Q32 如果您通过其他方式学习了如何使用计算机,请在此处说明:

_____

Q33 当您在使用信息和通信技术* 时遇到问题时,您会在哪里寻求帮助?
请选择您同意以下陈述的程度。
信息和通信技术 (ICT)* 是信息技术 (IT) 的广义术语,指所有通信技术,包括互联网、无

线网络、手机、计算机、软件、中间件、视频会议、社交网络和 其他媒体应用程序和服务，使用户能够以数字形式访问、检索、存储、传输和操作信息。

	非常不同意 (1)	不同意 (2)	不确定 (3)	同意 (4)	非常同意 (5)
自己解决。(1)	○	○	○	○	○
咨询朋友。(2)	○	○	○	○	○
咨询家人。(3)	○	○	○	○	○
咨询 IT 支持机构。(4)	○	○	○	○	○
参考手册/帮助页面。(5)	○	○	○	○	○
咨询平台的 IT 支持部门。(6)	○	○	○	○	○

Q34 当您在使用信息和通信技术* 时遇到问题时，有其他的途径获取帮助，请在此处说明:

_____

End of Block: 技术性问题

Start of Block: 个人信息

Q35
这是问卷的最后一个模块。本模块中的问题与您的个人信息有关。

Q36 您现在居住在哪一个国家？

○ 中国 (1)

○ 美国 (2)

○ 英国 (3)

○ 其他国家或地区 (4)

Q37 您目前有带薪工作吗？

○ 有 (1)

○ 没有 (2)

Q38 您目前有无薪工作吗？

○ 有 (1)

○ 没有 (2)

Q39 您对将来从这份无薪工作中获得经济回报的信心有多大？

○ 毫无信心 (1)

○ 不是很有信心 (2)

○ 有信心 (3)

○ 非常有信心 (4)

Q40 您有多少份工作?

○ 0 (1)

○ 1 (2)

○ 2 (3)

○ 3 个及以上 (4)

Q41 请选择您目前没有工作的原因（多选题）。

☐　　我是学生。 (1)

☐　　我无法工作。 (2)

☐　　我正在寻找一份新工作。 我被解雇了。 (3)

☐　　由于个人原因，我失去了以前的工作。 (4)

☐　　我退休了。 (5)

☐　　我是一个家庭主妇。 (6)

☐　　其他原因（请注明） (7)

_____

Q42 您是否有一份存在雇佣合同的工作?

○ 是 (1)

○ 否 (2)

Q43 您是否有一份存在其他形式的合同或协议的工作（不一定是书面形式下的）？

○ 是 (1)

○ 否 (2)

Q44 您每周的带薪工作时长是多少小时?

○ 0 (1)

○ 1 – 20 (2)

○ 21 – 40 (3)

○ 41 – 50 (4)

○ 超过 50 小时 (5)

Q45 您的最高学历是什么?

○ 无 (1)

○ 高中以下 (2)

○ 高中 (3)

○ 中专 (4)

○ 大专 (5)

○ 本科 (6)

○ 硕士 (7)

○ 博士 (8)

Q46 您的个人年收入是多少?

○ 不到 60000 元 (1)

○ 60001 元到 100000 元 (2)

○ 100001 元到 150000 元 (3)

○ 150001 元到 300000 元 (4)

○ 超过 300001 元 (5)

Q47 您的年龄是多少？

○ 15 岁以下 (1)

○ 16 – 17 岁 (2)

○ 18 – 24 岁 (3)

○ 25 – 34 岁 (4)

○ 35 – 44 岁 (5)

○ 45 – 54 岁 (6)

○ 55 – 64 岁 (7)

○ 65 岁或以上 (8)

Q48 你的性别是什么？

○ 女 (1)

○ 男 (2)

○ 其他 (3)

○ 不想说 (4)

End of Block: 个人信息

VII. Search Code for Systematic Review

Scopus:
TITLE-ABS-KEY ("Algorithm*" OR "Metrics" OR "Ranking" OR "Recommender system" OR "visibility" OR "invisibility") AND TITLE-ABS-KEY ("Social media" OR "Social networking sites" OR "Attention economy" OR "Digital labo*" OR "Immaterial labo*" OR "User-generated content" OR "Live streaming" OR "Content creation" OR "micro celebrit*" OR "micro-celebrit*" OR "internet celebrit*" OR "content creator*" OR "blogger*" OR "vlogger*" OR "influencer*" OR "streamer*" OR "camgirl*" OR "YouTuber*" OR "Instagram*" OR "social media producer*" OR "digital producer*" OR "content producer*") AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (SUBJAREA , "BUSI")) AND (LIMIT-TO (LANGUAGE , "English"))

Web of Science:

TS=("algorithm*" Or "Metrics" Or "Ranking" Or "Recommender system" Or "visibility" Or "invisibility") AND (TS=("Social media") OR TS=("Social networking site*")) OR TS=("Attention economy") OR TS=("Digital labo*") OR TS=("Immaterial labo*") OR TS=("User-generated content") OR TS=("Live streaming") OR TS=("Content creation") OR TS=("micro celebrit*") OR TS=("micro-celebrit*") OR TS=("internet celebrit*") OR TS=("content creator*") OR TS=("blogger*") OR TS=("vlogger*") OR TS=("influencer*") OR TS=("streamer*") OR TS=("camgirl*") OR TS=("YouTuber*") OR TS=("Instagram*") OR TS=("social media producer*") OR TS=("digital producer*") OR TS=("content producer*")) and Article (Document Types) and Business or Management or Social Sciences Interdisciplinary (Web of Science Categories) and Article (Document Types)

EBSCO Business Source Ultimate:

S10   S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9

S9   (KW "algorithm*" OR KW "Metrics" KW "Ranking" OR KW "Recommender system" OR KW "visibility" OR KW "invisibility") AND (KW "social media" OR KW "social networking sites" OR KW "attention economy" OR KW "digital labo*" OR KW "Immaterial labo*" OR KW "User-generated content" OR KW "Live streaming" OR KW "content creation" OR KW "micro celebrit*" OR KW "micro-celebrit*" OR KW "internet celebrit*" OR KW "content creator*" OR KW "blogger*" OR KW "vlogger*" OR KW "influencer*" OR KW "streamer*" OR KW "camgirl*" OR KW "YouTuber*" OR KW "Instagram*" OR KW "social media producer*" OR KW "digital producer*" OR KW "content producer*")

S8   (KW "algorithm*" OR KW "Metrics" KW "Ranking" OR KW "Recommender system" OR KW "visibility" OR KW "invisibility") AND (AB "social media" OR AB "social networking sites" OR AB "attention economy" OR AB "digital labo*" OR AB "Immaterial labo*" OR AB "User-generated content" OR AB "Live streaming" OR AB "content creation" OR AB "micro celebrit*" OR AB "micro-celebrit*" OR AB "internet celebrit*" OR AB "content creator*" OR AB "blogger*" OR AB "vlogger*" OR AB "influencer*" OR AB "streamer*" OR AB "camgirl*" OR AB "YouTuber*" OR AB "Instagram*" OR AB "social media producer*" OR AB "digital producer*" OR AB "content producer*")

S7   (KW "algorithm*" OR KW "Metrics" OR KW "Ranking" OR KW "Recommender system" OR KW "visibility" OR KW "invisibility") AND (TI "social media" OR TI "social networking sites" OR TI "attention economy" OR TI "digital labo*" OR TI "Immaterial labo*" OR TI "User-generated content" OR TI "Live streaming" OR TI "content creation" OR TI "micro celebrit*" OR TI "micro-celebrit*" OR TI "internet celebrit*" OR TI "content creator*" OR TI "blogger*" OR TI "vlogger*" OR TI "influencer*" OR TI "streamer*" OR TI "camgirl*" OR TI "YouTuber*" OR TI "Instagram*" OR TI "social media producer*" OR TI "digital producer*" OR TI "content producer*")

S6   (AB "algorithm*" OR AB "Metrics" OR AB "Ranking" OR AB "Recommender system" OR AB "visibility" OR AB "invisibility") AND (KW "social media" OR KW "social networking sites" OR KW "attention economy" OR KW "digital labo*" OR KW "Immaterial labo*" OR KW "User-generated content" OR KW "Live streaming" OR KW "content creation" OR KW "micro celebrit*" OR KW "micro-celebrit*" OR KW "internet celebrit*" OR KW "content creator*" OR KW "blogger*" OR KW "vlogger*" OR KW "influencer*" OR KW "streamer*" OR KW "camgirl*" OR KW "YouTuber*" OR KW "Instagram*" OR KW "social media producer*" OR KW "digital producer*" OR KW "content producer*")

S5   (AB "algorithm*" OR AB "Metrics" OR AB "Ranking" OR AB "Recommender system" OR AB "visibility" OR AB "invisibility") AND (AB "social media" OR AB "social networking sites" OR AB "attention economy" OR AB "digital labo*" OR AB "Immaterial labo*" OR AB "User-generated content" OR AB "Live streaming" OR AB "content creation" OR AB "micro celebrit*" OR AB "micro-celebrit*" OR AB "internet celebrit*" OR AB "content creator*" OR AB "blogger*" OR AB "vlogger*" OR AB "influencer*" OR AB "streamer*" OR AB "camgirl*" OR AB "YouTuber*" OR AB "Instagram*" OR AB "social media producer*" OR AB "digital producer*" OR AB "content producer*")

S4   (AB "algorithm*" OR AB "Metrics" OR AB "Ranking" OR AB "Recommender system" OR AB "visibility" OR AB "invisibility") AND (TI "social media" OR TI "social networking sites" OR TI "attention economy" OR TI "digital labo*" OR TI "Immaterial labo*" OR TI "User-generated content" OR TI "Live streaming" OR TI "content creation" OR TI "micro celebrit*" OR TI "micro-celebrit*" OR TI "internet celebrit*" OR TI "content creator*" OR TI "blogger*" OR TI "vlogger*" OR TI "influencer*" OR TI "streamer*" OR TI "camgirl*" OR TI "YouTuber*" OR TI "Instagram*" OR TI "social media producer*" OR TI "digital producer*" OR TI "content producer*")

S3   (TI "algorithm*" OR TI "Metrics" OR TI "Ranking" OR TI "Recommender system" OR TI "visibility" OR TI "invisibility") AND (KW "social media" OR KW "social networking sites" OR KW "attention economy" OR KW "digital labo*" OR KW "Immaterial labo*" OR KW "User-generated content" OR KW "Live streaming" OR KW "content creation" OR KW "micro celebrit*" OR KW "micro-celebrit*" OR KW "internet celebrit*" OR KW "content creator*" OR KW "blogger*" OR KW "vlogger*" OR KW "influencer*" OR KW "streamer*" OR KW "camgirl*" OR KW "YouTuber*" OR KW "Instagram*" OR KW "social media producer*" OR KW "digital producer*" OR KW "content producer*")

S2   (TI "algorithm*" OR TI "Metrics" OR TI "Ranking" OR TI "Recommender system" OR TI "visibility" OR TI "invisibility") AND (AB "social media" OR AB "social networking sites" OR AB "attention economy" OR AB "digital labo*" OR AB "Immaterial labo*" OR AB "User-generated content" OR AB "Live streaming" OR AB "content creation" OR AB "micro celebrit*" OR AB "micro-celebrit*" OR AB "internet celebrit*" OR AB "content creator*" OR AB "blogger*" OR AB "vlogger*" OR AB "influencer*" OR AB "streamer*" OR AB "camgirl*" OR AB "YouTuber*" OR AB "Instagram*" OR AB "social media producer*" OR AB "digital producer*" OR AB "content producer*")

S1   (TI "algorithm*" OR TI "Metrics" OR TI "Ranking" OR TI "Recommender system" OR TI "visibility" OR TI "invisibility") AND (TI "social media" OR TI "social networking sites" OR TI "attention economy" OR TI "digital labo*" OR TI "Immaterial labo*" OR TI "User-generated content" OR TI "Live streaming" OR TI "content creation" OR TI "micro celebrit*" OR TI "micro-celebrit*" OR TI "internet celebrit*" OR TI "content creator*" OR TI "blogger*" OR TI "vlogger*" OR TI "influencer*" OR TI "streamer*" OR TI "camgirl*" OR TI "YouTuber*" OR TI "Instagram*" OR TI "social media producer*" OR TI "digital producer*" OR TI "content producer*")

Limiters/Expanders

Limiters - Peer Reviewed; Publication Type: Academic Journal; Document Type: Article; Language: English
Expanders - Apply equivalent subjects
Search modes - Boolean/Phrase

Appendix B
I.   The Cluster Result Heatmap

ITEMS	Cluster 1 n = 45	Cluster 2 n = 32	Cluster 3 n = 33	Cluster 4 n = 33
Number of Content Themes (Total = 6)	2.84	2.56	1.58	2.09
Number of Content Types (Total = 6)	2.53	2.00	1.88	2.55
Number of Technical Access (Total = 5)	2.89	2.50	2.12	2.06
No registration required for content access	80.00%	62.50%	33.33%	21.21%
No additional conditions required for content access	82.22%	90.63%	87.88%	72.73%
Synchronous Communication Technology	2.22%	81.25%	15.15%	15.15%
Asynchronous Communication Technology	31.11%	18.75%	60.61%	45.45%
Both Synchronous and Asynchronous Communication Technology (Hybrid)	66.67%	0.00%	24.24%	39.39%
The User identification feature	0.00%	18.75%	30.30%	90.91%
The search feature	97.78%	0.00%	69.70%	93.94%
The filter feature	53.33%	18.75%	6.06%	21.21%
The block feature	80.00%	50.00%	72.73%	75.76%
The forward feature	26.67%	3.13%	0.00%	39.39%
The share feature	0.00%	90.63%	75.76%	93.94%
The comment feature	97.78%	87.50%	78.79%	0.00%
The like feature	84.44%	81.25%	75.76%	0.00%
The favourite feature	88.89%	84.38%	21.21%	48.48%
Platform set up paid membership system.	42.22%	28.13%	45.45%	75.76%
The platform has authorised users.	91.11%	3.13%	9.09%	81.82%
The platform has other type of users.	42.22%	34.38%	18.18%	48.48%
Content creators can set permissions to read their content.	46.67%	31.25%	30.30%	21.21%
Content creators can modify uploaded content.	46.67%	84.38%	9.09%	36.36%
Content creators can delete uploaded content.	88.89%	81.25%	69.70%	84.85%
The Badges system is used to incentivise content creation.	28.89%	46.88%	27.27%	90.91%
The platform will host content motivation activities.	60.00%	31.25%	33.33%	78.79%
Platform development speed - slowest quartile	2.22%	56.25%	30.30%	21.21%
Platform development speed - slower quarters	13.33%	21.88%	33.33%	33.33%
Platform development speed – faster quarters	28.89%	12.50%	24.24%	33.33%
Platform development speed - the fastest quarter	55.56%	9.38%	12.12%	12.12%
Platform size – smallest quartile	6.67%	50.00%	33.33%	18.18%
Platform size – smaller quartile	11.11%	25.00%	42.42%	24.24%
Platform size – larger quartile	15.56%	21.88%	18.18%	48.48%
Platform size – largest quartile	66.67%	3.13%	6.06%	9.09%
The platform provides direct rewards for the creators' content.	35.56%	18.75%	15.15%	45.45%
The platform provides indirect rewards for the creators' content.	13.33%	9.38%	3.03%	15.15%
The platform provides both direct and indirect rewards for the creators' content.	20.00%	18.75%	81.82%	12.12%
The platform does not provide rewards for the creators' content.	31.11%	53.13%	0.00%	27.27%

Note:
1. This heatmap reflects key traits of each cluster.
2. Hierarchical clustering method is used with Ward's minimum variance method.

3. For the variables Number of *Content Themes (Total = 6), Number of Content Types (Total = 6), and Number of Technical Access (Total = 5)*, the numbers in the table represent the average of all platforms in the cluster. For other variables, the numbers in the table represent the proportion of eligible platforms in the cluster to all platforms in the cluster.

Appendix C

I.   Variable Definition and Data Sources

Variable Name	Survey Question	Answer Categories	Notes
Dependent variable			
Side Hustler	Have you ever created and uploaded contents on content creative platforms?	Yes/No	Side hustlers are categorized by having select 'Yes' to both of the questions.
	Do you have a job/ work under an employment contract?		
Key independent variables			
Flexibility	The platform(s) on which I work provide(s) adequate facilities and flexibility for me to fit work in around my family life.	a. strongly disagree b. somewhat disagree c. neither agree nor disagree d. somewhat agree e. strongly agree	N/A
	The platform(s) I worked for actively promotes flexible working hours /patterns.		
Control at work	I feel able to voice opinions and influence changes in my virtual contents related works.		
	I am involved in decisions that affect me in my virtual contents related works.		
Working conditions	The platform(s) I worked for provide(s) me with what I need to do my virtual contents related works effectively.		
Recognition	When I finish a good virtual content it is acknowledged by the platform(s) I worked for.		
Control variables			
Income	UK respondents: What is your income per week?	a. equals and lower than £200 b. More than £200 and less or equals than £300 c. More than £300 and less or equals than £400 d. More than £400 and less or equals than £550 e. More than £550 Answer categories are on basis of (IFS, 2022).	Based on the responses and by considering differences in the income level between countries (WorldBank, 2022), we classified 5 levels of income for respondents from the three countries. We defined individuals with a low income by respondents who select option a for each question. All other individuals with a higher income than a were defined as higher income earners (i.e. respondents who select option b, c, d, e for each question). The answer categories represent the quartile of the national income level published by the UK, the US and China statistical offices (see sources before), as our research focuses on content creators who work on those countries' platforms. We also collected and considered data from Europe (excluding the UK). Respondents are located to the question based on their answer of 'In which country do you currently reside?'. People who reside in any other European county (other than the UK) are differentiated in their income according to the US income level question/options. However, this categorization only differs marginally to the British categories and results are robust for using different categorizations.
	China Respondents: What is your annual income?	a. Less than ¥60000 b. More than ¥60001 and less than or equals ¥100000 c. More than ¥100001 and less than or equals ¥150000 d. More than ¥150001 and less than or equals ¥300000 e. More than ¥300001 Answer categories are on basis of Ning et al. (2021).	
	US Respondents: What is your personal income per year?	a. Less than or equals $36,618 b. More than $36,619 and less than or equals $50,962 c. More than $50963 and less than or equals $70,689 d. More than $70,690 and less than or equals $108,234 e. More than $108,235 Answer categories are on basis of Shrider et al. (2021).	
Number of Jobs	How many jobs/ works do you have?	a. 0 b. 1 c. 2 d. 3 and more	N/A

Motivation monetary rewards	I create and upload contents to content creative platforms because I can get monetary rewards for it.	a. strongly disagree b. somewhat disagree c. neither agree nor disagree d. somewhat agree e. strongly agree	N/A
Country	In which country do you currently reside?	a. The United Kingdom of Great Britain and Northern Ireland b. United States of America c. China d. Other country / region	For respondents who select the option d 'Other country/region', we tracked their IP address to locate the country they reside currently. We only keep Europe residents to group the category 'Europe (excluding the UK)'.
Type of content	I use content creative platform to create and share entertainment contents. I use content creative platform to create and share education contents. I use content creative platform to create and share lifestyle contents. I use content creative platform to create and share business contents. I use content creative platform to create and share politics contents. I use content creative platform to create and share art contents.	a. Never b. Less often c. 2-3 times per month d. Once per week e. 2-3 times per week f. Daily	We questioned respondents' content creation behaviour seperately. That is, we have 6 questions to ask respondents' frequency of creating contents, targeting to 6 different themes listed above. We explained each theme in details at the same page, for respondents better understand the questions: Entertainment contents* include gaming, music, TV shows, sports, media, movies, books, etc. Education contents* include science, Campus, study, knowledge sharing, etc. Lifestyle contents* include home, food, drink, travel, fitness, outdoors, fashion, beauty, hobbies, interests, celebrations, well-being, health, luxury, technology, etc. Business contents* include finance, careers, consumer goods, ecommerce, non-profit and organisations, etc. Political contents* include policies, law, military, etc. Art contents* include culture, history, design, etc.
Education	UK/US/Europe Respondents: What is your highest education level?	a. None b. Lower than high school graduate c. High school graduate d. Some college, no degree e. Associate's degree, occupational f. Associate's degree, academic Bachelor's degree g. Master's degree h. Professional degree i. Doctoral degree Answer categories are on basis of GOV.UK (2022).	We finally merged the options for UK/US/Europe residents and the options for China residents by using the UK/US/Europe residents options. Specifically, option b and c for China residents are merged into option b for UK/US/Europe residents. Additionally, there is no options for China residents belongs to option d (some college, no degree) and option h (professional degree) for UK/US/Europe residents.
	China Respondents: What is your highest education level?	a. None b. Primary School c. Junior High School d. High School e. College f. Bachelor's degree g. Master's degree h. Doctoral degree Answer categories are on basis of of Ma et al. (2010).	
Age	What is your age?	a. Under 15 b. 16-17 c. 18 - 24 d. 25 - 34 e. 35 - 44 f. 45 - 54 g. 55 - 64	N/A
Gender	What is your gender?	a. female b. male c. others d. prefer not to say	We controlled the respondents who select option female and others, which is a dummy variable. It is because we only have few samples selected option c and d, so we assume that even if we ignore them the error will be small.