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Digital online music in China – A “laboratory” for business experiment

Xiaobai Shen^{a,*}, Robin Williams^b, Shufeng Zheng^c, Yinliang Liu^c, Yixiao Li^c, Martina Gerst^d

^a University of Edinburgh Business School, United Kingdom

^b University of Edinburgh, Institute for the Study of Science, Technology and Innovation, United Kingdom

^c Peking University (PKU) Law School, P.R. China

^d Tsinghua University, Business School, P.R. China



1. Introduction

Digital technology with its near zero copying and (since the internet) transmission costs has disrupted value chains based upon the trading of music and other cultural products stored on physical media such as records or compact disks (CDs). A 2014 Special Issue of *Technological Forecasting and Social Change*, examined these processes of “disassembly” and “reassembly” of business and service models (Mangematin et al., 2014: 2). It highlighted the efforts of entrenched industry players in the West to reassert their control over the sector (Blanc and Huault, 2014; Dobusch and Schüßler, 2014), an observation confirmed by later work (Rogers and Preston, 2016; Sun, 2016).

The study we present here, conducted between 2015 and 2017, charts the strikingly different picture of China's digital music environment. The rapid proliferation of a wide-range of online services in music, film, literature and beyond is driving radical reconfiguration of business and service models and paving the way for a resurgence in its cultural industries.

Focusing in this paper on digital music services, we will show how China's so-called ‘internet giants’,¹ Baidu, Alibaba and TenCent (jointly described as BAT) have become heavily engaged with the whole process of digital cultural content creation and distribution. Exploiting, through takeover and emulation, the flowering of start-up digital music platforms and services, BAT has launched a huge range of free and low-priced services.

Our project had an overarching objective to understand how the rapid and far-reaching changes in China's digital cultural ecosystem had been shaped by China's very different institutional and legal setting. Our specific research questions addressed the distinctive dynamics of innovation in terms, respectively, of process and outcomes: how these contextual features had driven a process of sustained experimentation (discovery-driven innovation) at scale; and, how this has resulted in the

emergence of distinctive novel service models and value propositions.

Writers from organisation studies and science and technology studies (STS) have examined the potentially disruptive outcomes of digitisation in creative cultural industries. However their differing analytical tools and presumptions have generated somewhat contrasting accounts. STS would anticipate that digitisation in differing contexts may generate different pathways and outcomes. Institutional perspectives instead highlight isomorphism that might arise for example from global harmonisation of regulatory environments and shared technologies and service models. We were excited to discover conceptual and methodological convergence between STS and a group of institutionalist analysts of technological fields undergoing profound transformation (Aldrich and Fiol 1994; Lewin and Volberda, 1999; El Sawy et al., 2010; Meyer et al., 2005).

Drawing upon these complementary traditions we developed a multi-sited study of the evolving digital music ecology in China, centred on BAT and regulatory/policy players. Our contextual and processual analysis charts the complex sets of interactions and changing relationships over time between BAT and other key commercial players, regulators, creators and customers. We highlight twin distinctive features characterising the exceptional dynamism of the development of digital music and other cultural industries in the Chinese context: i) rapid and sustained reconfiguration (disassembly and reassembly) of Western templates has thrown up novel service models; and ii) China has become a laboratory for business experiment as firms responded to this rapidly evolving and uncertain context by launching at scale a rapid succession of service innovations. These have underpinned the elaboration by the internet giants of distinctive service models and cross-platform service infrastructures,² which allow diverse value propositions to be pursued.

This paper is organised into five sections. We outline our analytic framework, and discuss our methodology/research strategy. After

* Corresponding author.

E-mail addresses: xiaobai.shen@ed.ac.uk (X. Shen), r.williams@ed.ac.uk (R. Williams), yinliangliu@pku.edu.cn (Y. Liu), liyixiao@pku.edu.cn (Y. Li), Martina.Gerst@ed.ac.uk (M. Gerst).

¹ In this paper we use the actors' term ‘internet giant’, though Western usage might characterise these as social media platforms – such as Facebook Amazon Netflix Google (with the inelegant acronym FANG).

² The definition of platform varies between analytic traditions. This paper follows the usage of Plantin et al. (2018) who also highlight the emergence of *infra-structured platforms*.

characterising the Chinese context, we chart in detail the evolution of online music development. We then analyse how the development of China's digital music industry was shaped by its historical institutional and regulatory context. Our conclusion highlights the dynamic evolution of China's digital cultural ecology, through sustained discovery-driven innovation at scale and reflects upon conceptual and methodological issues involved in addressing the evolution of sectors in flux.

2. Analytical framework and research strategy

We approached these developments from a background in STS. The social shaping of technology perspective (MacKenzie and Wajcman, 1999) would anticipate that these developments might unfold in a very different manner in the contrasting context of China's digital cultural industries, shaped by differences in the legal and institutional landscape and in the strategies of the players involved and interactions between them.

Cognate research from Organisation Studies has explored the implications of digital technology for creative industries in the West. Institutional studies of established players in the music sector (Blanc and Huault, 2014; Dobusch and Schüßler, 2014), in France and Germany respectively, have drawn attention to the efforts of entrenched players to maintain the status quo in the face of potentially disruptive digitisation.

Traditional institutionalist perspectives (Di Maggio and Powell, 1991; Zysman, 1994), with their concern to explain the emergence of shared logics and practices within and between organisations (Zietsma and Lawrence, 2010; Zietsma and Mcknight, 2009), seem better equipped to address stability than dynamism (Mangematin et al., 2014; Meyer et al., 2005). In this connection, Meyer et al. (2005: 459) critically observe that “mainstream theories of industries and organisational fields presume that equilibrium is sought and achieved by firms, markets, and sectors”. They argue that “these ideas and tools do not apply” (ibid. 456) in organisational contexts far from equilibrium, such as emerging industries or industries in rapid flux. These warnings would seem highly pertinent to current disruptive digitisation (Wang et al., 2015), and in particular the developments we examine in China which seem to exhibit what El Sawy et al. (2010) have described as hypervolatility. Meyer et al. (2005) and other institutionalist analysts have begun to outline the “new intellectual perspectives and methodological heuristics” (idem: 456) that may be needed in these contexts.

Whilst neoinstitutionalism emerged around a concern to explain isomorphism, stability and equilibrium (Di Maggio and Powell, 1991; Mangematin et al., 2014; Meyer et al., 2005), STS perspectives have from the outset emphasised the need for accounts that attend to both dynamism and stability, and to both (emergent) “hot” and (institutionalised) “cold” contexts of innovation. In seeking to address in tandem the scope for action as well as the constraints of particular historical settings (Bijker, 1995; Callon, 1998; Law and Bijker, 1992) various writers have sought evolutionary explanations of change, drawing notably on work on technology regimes and paradigms from the related field of innovation studies (Dosi, 1982; Nelson and Winter, 1982), to explore how change takes place through interactive learning across a diverse ecology of actors (Andersen and Lundvall, 1988). STS analyses how technological innovations were shaped by their societal contexts (MacKenzie and Wajcman, 1999). Later work addresses the distributed ‘social learning’ processes through which suppliers, intermediaries and consumers seek to understand and exploit new technological opportunities (Sørensen, 1996).

Parallel intellectual moves have arisen within organisation studies amongst a group of analysts arguing for greater attention to be paid to rapidly changing and emerging industries (Aldrich and Fiol 1994; Lewin and Volberda, 1999; Meyer et al., 2005). They proposed very different conceptual and methodological approaches. In particular, Meyer et al. (2005) map out in detail a ‘research posture’ that is “coevolutionary, multilevel, contextual, processual, and emergent”

(idem 456) to address ‘fields in flux’ and undergoing profound transformation. Their recommendations, based on an “unabashedly social constructionist account”³ (Meyer et al. 2005: 467) demonstrate striking conceptual and methodological parallels with contemporary STS research frameworks. Thus calls by Meyer et al. (2005: 470) for multi-level and multi-temporal (historical and longitudinal) research with “nuanced temporal theorizing about cycles, pacing, and event sequences.” mirror frameworks advanced for investigating the Biography of Artefacts and Practices (Hyysalo et al., 2018; Pollock and Williams, 2009).

Other institutionalist contributions have also proposed evolutionary accounts (Lewin and Volberda, 1999; Mangematin et al., 2014), addressed through ecological approaches (Meyer et al., 2005; Aldrich and Fiol 1994; Lewin and Volberda, 1999; El Sawy et al., 2010; Wang et al., 2015) and longitudinal studies (e.g. Aldrich and Fiol 1994; Lewin and Volberda, 1999).

These debates also bear upon ecological and ecosystem perspectives. The critique advanced by Meyer et al. (2005) of equilibrium presumptions can equally be applied to life-cycle models (e.g. Waldner et al.'s, 2015 account of how opportunities for innovation vary at different stages in a product life-cycle). Such cyclical models, with their tacit presumption of homology between successive cycles, are perhaps better suited to addressing changing product cycles within a broad technology paradigm; their relevance may be questioned in the case of sectors that are emerging or in flux (like this case) where radical disruption may transform boundaries, structures and paradigms (Meyer et al., 2005).

A similar critique can be applied to ecosystem models (Shaw and Allen, 2016; Tsujimoto et al., in press), whose current popularity is driven in part by the salience of technology platforms (Wareham et al., 2014). Applying templates from biology food chains (Moore, 1993) these accounts focus on the establishment of stable structures and locations within a sector, highlighting the role of focal organisations or other governance structures (Wareham et al., 2014) in generating the alignments needed within a multilateral trading community “for a focal value proposition to materialize” (Adner, 2017: 40). These analyses of ecosystems in terms of characteristic positions and structures within the community of players, conceived as coherent systems (Tsujimoto et al., in press) or meta-organisations (Gawer, 2014) also rest upon equilibrium presumptions which are not appropriate for the developments we address. We note the observation by Tang and Lyons (2017) that existing business ecosystem models do not match well the development of digital music in China. Other, more appropriate conceptualisations are available, which we explore below. They are often couched in terms of ecologies (Abbott, 1995), to avoid the presumption of set boundaries and positions that besets much ecosystems writing.

Recent contributions helpfully focus upon the dynamics of ecosystem evolution (El Sawy et al., 2010) and the consequent tensions between stability and flexibility (Wareham et al., 2014). Wang et al. (2015) highlight the influence of community structure and context on the evolution of ecologies in the case of digital innovation strategy. They suggest that different starting points and alignments within ecologies may yield different outcomes (El Sawy et al., 2010). The scope for manoeuvre and constraint may vary across contexts (Lewin and Volberda, 1999: 523). Intriguingly, Lewin and Volberda (1999) and related organisation studies accounts, in describing how technological and institutional structures constrain in a manner that is not rigid but leaves scope for and may enable choice, have resorted to a terminology of configuration (see for example, Lewin and Volberda, 1999; El Sawy

³ See also Aldrich and Fiol (1994:649) who develop an ‘institutional constructionist’ argument that “Social contexts present entrepreneurs with many constraints, yet they also set the conditions that create windows of opportunity. Through processes of social construction, entrepreneurs can develop new meanings that may eventually alter institutional norms”.

et al., 2010; Gawer, 2014; Shaw and Allen, 2016; Adner, 2017). In so doing they serendipitously align with a parallel conceptual development in STS accounts that addresses contextual influences in technological change (Fleck, 1993; Hyysalo et al., 2018).

This departure from presumptions of isomorphism opens up questions about management strategy (Lewin and Volberda, 1999). Thus McGrath (2010) notes that traditional analytical approaches to management decision-making that might prevail in stable contexts give way in a fast moving and unpredictable environments to ‘a discovery driven approach’. In an uncertain context, “it is more sensible to engage in experimentation and discovery than to try to assume the relevant information is all known” (McGrath 2010: 252). Similarly Sosna et al. (2010) observe that, in dynamic and uncertain contexts, innovation may proceed through “trial-and-error learning” [Idem.: 402]. Thompson and MacMillan (2010) argue that such discovery-driven principles are particularly applicable when developing business models in emerging markets “characterised by significantly high - or near-Knightian - uncertainty” [Idem.: 291]. As developments are highly path-dependent – early experiments shape the trajectory for models yet to come - it is nearly impossible to anticipate which will succeed (McGrath, 2010). Incompleteness of information, particularly about user responses to new offerings, favours experimentation including collective learning experiments (de Vasconcelos Gomes et al., 2018) and other strategies to manage collective uncertainties confronting players. Thompson and MacMillan (2010: 296) suggest that these settings favour particular kinds of experimental or discovery-driven approaches, characterised by the nostrum “launch inexpensively and redirect as the business evolves ... or stop them while resource commitments are still minimal. These observations closely mirror STS analyses of social learning in technological innovation” - defined by Sørensen (1996: 6) as “a combined act of discovery and analysis” - supported through practices of experimentation and ‘learning by doing’ (Sørensen, 1996; Williams et al., 2005).

Firms may need to balance and manage tensions between experimentation and exploitation (Achtenhagen et al., 2013; Massa et al., 2017; Smith et al., 2010). Experimental approaches may give way to more carefully calculated choices geared towards securing competitive advantage as markets become stabilised (Massa et al., 2017). These observations are particularly pertinent to rapidly changing digital creative industries. Hadida and Paris (2014) criticise the continued resort to traditional value chain models despite evidence that they are not applicable or effective for industries in a state of flux like digital music. They highlight “the diversity and plurality of value propositions, the co-construction of value, and the expanded role of intermediaries in the creative industries” (Idem.: 94) despite the absence of a proven economic model.

Mangematin et al. (2014), in their introduction to the 2014 Special Issue of Technological Forecasting and Social Change on “digital technology and creative industries”, have characterised these transformations as involving processes of disassembly: “the shaking of existing business models of transaction and distribution”, and reassembly, using “new tools and architectures to interact with audiences and communities in selected creative industries” (Mangematin et al., 2014: 2). Mangematin et al. (2014) note that the papers in their collection are mainly rooted in European national settings. China offers a very different context in which to explore the radical reconfiguration of value chains in creation and distribution and consumption of cultural products. We explore the relevance of these perspectives to this multi-centric study of the opening moves in the evolution of China’s digital music ecology.

3. Methodology

3.1. Research strategies for addressing dynamic ecologies

These discussions highlight important points of conceptual overlap between STS and organisation studies in their treatment of emerging

ecologies. A much clearer convergence is evident in relation to the methodologies proposed for addressing these settings where various organisation studies scholars have turned towards the less-structured qualitative methods of enquiry traditionally favoured by constructionist STS researchers.

Meyer et al. (2005: 458) argue that organisational science researchers studying “volatile ecosystems, emerging sectors, shifting boundaries, and proliferating network forms” need to adopt more complex research strategies, triangulating between diverse historical, ethnographic and structured survey methodologies. Meyer et al. (2005: 458) note how, in seeking to engage with rapidly changing settings, their “research design shifted from cross-sectional to longitudinal data collection” while “the theoretical platform shifted from testing a variance theory to building a process theory. ... In each case, the unit of analysis shifted from focal organizations in exogenous environments, to be replaced by a set of nested units— organizations, that collectively constitute a population, amalgamated into an ecological community, embedded in a changing organizational field.” (see also El Sawy et al., 2010).

Dynamic developments, shaped by local interactions, may not be effectively captured by the traditional institutionalist research methodologies based on sector level surveys or studies of focal organisations. If the role and orientation of the various actors is diverse and changing, they need to be addressed through less structured qualitative research instruments (Shaw and Allen, 2016) such as ethnographic interviews (Meyer et al., 2005) rather than quantitative surveys with their presumptions about the stability and comparability of classes of actors. Large-scale survey methods in particular run the risk of losing detailed insight into the specificity of organisations and the dynamics of their interactions within a community.

Alongside this move towards ethnographic, historical and other qualitative research methods are calls for multi-actor and multi-level enquiry (Meyer et al., 2005; Shaw and Allen, 2016). Lewin and Volberda (1999) argue the need to move away from a single lens perspective (whether of firm level studies or of sector level studies) and instead to study the co-evolution of firm and industry and the emergence of new organisational forms within an ecology. A growing body of studies address these developments at multiple levels of analysis encompassing specific firms and the population of entities they interact with including consumers/consumption as well as production and distribution (Baden-Fuller and Mangematin, 2015; Huygens et al., 2001; Mangematin et al., 2014; Massa et al., 2017; Zott et al., 2011).

3.2. Research design

The findings presented here arose from an investigation: *Convergence or differentiation in IP protection? A case study of new models for digital film, music and e-fiction production and distribution in China*, funded by the AHRC China Digital Copyright Centre, the Newton Fund and the RCUK Research Centre for Copyright and New Business Models in the Creative Economy (CREATe). Our attention had been drawn to novel developments in China’s digital cultural industries which differed from those in the West, in which the BAT internet giants appeared to be playing an important role.

Our research emerged with a broad concern to understand how digitisation had been shaped by China’s very different institutional and legal setting. As the project developed this evolved into a more specific set of research questions that sought to account for the rapid and far-reaching changes in China’s digital cultural ecosystem; how these had driven a process of sustained experimentation (discovery-driven innovation) at scale; and, how this has resulted in the emergence of distinctive novel service models and value propositions.

These considerations profoundly shaped our research design. To capture developments across an ecology in flux, we followed Meyer et al. (2005: 459) who propose triangulating between a range of sources through a ‘bricolage’ of different methods including brief ethnographic

engagements to capture emergent responses across a range of settings.⁴

Careful preparation was needed to develop and guide this exploratory study (Walsham, 1995). We established an interdisciplinary team of seven Chinese and UK scholars, supported by research students, who began to develop an understanding of developments in digital cultural industries in China initially through desk research. We tracked cognate developments in Europe and North America through desk research, doctoral research (Sun, 2016) and discussions with colleagues in the CREATE programme. We refined these initial understandings through informal discussion with established academic experts in these fields from Chinese universities/research institutes active in the industries in question and extending research access through ‘snowballing’ techniques to Chinese industry and policy players. Establishing research access and broadening and sustaining it over time presents particular difficulties in the Chinese context where there has not been a tradition of access by industry and policy communities to social science research.

Our goal was to establish a long-term relationship with key stakeholders in the field. A concise description of the research project was produced to attract and sustain the interest of the targeted players and establish consent and research governance arrangements. Data collection and processing sought to gain understanding of complex processes unfolding in real time primarily through detailed personal interviews, repeated over time, to capture accurately the changes taking place and participant’s understandings of these changes. Interview topic guides were adapted for particular respondents in different sectors and roles and were modified as new issues emerged as the research progressed. Post-interview communications with almost all Chinese interviewees, particularly via *WeChat*,⁵ allowed us to check data accuracy, request clarifications and pose additional questions from respondents who were highly engaged with (and also struggling to make sense of) these complex developments. The period between these blocks was devoted to reviewing the data and preparing for further rounds. Interviews with key industrial players were repeated over at least two rounds: the first typically involved senior management players; follow up interviews extended to those with more hands-on involvement in the commercial and legal dimensions of the business. This extended engagement provided opportunities not only to collect and verify data about a highly uncertain and rapidly changing setting, but also for joint sense-making about the character and implications of these still-unfolding developments. Our respondents were also trying to understand these developments from their particular perspectives and points of insertion. In this respect, our respondents became co-researchers in a joint process of sense-making, providing insights throughout the life of investigation, continuing to reflect and comment upon emerging findings until the end-of-project workshops.

Our primary investigation targeted three groups:

- 1) key players in the Chinese online creative industries, and in particular the three Internet giants (Baidu, Alibaba and TenCent);
- 2) professional associations, commercial, licensing and regulatory bodies and other key intermediary organisations influencing the development of the sectors, including professional associations in the creative cultural sectors, commercial and regulatory agents of both domestic and overseas; and,

- 3) experts and academic specialists in the fields.

Fieldwork was conducted between December 2015 and April 2017, a duration that afforded some opportunities to observe changes over time in the strategies and activities of the players involved. The primary data collection comprised 59 semi-structured interviews, conducted in three blocks, with a total of 73 respondents (a table showing anonymised respondent roles has been uploaded as an appendix). This was supported by diverse secondary sources in English and Chinese. We reviewed policy documents and the existing literature, and also tracked the enormous array of media reports, online blogs and commentary.⁶ The research team also embarked upon an array of exploratory activities including, registering and using purposively the online services provided by the platforms under scrutiny, taking part in events organised by key players and stakeholders, and discussing various pressing issues with them. The team also kept a watching brief with their peers and contacts regarding the evolution of new services and practices (e.g. regarding consumption of online music, e-literature, videos) during the period of the project. We also organised end-of-project workshops (Beijing 6.4.2017; Edinburgh 5.6.2017) to which we invited academic and industry experts, policymakers and practitioners, including most of our respondents. The workshops were designed to elicit additional inputs and verify and extend emerging findings. In a context in which there are few established sources or fora they provided an opportunity to explore and reconcile different stakeholder perceptions.

Our investigation encompassed three creative cultural industries: music, e-literature and film. Our enquiries explore the specificities of different types of cultural production and consumption and also flagged significant interactions between these areas. These interactions proved to have crucial importance in the case of Chinese internet-based operations (for example where popular performers were able to exploit their reputations across platforms – e.g. singers becoming film stars (Lui, 2010)). In this paper we focus on digital music where we were also able to derive insights our previous research in the UK (Sun, 2016).

Though we were not able to directly address the experience of music consumers and music creators engaging with these services - a matter of concern insofar as our framework and industry perceptions flag their crucial importance - we were able to examine the understandings of consumers/consumption amongst the practitioners we interviewed and also draw upon online sources and the modest academic literature on this subject and finally draw upon the experience of our Chinese researchers (and that of their peers) who registered on these platforms and used as many services as possible.

4. The Chinese context

4.1. The socialist history

In China’s socialist regime, music and many other forms of cultural production and dissemination were under the control of the government. The administration determined who could become a musician including the (modest) number of people to be regarded as composers, lyric writers, singers (performers), and music instrument players. Musician was a prestigious professional role, on the government payroll, employed by public institutions at local, provincial or state levels. This elite status was not easily attained by those outside the professional system even if they possessed artistic talent. Music related activities, as part of the development of culture and arts of the society, had nothing to do with commerce or profit. Rather, it was regarded as a propaganda instrument of the state for uplifting peoples’ spirit in the

⁴ Here we were guided by our STS-informed methodology which addresses the “translation terrain” (Williams et al., 2005), comprising: the character of the key players involved; the perceptions, capabilities and strategies of these key players; how these are shaped by the historical context; the relationships between players, the dynamics of the interaction between them; changes in their strategy and arrival of newcomers and how these shape the development trajectory (co-evolution).

⁵ *WeChat* is an alternative messaging service to email communication while having various advanced features, such as on-time audio & visual conversation, and existing messaging transfer.

⁶ Online media searches in Chinese were particularly fruitful using search terms baidu baike (百度百科 in Chinese), baidu wenku (百度文库 in Chinese) and zhihu.com (知乎 in Chinese). The information collected in this way was often inconsistent and partial, requiring careful triangulation between sources.

construction of China's socialist society. To achieve this goal, music production and distribution, like other arts and literature, were closely scrutinised/controlled by the state. During the extremes of Cultural Revolution (1965–1976), Eight Model Plays (八个样板戏) were promoted by the government as the model of socialist art and the whole population of China was expected to sing from this repertoire.

As a result, the music industry in China was very undeveloped compared to the West in terms of both the quantity of music works and music related business entities.⁷ The other feature inherited from the socialist regime was the weak copyright regime. As music and other creative works had been created with resources from the state, they were seen as belonging to the entire population. So even though, as part of accession to the World Trade Organisation, China rapidly put into place intellectual property (IP) legislation and enforcement mechanisms modelled on those in the West (Lui, 2010; Shen, 2015) there was little popular support for copyright protection. As a result, as China opened up to the global economy following economic reforms, it became the biggest 'black market' for pirated music, not only Chinese music, but also Western products. Pirate CDs or Digital Video Discs (DVDs) were easy to get hold of. Soon after release, a music CD or DVD album, which might sell in Britain for £15, could be purchased on the Chinese black market for one US dollar. China faced continued criticism by international business institutions, such as the International Intellectual Property Alliance (IIPA, 2012) for the persistence of rampant piracy.

4.2. "A hundred flowers blooming"

Though widespread piracy and the weak enforcement of Intellectual Property (IP) rights in China was seen as inhibiting innovation and the health of creative industries (Lui, 2010; Priest 2014: 539), the arrival of digital technologies stimulated new ideas and opened opportunities to build a new and dynamic music industry. Many individuals and enterprises took advantage of the opportunities to distribute digitised content through the internet and later, mobile technologies.

Government policy seems to have been generally favourable towards innovations, delaying regulation until it was clearer whether problems would emerge. The national copyright administration only stepped in after legal battles over copyright infringement began to have negative effects on the whole industry. Existing censorship mechanisms, implemented through a small number of publishers, importers or distributors, were not effective in the emerging digital environment with multiple channels for content creation and distribution. Digital music posed particular problems as regulators found it difficult to tease out the meaning of contents from the whole performance (interviews with TenCent and Alibaba respondents). (Paradoxically the subsequent restructuring of the industry around a few platforms created a context that is far more amenable to administrative control and self-censorship.)

With access to the new technologies in a liberal environment, amateur musicians uploaded their songs onto the internet in search for an audience. Perhaps foremost here is the case of Xue Chun (see box).⁸

⁷ The weak development of China's music industry can be illustrated by comparison with the UK. In 2014 there were 41,000 musicians in the UK (source: <https://www.statista.com/> sampled April 2017) compared to around 16,800 registered members of the Chinese Musicians Association (the body established in 1949, which includes composers, singers, music critics, lyric writers, educators, translators and music activity organisers). Though there are no official statistics, industry estimates suggest that in 2017 60,000 independent performers were registered on the six online music sites and had released more than 100,000 digital albums. These were previously mainly amateur music enthusiasts (Chen, 2017)

⁸ Hou Yan, Sell feelings? Xue Cun make the movie "Northeast people are living Lei Fengs", December 13th 2016, <http://ent.163.com/16/1213/08/C85EVQ5F00038FO9.html> (in Chinese) last accessed June 1st 2017.

Younger musicians in particular started to get involved, applying their creativities to satisfy rising demands on the internet. They also became involved in creating "network music" - background music for online games, videos and other internet entertainment industries.

The case of Xue Chun: an amateur musician becomes a multimedia star

A widely circulated story concerns the amateur musician, Xue Chun, an ordinary person without any professional music training. In 1995, he wrote a song, Northeast people are Living Lei Feng (the household name of a hero in socialist China)(东北人都是活雷锋). The song is easy to sing with a humorous arrangement of tunes and an entertaining narrative of the experiences of a truck driver in the Northeast region. It remained unknown until 2001 when he decided to put it on a website. It rapidly became a major hit without any professional promotion. The story was made into various online flash animations. The song became very popular across the country – and was seen as the first example of popular original online music that became known as "network music". A TV drama series used the song as its theme music. The author subsequently became a household name, enjoying fame not only as a composer and singer but also as an actor and movie producer.

This period saw the mushrooming of music-related online services offering uploading, downloading, searching, collecting and streaming of music. Initially small and medium enterprises launched websites offering downloads of music and other cultural products, notably film. They were closely followed by the large internet companies. Foremost were the Chinese search engines like Baidu and Sogou which came to play a key role in identifying pirate sites, publishing links (which constantly changed to avoid IP enforcement) for users to download pirated music. Baidu, China's largest search engine, launched its *Baidu MP3* search service in 2002 (Lui, 2010), with features that helped users find the music they wanted, including *Baidu 500*, a list of the most downloaded music (Dong and Jayakar, 2013).⁹

The result was a highly dynamic and diverse ecology. Various players including software developers and equipment makers as well as musicians (Tang and Lyons, 2017) entered the arena and pushed out music apps and services. In this period, the digital online music space was far from "stable". No business made significant income (apart from mobile phone service providers selling "ringtones", a business based on a very low unit price and a huge volume of users [Lui, 2010, Priest, 2014]).¹⁰ Because of piracy, the Chinese music industry had to identify alternative sources of revenue to selling records, including income from live performances, merchandising, brand sponsorship deals,

⁹ With between 10 and 15 million unlicensed music downloads per day via its *Baidu MP3* service, accounting for almost 80% of the music market in 2011, Baidu was fiercely criticized by Western industry organisations such as the International Federation of the Phonographic Industry and was subject to 84 cases in Chinese courts, seeking compensation of RMB 17.3 Million (Dong and Jayakar 2013:88)

¹⁰ The mobile phone operators created the earliest charged services. China Mobile's *Migu* service launched in 2002, China Telecom's *i-music* and Unicom's *Wo Music*, charged users to download music for ringtones. These even by 2013 still accounted for the majority of revenue for digital music. The mobile operators also offered data plans in partnership with digital music services such as Xiami and TenCent (Xian 2014). The mobile companies were slow to develop a wider range of services oriented towards users (Wang, 2017). Though China Mobile set up a streaming service in 2015, they have not become major direct players in the provision of digital music.

(<https://www.chinatechnews.com/2015/11/04/22260-why-is-china-mobile-forming-an-internet-company-now> last sampled 25th July 2017)

advertisement-funded music services (Lui, 2010). These services broadly mirror, and indeed were often copied from, similar developments in the West. However in the West, actions by established music industry players against Peer-to-Peer and other unlicensed downloading services kept these services in the informal economy and left little space for legitimate businesses to emerge (Sun, 2016). In China the internet became an arena for the integration of old and new business operations in which innovation could flourish.¹¹

China's huge and still growing base of netizens creates varied demands for entertainment from users with differing backgrounds and preferences. Music websites were prompted to develop diverse services to meet these diverse needs. The People's Republic of China, Ministry of Culture highlighted a surge in the number of new music websites which increased from 452 to 695 between 2011 and 2013 (Ministry of Culture, 2012, 2014). Though these competing services copied Western models and copied each other in terms of the applications and services offered, this was only the start of a sustained innovation process.

4.3. Copyright enforcement and licensing provokes radical restructuring

In 2011–2, a series of changes in China's copyright environment had dramatic consequences for the digital music sector. Previously enforcement of copyright protection regulations by the Chinese government was limited by the weakness of the enforcement system and the widespread practice and acceptance of piracy. As a result, copyrighted content was freely distributed on the internet.¹² This situation continued despite periodic compensation cases by rights owners. In particular, Baidu's MP3 search service had been sued several times by different organisations, including IFPI (in 2005), the Music Copyright Society of China (in 2008), Universal, Sony BMG, and Warner Music (in 2008). These cases failed, mainly as Chinese courts accepted the “safe harbour” rule that if search engines did not store infringing content on their servers they would not be liable.

There was thus widespread surprise in 2011 when Baidu agreed an out of court settlement for copyright infringement with the Western record majors - Universal Music Group, Warner Music Group, and Sony BMG for infringing their copyright (Dong and Jayakar, 2013) who, for an estimated RMB 37 million (USD \$5.7 million) signed a two-year deal to license over 0.5 million songs from their catalogue. This development was a combined product of a number of pressures: growing international pressure on China to comply with World Trade Organisation rules, tightening up of China's domestic internet regulations and stronger Administrative Enforcement (in the face of pressure from Western and domestic cultural industries), (Dong and Jayakar, 2013; Street et al., 2015) coupled with a significant shift in Baidu's business strategy (Dong and Jayakar, 2013). In that period, Baidu's dominant position in digital music was being eroded by the proliferation of new services. QQ music, set up by Ten Cent in 2004, had by then acquired over 10 million users, closely followed by Xiami Music (9.5 Million) and Douban FM (8 M). Baidu saw an opportunity to gain market advantage as the “only legal music distributor in China.” (Dong and Jayakar, 2013: 98). Some saw this as a turning point that “changed the whole ecosystem” in China.¹³ In particular, industry players realised that

¹¹ Peer to Peer technologies arguably heralded a similar process of experimentation in the West – most famously Napster. Though this was closed down in 2002 as a result of copyright enforcement it culminated in new service developments like Spotify and other providers of music streaming services (Sun, 2016). The period of experimentation in China started later than (and is clearly informed by experience of) their Western counterparts – but seems to be continuing relatively unabated.

¹² A manager from TenCent, the biggest player, noted, “before 2013 there was no copyright management mechanism installed in any music platforms.” (interviewed, November 2016).

¹³ Andrew Chan, SVP, digital & strategic planning, Universal Music China, commented: “The Baidu deal was the milestone that changed the whole

copyright could be utilised as a tool for competing with their peers.

These developments were consolidated in 2012, with the third revision of the Copyright Law of China in 21 years, and above all by the decision of the Standing Committee of the National People's Congress of 31 August 2014 which led to the establishment of Intellectual Property Courts in Beijing, Shanghai and Guangzhou. Under the new enforcement regime, Internet platforms were forced to buy licenses for contents and review materials before putting them online to ensure that all contents on their platforms did not infringe copyright and the rights of performance, broadcasting and other neighbouring rights. In July 2015, the National Copyright Administration further ordered that all online music service platforms must take down unauthorised music from their platforms by 31st October 2015.

These developments triggered a process of rapid and far-reaching restructuring and consolidation within the industry. Small and medium-sized companies could not afford to pay for licensed content which, given the continued prevalence of piracy, they could only subsequently offer to consumers for free or at low price. This prompted a rapid process of acquisition and merger in the creative cultural industries, reinforced by powerful economies of scale, in which the cash rich BAT ‘internet giants’ became the dominant players.

By December 2016, the number of internet music users in Mainland China had risen to 540 million (70.8% of all netizens).¹⁴ The pace of online music development has been accelerated by the advanced state of mobile technologies. China is becoming one of the global front-runners in terms of 3G and 4G services and there has been rapid growth in use of mobile devices, such as affordable smartphones. Digital music services, initially based upon pcs, all migrated onto mobile devices. Mobile access therefore figures strongly in China, particularly in the youth market (21–30 year olds) (Xiang, 2014a). Numbers are still growing, indicating the considerable potential of the online music market (China Internet Network Information Center, 2016).¹⁵

5. The evolution of China's online music ecology

The development of online music in China was strongly patterned by its historical context. First, the digital music business was a largely ‘greenfield development’¹⁶ (unlike the West, where powerful entrenched incumbents - the record companies, studios and other IP intermediaries - were determined to hold on to their position in the face of potentially disruptive digitisation). The huge public appetite for music and other cultural products attracted large numbers of new players. Second, a liberal environment and lack of public support for intellectual property protection allowed the emergence of novel services (for example online Karaoke) that were at risk of infringing IP protection rules. This unleashed a wave of experimentation and innovation in China's music industry that we described as “a hundred

(footnote continued)

ecosystem. Since then the government has said that it is stepping up its commitment to protecting intellectual property rights and that the development of the music industry is a major priority.” IFPI (2014:36).

¹⁴ Analysys.cn, (10/4/2017) 2017 Annual analysis of Mobile Music Industry in China, (in Chinese) <https://www.analysys.cn/analysis/8/detail/1000720/> last sampled 5th May 2018.

¹⁵ Estimated user base of the top five digital music providers in China (monthly active users) in order of size

Kugou 231 Million (acquired by TenCent)

QQ 165 Million TenCent

Kuwo 87 Million (acquired by Kugou then TenCent)

Netease 36 Million

Baidu 24 Million

Xiami 9 Million (acquired by Alibaba)

QuestMobile ‘2016 Q1 app report.’ QuestMobile 17th April 2016 <http://www.questmobile.cn/blog/blog-39.html> sampled 30 May 2017.

¹⁶ Thanks to an anonymous reviewer for this interesting observation

flowers blooming”. Third, government intervention shaped the landscape for innovation: initially providing a liberal environment and later tightening up IP enforcement and further intervening to mitigate destructive competition for exclusive content licensing deals.

The recent measures adopted by the Chinese government to tighten copyright protection prompted rapid and profound restructuring in the music industry. SMEs struggled to find ways to cover the costs of fees for distributing licensed content that was mainly provided to consumers for little or no charge. They were taken over by larger organisations with deep pockets, who could afford to build up libraries of licensed content. Though in the West record companies, studios and other cultural IP intermediaries were entrenched, in China these players were weak or absent. In this context it was the BAT internet giants which identified and seized new opportunities in the creative cultural sector and came to play dominant roles.

Though Baidu, Alibaba and TenCent are all actively engaged with music, literature and film distribution, their service development strategies have differed, shaped by their particular historical core businesses and distinctive strengths. We now briefly examine how each player has been pursuing their own trajectories and strategies, building upon their existing market position and capabilities, to explore new opportunities and to strengthen positions in the Chinese market and to respond to the challenges posed by its competitors.

6. Baidu

Baidu, by far the largest player at the outset, was the first of the BAT players to engage with music services. Its successful Chinese search engine, established in 2000, was one of those widely used to locate pirate content. From 2004, use of its *MP3 search* service, providing ready access to a virtually unlimited selection of unlicensed music, grew rapidly to include a large share of the population.

In the aftermath of its landmark legal settlement, in October 2012, it relaunched its music products as Baidu Music, with licensed music rather than MP3 search on the front page of its website “putting all the legally available music on its various services into one place” (Custer, 2012). Its licensed services were based upon providing a share of advertising revenue to license holders on a per play/download basis.¹⁷ Baidu saw music services as a way to enlarge its base of internet users. However it was less innovative and lost market share to the emerging freemium music streaming services. In December 2015, Baidu Music announced a merger with Taihe (太合) Music Group, a conglomerate of pop record labels and publishers.¹⁸ They could be seen, in some sense, as a ‘traditional’ player in China’s music industry, with a catalogue of 700,000 songs around half the Chinese music market (Ingham, 2015; PRNewswire, 2015; Tang and Lyons, 2017). It also appointed managers with digital music backgrounds (from Douban and Netease) (Music Business China, 2016).

7. Alibaba

Alibaba’s core business is e-commerce, which made it at the outset China’s highest valued internet player. Alibaba explored the viability of a wider range of online creative culture services, drawing on its role as an e-commerce platform offering business services. In January 2013, Alibaba Group had surprised many by announcing its acquisition of China’s 5th biggest digital music streaming service Xiami music. Xiami

¹⁷ Kaiser Kuo, Baidu director of international communications, stated: “Baidu has an ad-funded model and our core strategy is based on online advertising and dominating at consumers’ main points of entry to the internet.” (IFPI 2014:36–7).

¹⁸ Taihe Entertainment Group was a leading Chinese independent record label that owned two leading Chinese pop music labels (Taihe Rye Music, Ocean Butterflies Music) and Touch Music Publishing (Ingham 2015).

(or little shrimp - 虾米音乐), was a platform targeted towards individual musicians, founded in 2007 by a former Alibaba programmer/analyst (Shen, 2013). The subsequent acquisition in December 2013 of the TTPOD music-streaming app (TianTianDongTing 天天动听) led some to suggest that Alibaba was taking over the music industry (Dredge, 2016; Kaufman, 2013). These were merged in 2015 into a new division: Alibaba Music Group (阿里音乐). Music sector players (Gao Xiaosong, onetime singer-songwriter and Song Ke, a former executive with Warner Music) were brought in as chairman and CEO respectively (Flanagan, 2015).

Though Alibaba moved earlier in responding to the new licensing market, it was TenCent that made the most decisive interventions, as we will see below. Though Alibaba responded to developments by Tencent and other players with a comparable range of free and subscription services, Alibaba has developed a more distinctive strategy in its focus on creator services, like “Xiami yinyueren” [虾米音人] (“shrimp musician” in Chinese), aimed at fostering grass-root development of musicians and targeting not only reputed musicians but also, increasingly, unknown and would-be musicians. Its initial services allowed people to register as independent musicians and upload their new pieces and/or demos online. Gradually, these services expanded and were adjusted to meet local needs. Each registered independent musician is allocated a domain name and webpage. On this dedicated space, musicians can present new work and share albums with their registered fans in return for getting feedback and comments. This kind of service is termed “Zaoxin” (造新) novelty creation. For example, in 2014, Xiami launched a programme - “looking for unseen originality” (寻光计划) – deliberately designed to help unknown, amateur or new musicians bring out their debut albums to a wide audience. It has published 13 dedicated albums for these new artists, who have, from being unknown, become popular in China and well recognised in the music field.¹⁹ Since becoming part of Alibaba in 2015, Xiami Music has continued to focus on serving “unseen/undiscovered talents” and has stepped up the activities of this musician platform. The new artists and their albums have been praised for their originality and quality.²⁰ Building upon this, Alibaba launched an integrated platform – Ali Planet in 2016.²¹ This brings in elements of Alibaba’s *Taobao* e-commerce platform with its core mission of providing business opportunities for small and medium-sized companies. Four of Xiami’s founders had worked for Alibaba and were familiar with its *Taobao* model. Ali Planet promotes a range of music related activities outwith streaming, including online promotion of music contents, sale of merchandising and other related products (e.g. album cover design tools). This includes front and backstage services to assist creators for example with music recording, stage concert organisation, and live broadcasting online. As well as offering opportunities for potential and unknown talents, it also creates business opportunities for professional music studios and live concert organisers. TenCent likewise announced its own “Musician (音乐人 in Chinese) Plan” in 2017 to attract more grassroots musicians and composers to its platforms, after experimenting with platforms for independent musicians for several years.²²

¹⁹ <http://www.xiami.com/collect/40906776> last sampled 2 August 2017

²⁰ http://science.china.com.cn/2015-05/20/content_7919304.htm last sampled 2 August 2017

²¹ Alibaba Music have upgraded their music streaming service with a new online platform - Alibaba Planet - to connect fans and performers. Jacca-Route, “Alibaba Music Connecting Fans and Artists With New Planet App”, *Digital Music News* 21 April 2016 <http://routenote.com/blog/alibaba-music-connecting-fans-and-artists-with-new-platform/> last accessed 11 May 2017

²² Cussion Pang, chief executive officer of TenCent Music Entertainment group, stated: “Our goal is to ensure that original music composers and musicians on our platforms would have earned a total income of 500 million yuan (US\$74 million) in three years,” (Jing, 2017), “TenCent banks on original music to become China’s Spotify”, *South China Morning Post*, 24th July 2017, sampled 31st July 2017 <http://www.scmp.com/tech/enterprises/article/2103911/>

8. TenCent

TenCent's free instant messaging service *WeChat*, launched in 1999, attracted around 300 Million users in only two years and became the foundation for a huge range of services (China Internet Watch, 2014). In 2004, TenCent launched its QQ music platform. Building on these popular services it developed a profitable online games business and subsequently launched a stream of interactive entertainment services. Its subsequent success in combining free and subscription services across its growing range of services – most notably online games and mobile applications – allowed it to catch up with Baidu and Alibaba (Hariharan, 2017). By 2015 had become the 2nd biggest player in music streaming services with an estimated 15% of China's digital music streaming market (Osawa, 2014). In a further dramatic development, in July 2016, TenCent established itself as by far the largest player amongst online music platforms in China through a merger involving acquisition of over 60% of the shares of China Music Corporation (CMC). CMC had in 2015 acquired China's largest music service provider Kugou (酷狗) with around 28% of the market and the 3rd largest player Kuwo (酷我) with 13% market share (All Tech Asia, 2017; China Internet Watch, 2014).

TenCent has developed a distinctive strategy – launching services with simple interfaces, broadly similar across many applications, focusing on building markets (especially attracting users by imitating successful products and adjusting them to improve user experience) rather than establishing income streams (China Internet Watch, 2014).

Given the prevalence of pirated music in China, consumer services typically feature “free music”. People continue to be able to retrieve downloads from many websites at no cost. This creates a challenge for service providers as it limits their scope to charge for access. TenCent was particularly determined to make its music services profitable (interview with TenCent 2016), though its initial fee-paying services were not successful.²³ As in the West, digital music companies sought to attract and keep users with ‘freemium’ services combining free and paid for services – in particular by launching low-cost subscription services. Subscription fees are in the range of 10RMB (equivalent to £1 sterling, April 2016 values) to 19RMB per month – approximately an order of magnitude lower than in the West.

Users increasingly access music through mobile devices. However, in China, mobile data charges are relatively high. For example, 1G of mobile data costs 50RMB (equivalent to £5 sterling, April 2016 figures). This could be used up quickly if listening to music online on the move. One consequence is that all mobile software applications can also be used in a Wi-Fi environment. People can download content when they have access to Wi-Fi e.g. in fixed locations at home or work so they have a selection of music to listen to on the move (an exigency that means that streaming does not entirely displace downloading).²⁴ To reduce consumer costs, the internet companies have made deals with internet service providers to cover the cost of mobile data usage. Thus TenCent's QQ music has a music subscription service for 15 RMB per month which includes a bundling deal for mobile data access with China Mobile whereby they receive 5-6RMB - keeping 9-10RMB for itself.

To increase uptake of its premium services for fee-paying users,

(footnote continued)

TenCent-banks-original-music-become-chinas-spotify(original article title ‘TenCent to shake up the market for music’)

²³ Thus TenCent's green diamond - the most popular paid-for digital music service – charges 10RMB per month 114RMP p.a. (2016 figures) and was estimated in 2015 to have 3 million subscribers (IFPI, 2015). Baidu's advertise-ment-free “VIP” streaming service also costs 10 RMB/month (Millward, 2015). Price and features of the main subscription services are summarised in Tang and Lyons (2017:12 Table 2).

²⁴ As well as the price, uneven access to mobile data services meant that users might cache 30–50 songs on their mobile phones from streaming services for “listening on the go”. (Matthew, 2015)

TenCent has bundled in a variety of other services, offering, including, variously:

- better sound quality;
- immediate access to newly-released albums; and,
- access to online broadcasts of live concerts of popular musicians.

Other streaming services offered similar arrays of services to fee-paying users.

The digital music companies have launched various other kinds of offering in a process of sustained experimentation. This includes, for example, allowing fans to follow their favourite celebrities online and giving them exclusive tickets for live events. Though these are targeted to subscribers, non-fee paying members who do not have the money or are unwilling to pay, are still able to access the content if they can wait for a week or so and do not mind the lower quality of the music recording, or are willing to earn credits (see below).

The evolution of China's online music ecosystem is summarised in Fig. 1 (below). The timeline highlights how the liberal ‘hundred flowers’ environment gave way with stricter licensing enforcement from 2012 to 5 to a more stable environment in which Baidu, Alibaba and TenCent have become the dominant social media platforms in music (and elsewhere) by acquiring smaller start-ups with their music specialists and user bases.

There are many other players however. The largest independent is Netease (网易), originally a Chinese Internet technology company, which recently (April 2017) secured substantial venture capital financing (RMB 750 Million) for its NetEase Music Cloud (网易云音乐).²⁵

8.1. Learning by competing: creating and navigating a rapidly changing ecology

As shown in the preceding section, players deployed different strategies, building on their historical context and capabilities, to pursue market growth and potential (subscription or advertising) revenue by launching diverse services variously targeted at creators as well as consumers; at different ways of valorising music (advertising/subscription); at different consumer segments (e.g. for new or specialised content); at different ways of consuming music and in diverse forms (e.g. audio-visual).

The major players eye each other closely. Their strategies are visibly shaped by the interactions between them: strategic moves by one player triggering responses by others through imitative attempts to catch up or by differentiation – involving fierce competition and at times also collaboration. Though this account focuses on competition in music, the competitive struggles between BAT have been waged across digital music, film, video, literature and games.²⁶

Having achieved leadership in digital streaming services, TenCent started to acquire exclusive music distribution rights, particularly from overseas record labels (Owsinski, 2015). In 2014, it signed deals with record companies, such as Sony Music and Warner Music, to exclusively distribute their content on the QQ music platform in China (Cookson, 2014).²⁷ Its competitors followed suit. Alibaba responded in 2015 by establishing a Music Division and signing exclusive licensing agreements with BMG (the world's fourth biggest music rights company, with

²⁵ <https://www.crunchbase.com/organization/netease-cloud-music#/entity> and <http://istock.jrj.com.cn/article,yanbao,30086488.html> last sampled 2 August 2017

²⁶ For example TenCent's deals with western music companies were matched by similar agreements with Hollywood studios (Cookson, 2014; Osawa, 2015).

²⁷ ‘TenCent to merge QQ Music service with China Music Corp to create streaming giant’ South China Morning Post 15 July 2016 <http://www.scmp.com/business/companies/article/1990254/TenCent-merge-qq-music-service-china-music-corp-create-streaming> last sampled 11 May 2017. See also Osawa (2014), Cookson (2014), Music Business Worldwide (2015).

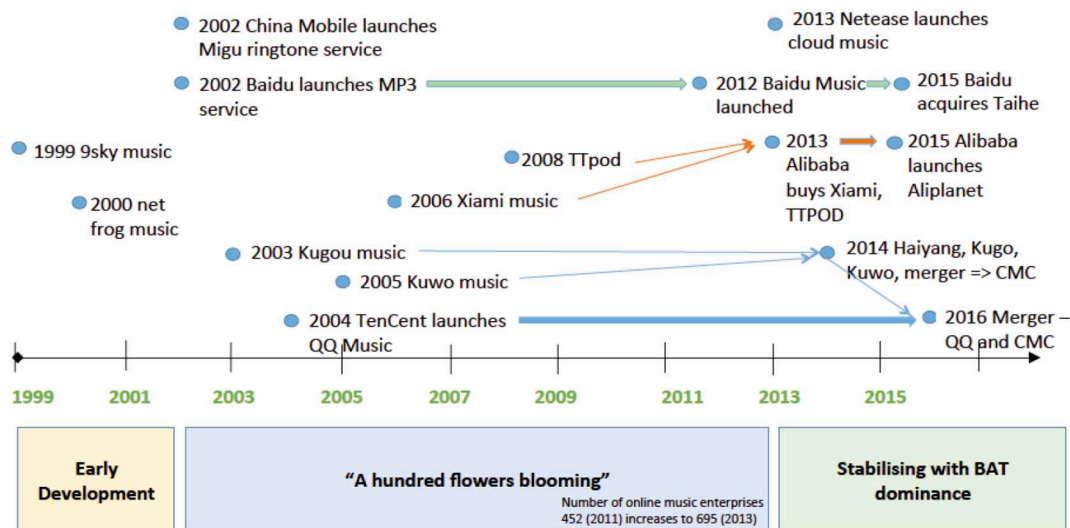


Fig. 1. Evolution of the online music industry in China 1999–2016

over 2.5 Million copyrights) and Universal Music Group (*Music Business Worldwide, 2015*). Though this was ‘a drop in the bucket’ (*Owsinski, 2015*) compared to pirate sites or QQ Music’s armoury of 15 million pieces of licensed music, AliBaba was able to exercise competitive power in the music market because of the quality of the music in its listings which included for example the Rolling Stones.

This struggle to sign exclusive rights marks a qualitative shift in the character of competition for music access. What had previously revolved around allowing easy access to the widest possible selection shifted to providing exclusive access to what Alex Taggart, from China Music consultancy Outdustry Group, described as “weaponised” music (*Tang and Lyons, 2017: 12*) that the platforms “couldn’t afford to lose” (cited in *Horwitz, 2015*). In this period platforms began suing other platforms for distributing songs they had acquired licenses for (*Horwitz, 2015*).²⁸ Licensing thus shifted the focus of competition from the ‘body’ to the ‘head’ of the long-tailed music market. By offering exclusive access to music that was trending, the platforms were competing to build their customer bases and promote uptake of subscription services (even temporary exclusive distribution agreements would attract subscribers seeking access to new releases before pirated copies became available). While users of free services could afford to sign up to multiple services, paying subscribers needed to discriminate: consumers would select services that offered the particular music they wanted at a cost they could afford.

The competition for exclusive deals drove up the cost of licensing contents, particularly from overseas record labels. Though initial attempts to dampen down competition between Alibaba and TenCent were not successful (*China Music Business, 2016*), by the time of our second round of fieldwork at the end of 2016, the main players had come to the view that this competitive strategy was “unsustainable” (TenCent Legal consultant, interviewed 9 December-2016).

The deals that were signed, for example, between TenCent and Warner Music, unusually allowed the internet companies to negotiate licensing deals with local Chinese music services (in contrast to the rest of the world where labels license their music directly to music services) (*Cookson, 2014*). The platforms have begun to sub-license their content (e.g. TenCent offered part of its catalogue to the smaller service Duomi) (*Tang and Lyons, 2017*). As the result of direct state intervention, the big players like TenCent Music agreed to sub-license their contents acquired from overseas record companies to other platforms to avoid a

bidding war in the industry (discussion at project final workshop, Beijing, April 2017).

8.2. New service developments on multilayer cross-platform service infrastructure

A wide spectrum of services has emerged in China’s music space. They are highly differentiated and change in form and scope over time. Many of these elements (including use of pirated copies of software) were copied from the West. However the overarching pattern of sustained experimentation differentiates China from other economies. The internet companies are seeking to find ways of engaging with the fullest range of targeted audiences – including those with limited current ability/willingness to spend. With free registration, users can access the same music collections that the platform will give its paid subscribers, though they may have to wait for a week or two for new releases. Various kinds of premium service (e.g. tickets for live performances or meeting with celebrity musicians/singers) may be offered as paid options for non fee-paying users. The companies are finding ways to incentivise and valorise engagement with their platforms and services. Every registered user can accumulate credit points by contributing to the services in a variety of ways including simply visiting platforms daily, using music apps, providing lyrics, translating lyrics from a foreign language into Chinese, introducing friends, and linking bank information with the registered account. Overall, the more active and committed you are to the platform, the more credits you can collect. These credits have real monetary value and can be used for shopping directly online.²⁹

Services were shaped by spillover from related sectors. The early commercial success of online music show platforms shows like YY and 9158, which became unexpectedly lucrative after they introduced virtual gifts that audience members could buy for performers, prompted similar offerings from internet companies including TenCent (*Xiang, 2014b*).³⁰

The commercial success of online services and the established popularity of Karaoke in China tempted many online platforms to offer online Karaoke services, such as QQ Music “All-People’s Karaoke” (全民K歌). Extended Karaoke services emerged offering emulated

²⁸ Thus in November 2014, TenCent sued Netease; in December 2014 Kugou sued Netease and in May 2015 Alibaba sued Kugou (*Horwitz, 2015*).

²⁹ <https://www.zhihu.com/question/34100979>. (in Chinese) posted 7.5.2016. last sampled 2 August 2017

³⁰ For example, in the 2nd quarter of 2016, YY Music’s 600,000 paying users spent an average of 269 RMB on virtual gifts (a total of \$28 million). (*Xiang, 2013*)

performance environments (for example indoor or outdoor performances, in small or large concert auditoria), together with additional functions to help singers improve the quality of their performance - for example by editing multiple versions of their singing. Karaoke singing performances are shared within a group of friends or wider community who may rate them and even send a “gift” (free or paid for by listeners) back to the performer to show their appreciation. The revenue is then shared between the platform and the performers. Online karaoke services like *Changba* allowed individuals to record and share their performances, and uses gamification - such as local charts and competitions between singers - to engage users (Xiang, 2013).

These developments arguably provided a template (including valorisation models) for the emergence of a range of services based upon the creation of online communities linking consumers together and bringing them together with creators. Parallel developments have emerged in digital music services. Xiami music offers a music billboard service on which users collect their current favourite songs or albums and comment on and grade singers or songs. This also records information about an individual user's preferences for music, and in turn provides recommendations of songs that users may be interested in and artists they might follow. The billboard service has become a ‘public space’ where musicians can introduce their debut demos and albums to listeners before publishing them. The public space leads to the formation of virtual communities for music lovers to share their favourite music pieces amongst those with similar tastes. Technically, the platform can help users find each other by knowing their downloads and their comments and rating of the music pieces. This function has been promoted by the Xiami music platform with the label “sharing the same rotten taste” (臭味相投): a humorous way to describe the like-minded.

As with early music streaming services in the West, users within communities share each other's album folders. Other services offered include for example “Xiami loops” (virtual spaces online), in which groups of users can gather at a particular time and organise a forum to discuss a particular topic or host a concert by one of the users, to introduce his/her favourite music pieces selectively (like a DJ), and set the stage by inviting comments and views from attendees. Through these activities, individuals can gradually build a reputation within the group/community, playing a role like music critics. The online “loops” (forums and concerts) with specially selected themes attract the attention of artists and celebrities, particularly when hosted by “online music critics” with a reputation. When professionals and musicians take part in these events, the events add further values to all attendees, for example, co-generating new meanings to existing works.

TenCent representatives, in our second round of fieldwork in November 2016, highlighted how they had created a novel income stream from fans' gifts to their favourite artists. During recent online broadcasts of live concerts, fans were able to send virtual gifts to the performers. A large image of the gift, such as “a luxury car”, would be simultaneously displayed on a big screen at the back of the stage, where the names of the donors were also shown. There are several examples of this kind of gift scheme run by many internet platforms for entertainment services. Users can send virtual gifts to praise artists or performers. The virtual gifts can be symbolic with no monetary value and/or purchased with real money - in which case recipients can cash the money. The platform and performers share the income from the virtual gifts (Interview with TenCent music, November 2017). These formed the basis of a lucrative, burgeoning ‘fan-economy’ (Liang and Shen, 2016).

These various services have the effect of linking consumers together and linking them in many different ways to creators and to the digital platforms. This creates a method to collect information and sentiment that have value to the parties involved. This web of services is crucial to understanding how the financial viability of services may be established.

BAT were rich with cash from their highly profitable core businesses (and did not need venture capital). Our industry interviewees indicated

that the large internet companies are not expecting their investment in music services to be profitable in the foreseeable future. For example AliMusic staff were told that they had 7 years to build their industry. This long-term perspective enabled the emergence of a wide range, and numerous configurations, of services directed towards consumers as well as creators. Though protected in the short term, these operations arise within organisations that are subject to fiscal discipline. The issue will be posed at some stage of how digital music services can become financially sustainable. Not many of the customer services we reviewed directly generate profit. There is significant revenue from advertisements (which are substantial in the huge Chinese market) but this is unlikely to suffice in the face of rising licensing fees.

In 2016, TenCent's digital music general manager Wu Weilin announced at a digital music media event that “QQ music has been profitable.”³¹ Though confirmed by our respondents,³² given the complexity of revenue accounting, many specialists in the field raised doubts about the claim. Though precise figures are not available we can offer a broad estimate. There are around 10 million fee-paying users out of 400 million registered customers using TenCent's music service. Income from adverts on website pages and mobile apps brings in about 50% of the revenue. The rest is from the sales of special albums, membership subscription fees, and tickets for live concerts and online broadcasting of live concerts, and similar activities (interview with TenCent Music November 2016).

The incentive for the internet giants to invest in music and other cultural content production and distribution has been to attract users and keep them active on the platforms. Thus Baidu respondents saw the retention of their music business as crucial regardless of whether it brings in income revenue or not. “You have to know, for us, internet business is ‘liuliang’ [流量, meaning “the volume of data flow”] “liuliang” brings us users that we have to focus on... in music, we have been burning moneys [sic], lots of them...”. (Baidu manager interviewed December 2015).

TenCent managers expressed a similar view: “Music is a very important part of peoples' life. An internet company like us had to do music and to engage with people for profit or not” (TenCent respondent interviewed November 2016). According to our respondent from Ali Entertainment management, “We did not make a profit for many years at the start of the platform for e-commerce business, it was the future that our CEO, Ma Yun, foresaw. Ali Music is still young. We may follow the same line as we did before. We are not under any pressure from the top to make a profit. We are now concentrating on creating service platforms for people to come to us. It may take as long as we need, five years, or seven...” (Alibaba manager interviewed 2016).

Tang and Lyons (2017) suggest that these developments may constitute an alternative model to the digital music value chains established in the West. They differ from the conventional investors who drove specialised digital music services elsewhere in that: “their interest in music services is not solely directed at profits; instead, these music services are combined with their other services (e-commerce, search, social messaging, games) to create synergies within their own corporate structures.” (Tang and Lyons 2017: 17).

By weaving together a wide range of online services across the digital economy, including e-commerce services and their own payment systems, across a range of cultural industries as well as their digital music services, the BAT internet giants in China have been able to establish cross-sector platform infrastructures through which an array of different value propositions can be simultaneously exploited. In contrast to existing studies of the role of technology platforms in double-sided markets (see for example Gawer, 2014), these players are

³¹ Quoted at <http://business.sohu.com/20161010/n469887776.shtml> (in Chinese) posted 10 Oct 2016, last sampled 2 August 2017

³² Interview with TenCent music in November 2016, Beijing and discussions with participant at final workshop Beijing 6 April 2017

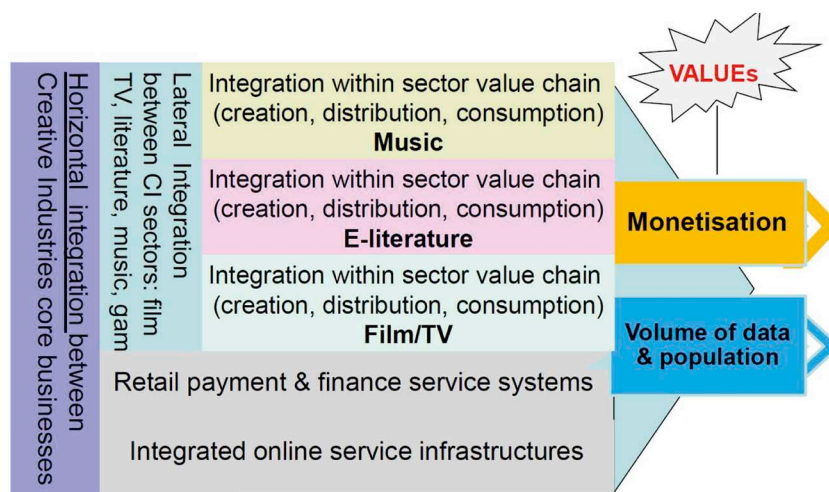


Fig. 2. Cross-platform service infrastructures to capture multiple value propositions

leveraging an increasingly rich array of diffuse value streams through multi-sided markets (encompassing for example not just creators and consumers but a range of intermediaries – publishers, venues, financial and e-commerce services). In the West these value propositions have to date mainly been explored within industry sectors, defended by entrenched intermediaries (record companies, studios, banks, retailers). In China the internet companies seem to have been able to expand and integrate their services rather more freely across sectoral boundaries. This has, critically, allowed BAT to extract value from a user engaging in one service not only in that service but across an array of more or less adjacent markets and services (whether music, games, e-commerce, or payment systems).

Fig. 2 seeks to illustrate this process. It shows how, through the integration of services across different platforms, the BAT internet giants have each created their own cross-platform service infrastructure which can capture multiple value propositions (both through direct monetisation and through aggregating volumes of user data and engagements). It shows how these strategies operate at (at least) three levels:

8.2.1. Within cultural industry sectors

‘Vertical’ integration within sectors such as digital music, which allows sales of complementary products and services (e.g. merchandising) and closer engagement with and better understanding of the dynamics of these highly uncertain long-tailed markets (Anderson, 2006).

8.2.2. ‘Lateral’ Integration between cultural industry sectors

Vertical integration is complemented by ‘lateral integration’ to exploit synergies between cultural sectors (e.g. trading upon reputations of works and performers in adjacent markets).

8.2.3. ‘Horizontal’ Integration at the platform level

Attracting huge and growing numbers of users onto their platforms brings income from advertising and from bringing customers onto their commercial platforms and payment systems, as well as other kinds of value they may seek to obtain from the big data accumulated.

9. Conclusion

Our analysis highlights the extended process of experimentation and ‘learning by doing’ (Sørensen, 1996; Williams et al., 2005) through which these players identify, elaborate and test these opportunities at scale, in practice with real producers and consumers. In this sense, China has become a “laboratory” for service and business model

experimentation. We also emphasise the role of the powerful intermediaries at the heart of multiple digital service ecosystems which not only opens up a wider array of service and value propositions but can lead to radically different outcomes from the West where developments have been patterned by deeply entrenched and industrially segmented value chains (Thompson, 2016).

We have seen how in China, the absence/weakness of record companies and other traditional intermediaries created a space in which the BAT internet giants identified and seized new opportunities in the creative cultural sector and came to play dominant roles. These companies, cash rich due to their established core businesses, launched a flood of new service offerings. Many of these elements (e.g. freemium services) also arose in the West. Though perhaps initially imitations, we see their adaptation, further elaboration and recombination in China, leading to a remarkable variety and density of interwoven services. By integrating services across different cultural content sectors (music, film/TV, literature, games) and in lateral markets (online markets, payment systems) Baidu, Alibaba and TenCent have each created a cross-platform service infrastructure through which they can capture multiple value propositions.

Our empirical analysis highlighted differences as well as commonalities between the three, readily related to their historical core businesses, their strategic manoeuvres and the interactions between them resulted in different evolving configurations of capacities, services and markets. Intense competition between these major players provoked massive investments, particularly in acquiring content, driven by the perceived strategic imperative to maximise their presence in a key market and increase their already large customer base. These moves were made at a time when these firms were not able to demonstrate a prospective return on investment (whether in terms of advertising revenue, sales of subscriptions for paid music services, ancillary income e.g. from merchandising and ticket sales). Despite some stabilisation and convergence as particular service configurations and models become established and demonstrate their viability, competition continues to drive dynamic processes of innovation in China's digital environment.

China's music and other digital creative industries have in consequence followed a distinctive trajectory.³³ The outcomes are likely to differ significantly from the models that have emerged and become dominant in Western contexts controlled by powerful record labels with huge IP rights holdings. Developments in China, where record labels

³³ See the comment by the deputy director of the research centre for Chinese Internet + Association, on the media, <http://news.pedaily.cn/201804/430060.shtml> (in Chinese) last accessed May 3rd 2018.

were weak and where the technology platforms have come to play a key role, may constitute an alternative model (Tang and Lyons, 2017) and offer a strikingly different pathway for the evolution of digital music and other cultural content services. Players outside China may wish to explore the applicability of the models emerging in China for their own settings.

We conclude that the “disassembly and reassembly” processes described by Mangematin et al. (2014) are taking place in China's digital creative industries. However, they exhibit sharply differing (processual) dynamics and (substantive) outcomes under these radically different circumstances.

Substantively: with few established service models and only weak institutional templates, Chinese players drew extensively from a range of Western digital business and service models. However they have adapted them selectively to their own business contexts, recombining and progressively extending them to create radically different configurations. Such ‘realisation of new combinations’ of already existing ideas, reconfigured and combined with the entrepreneur's own novel ideas are of course at the heart of Schumpeter's (1912: 159) groundbreaking definition of innovation (Kurz, 2012). As a result, these mimetic processes (and coercive isomorphic pressures from the globalised licensing system) have not to date resulted in convergence with the West (c.f. Di Maggio and Powell, 1991).

Processually: our study confirms Thompson and Macmillan's (2010) suggestion that discovery driven approaches (see also McGrath, 2010) may be needed in uncertain and emerging contexts. Though Thompson and Macmillan (2010) suggest that risk may be mitigated by launching services inexpensively and redirecting them in the light of experience, in China's current hyperturbulent context, these processes of experimentation and ‘trial and error’ learning (Sosna et al., 2010) take a very different form. Seeking to develop and exploit customer linkages across multiple markets and services, BAT have launched and further innovated services at scale – turning China into a laboratory for developing and realising business innovations. We find evidence of what Aldrich and Fiol (1994: 666) described as “meaning making on a grand scale”. The commanding heights of China's digital economy are characterised not by risk avoidance but by a more aggressive learning economy, combining pace and scale through the proliferation of full-scale business launches and sustained innovation. Similar observations have been made in relation to other sectors including renewable energy (Korsnes, 2015). We must reconsider prevalent accounts of China as “a nation of copycats” (Thompson, 2016: 1). Thomson argues (2016: 10) that China's current high tech boom has generated, as well as tolerance of risk, “manic and fierce competition”, illustrated by the emergence of thousands of Uber-like services in China compared to the handful typically emerging in Western economies.

Our explanation of why differences in China's institutional setting generated such distinctive competitive dynamics in the digital cultural industries highlights a number of linked factors: the absence of entrenched music labels and studios within the sectors; the weak boundaries around and between sectors; the arrival of new entrants (the cash-rich BAT social media platforms) and the fierce competition that ensued between Baidu, Alibaba and TenCent to secure market share across many overlapping markets; in previously under-developed cultural product markets that were growing rapidly to meet unfulfilled demand. The result was a system that is far from equilibrium. This observation calls into question the applicability of institutionalist models based upon presumptions of stabilisation and equilibrium (Meyer et al., 2005). Thus the development of digital music in China did not correspond to ecosystem models derived from established business in the West (Tang and Lyons, 2017).

Different conceptual frameworks and methodologies are needed to capture developments in turbulent settings that are far from equilibrium (Lewin and Volberda, 1999; Meyer et al., 2005). In addressing these, our study identified and exploited striking conceptual and methodological synergies between neo-institutional accounts of

emerging sectors and ‘fields in flux’ and contributions from STS that, from the outset, have emphasised the need to encompass symmetrically both hot (dynamic) and cold (stable) settings. Both traditions have emphasised processual accounts, based on triangulating multiple sources including qualitative methods (e.g. ethnographic interviews) rather than the structured quantitative methods traditionally preferred by institutionalists for testing variance theories (Meyer et al., 2005; Shaw and Allen, 2016).

Calls by many of these writers for multi-level and multi-temporal investigation to achieve an evolutionary account from institutionalist writers (Lewin and Volberda, 1999; Aldrich and Fiol 1994; Meyer et al., 2005; Mangematin et al., 2014), are mirrored by parallel methodological developments in STS. The latter, described as ‘strategic ethnography’, calls for a detailed longitudinal focus on an array of key actors interacting in historically shaped arenas. Our analysis addresses how they are configured - constrained and enabled - by their historical context and also how their strategies and interactions between them may reconfigure this context and enable different pathways and trajectories to emerge (Hyysalo et al., 2018; Pollock and Williams, 2009).

9.1. Observations on this research, limitations and future opportunities

We have provided some insights into the opening scenes in an enormously complex and rapidly changing context. Our exploratory research strategy provided effective tools for gaining insights in this highly turbulent setting, tracking changes in services, business strategies and the understandings of the players involved. Some service elements identified in our initial round of fieldwork had already been revised less than a year later. For example, the government is currently encouraging the key players towards more “collaborative competition” in place of the fierce “zero-sum” competition for exclusive licensing deals that recently prevailed.

This exploratory study of an emerging ecology was limited in duration and scope (focused around the key BAT players). More robust understanding could be achieved by extending the depth, breadth and duration of enquiry. The methodology adopted did not allow the insights into specific organisation processes that might be afforded, for example, by more detailed ethnographic case-study of a particular organisation. A key limitation was that it was not feasible to undertake primary research into the (crucially important) experience of music creators and consumers.

We have charted some opening scenes in the emergence of China's digital music ecology. Processes of experimentation and longer-term distributed “social learning” (Sørensen, 1996) will continue as China's cultural industries and legal system evolve. We see this exploratory study as the starting point for a longer term programme of investigation. By extending this study we hope to track the further evolution of the sector and the unfolding biography (Hyysalo et al., 2018) of China's digital cultural industries.

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Appendix A

Table
(Anonymised) interviewees and roles^a.

	Companies	Interviewees	Date
1	Ali picture	Legal general counsel	(15-04-2016)
2	Alibaba (Beijing office) ^b	1) Digital platform senior experts, the Research Institute for cross-border e-commerce; 2) operational expert, Legal Dep of Alibaba Group	(16-12-2015)
3	Alibaba headquarters (Hangzhou)	GC, Entertainment platform	(04-06-2016)
4	Alibaba literature ^b	1) Legal GC; 2) Editor	(14-04-2016)
5	Alibaba music	Legal expert	(14-04-2016)
6	Baidu	Baidu International Government Affairs	(14-12-2015)
7	Baidu	Product manager (Beijing)	(16-04-2016)
8	Beijing Academy of Social Sciences	Media Research Institute	(21-04-2016)
9	Beijing IP Court	1) Deputy president; 2) copyright judge	(16-04-2016)
10	Bird&Bird	Lawyer	(12-04-2016)
11	Blue Ocean Networks Beijing	Hollywood producer	(30-01-2016)
12	Bridge Picture Ltd. Hong Kong	Film producer, Founding Partner, CEO. Previously producer for HK GreatWall Film, Sil Methopole Organisation Ltd.	(11-11-2016)
13	CCTV (China Central Television)	TV producer	(04-12-2015)
14	China Copyright Protection Center	Deputy director	(12-04-2016)
15	China Copyright Protection Center	Legal expert (separate interview from the above one)	(12-04-2016)
16	China Entertainment	Lawyer	(14-03-2016)
17	China Media Management ^b	1) Director; 2) expert	(25-03-2016)
18	China Reading Limited ^b	1) Senior legal director; 2) Chief legal advisor	(23-04-2016)
19	China-Britain Business Council	Sector head creative industries;	(03-05-2016)
20	Chinese Academy of Science, Institute for Policy Management	Associate professor specialised in IP issues	(15-04-2016)
21	Chinese association of audio and video works of collective management	Deputy secretary general	(19-04-2016)
22	Communication University of China	Professor, music and recording school	(23-04-2016)
23	Communication University of China ^b	1) Professor in literature and law; 2) Director of Cyberspace Law and Intellectual Property Study Centre; 3) Expert in copyright division, University Press; 4) Editor-in-Chief, Editorial Dept., University Press	(16-12-2015)
24	Curiosity China	Managing director	(31-03-2016)
25	European Patent Office	Director	(18-12-2015)
26	Flightmoon Media (part of Huairun Media Group)	Screen writer	(26-04-2016)
27	Former high level official in Ministry of Commerce, Leader (to be) of IP Law in China	Visiting professor, Tsinghua University Law School, former Deputy director general, Department of Treaty and Law, Ministry of Commerce	(17-12-2015)
28	Hangzhou Yinghua Yiping Film and Television Media Company	Chairman of the Board and Art Director	(05-04-2016)
29	Hogan Lovells	Lawyer	(14-12-2015)
30	Huayi Brothers Media Corp	General counsel (legal)	(01-06-2017)
31	Innovation Incubator	Director	(26-01-2016)
32	Intl. Federation of Phonographic Industry Beijing ^b	1) Expert-1; 2) Expert-2	(20-04-2016)
33	IP Key	Team leader	(29-01-2016)
34	IP Key -EU-China New Intellectual Property Cooperation ^b	1) Team leader; 2) Technical Expert	(18-12-2015)
35	IPR EU SME Helpdesk	Lawyer	(28-03-2016)
36	iQiyi	Senior legal director	(20-04-2016)
37	iResearch	President	(23-04-2016)
38	Irish Times	Hollywood reporter	(27-03-2016)
39	LeTV ^b	1) Legal general council (GC); 2) legal assistant, legal department	(15-12-2015)
40	Metis IP	Lawyer	(26-01-2016)
41	MIGU Co., Ltd.	Deputy president	(23-04-2016)
42	Ministry of Finance	The office for cultural enterprises	(14-04-2016)
43	Ministry of Industry and Information Technology	Industrial culture development center,	(19-04-2016)
44	Outdustry Music Rights	Expert	(11-04-2016)
45	PAE Pictures	Director	(31-03-2016)
46	Penguin China	Director	(29-02-2016)
47	Phoenix Inspivision	Director	(28-04-2016)
48	PKU Law School	IP professor	(21-12-2015)
49	Sino-EU film festival	Expert	(27-03-2016)
50	Tencent (Beijing office)	Head of general legal affairs, Tencent research institute	(09-11-2016)
51	Tencent Academy	Deputy director	(18-04-2016)
52	Tencent Academy	Legal expert	(18-04-2016)
53	Tencent Rights Protecting Center	Director	(23-04-2016)
54	The International Publishers Copyright Protection Coalition in China (“IPCC”)	Senior president	(14-04-2016)
55	Trade Section EU Delegation to China	IP Director	(05-04-2016)
56	UK Embassy	IP Attaché	(27-01-2016)
57	Universal Music China	Expert	(21-03-2016)
58	US Embassy	IP Attaché	(10-03-2016)
59	Zhongnan University of Economics and Law	Associate professor	(23-04-2016)

^a All names are anonymised in accordance with agreed consent arrangements.^b More than two participants present.

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Xiaobai Shen is Senior Lecturer in the University of Edinburgh Business School. Her background is in Science, Technology and Innovation Studies. Her previous work includes socio-technical analysis of technological capabilities in the ICT and biotechnology sectors, from a developing country perspective. Her current research interests concentrate on the innovation of public goods (such as, creative cultural contents, open source software, infrastructural ICT, agricultural biotechnology), and the role of Intellectual Property protection regimes, standards, and government policies and regulations. She is the author of *The Chinese Road to High Technology: the Case of Digital Telecommunications Switching Technology in the Economic Transition* (Macmillan 1999).

Robin Williams is Professor of Social Research on Technology in the School of Social and Political Sciences and Director of the Institute for the Study of Science, Technology and Innovation at the University of Edinburgh. His current work, building on earlier studies of the 'social shaping of technology', applies the Biography of Artefacts perspective to address the design and implementation of information infrastructures through multi-site and longitudinal ethnographic investigation. His latest books, co-authored with Neil Pollock, are: *Software and Organisations: The Biography of the Enterprise-Wide System* (Routledge, 2009) and *How Industry Analysts Shape the Digital Future* (Oxford, 2016).

Yinliang Liu is Professor in the Law School and Director of the Science and Technology Law Research Center, Peking University, Beijing, China. He holds an M.Sc. in Biology and Doctor of Laws from Peking University. He has been a postdoctoral fellow at the Institute of Advanced Studies of the United Nations University (2001–2002). After serving as associate professor at the China University of Political Science and Law (2003–2009), he joined Peking University Law School in 2009. He has published multiple books and tens of journal articles in the fields of intellectual property law and biotechnology law.

Shufeng Zheng is a research assistant in the Science and Technology Law Research Center of Peking University. She is currently a postgraduate student in Peking University (Intellectual Property Law) and the University of Hong Kong (Master of Common Law). Her research focuses on intellectual property law especially copyright and she has published several articles about this.

Yixiao Li is currently a PhD student in Peking University Law School.

Martina Gerst is an expert in innovation, ICT standardisation and IPR. She was affiliated with the Tsinghua University, School of Economics and Management.