Use of Social Media for Academic Purposes in China

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ABSTRACT

In this article, we summarize social media in the academic context and contrast the differences between social media usage patterns in China and the United States. We describe our research methods and present the final results of our investigation. Our specific contribution is to clearly delineate the unique social media ecosystem as found in mainland China and how it is used in academic settings. Social media is helpful for supporting auxiliary academic activities such as knowledge dissemination and maintaining existing work and social relationships but is not a suitable way for people to obtain information that are necessary to foster research collaboration due to trust and privacy concerns. The expectation that social media might support academic relationship building has generally failed. Participants also reported being overwhelmed by the lack of work and life balance due to the fact that social media platforms have been adopted by their academic institutions as the official communication channel for work. We suggest ways to leverage social media to promote academic activities while avoiding the pitfalls identified in this paper.

Author Keywords
Social media; Academic purpose; Usage pattern; Mainland China

ACM Classification Keywords
H.5.3 [Information Interfaces and Presentation]: Group and Organization Interfaces - Web-based interaction

1. INTRODUCTION
The wide adoption of social media in recent years has greatly increased our ability to communicate and coordinate. In addition to social, entertainment, and marketing purposes, social media has also seen increased usage in academia. Academic usages include teaching, learning, and scientific research. Current research about social media use in academia has primarily focused on countries in the Western Hemisphere but is relatively understudied in Eastern Asian countries, especially in China, due to the differences in

technological ecosystems. For example, WeChat, the most popular social media platform in China, was reported to have 963 million monthly active users (including more than 90% of academic scholars) in Q2 2017 [52,60], which is almost equal to all European Internet users and more than twice the number of North American users [50,52]. Popular Chinese social media platforms such as QQ and WeChat are mainly used among Chinese netizens because of factors such as language barriers and the Chinese government's active censorship of Facebook, YouTube, and Twitter.

According to Kantar report, the positive aspects of social media include "regulating mood and relieving stress," "make life more convenient and efficient," and "expand the social circle"[7]. "Friends circle", "Messages," and "Official accounts" are the top three functions on WeChat being used; people follow official accounts to access information (41.1%), do daily errands (36.9%) and learn new things (13.7%) [52]. The majority of the existing studies on social media usage in academic settings primarily focus on classroom case studies [5,38,63], where social media platforms such as Facebook, Twitter, LinkedIn or other social media popular in western countries are used to enhance teaching and facilitate learning in higher education[34]. To our knowledge, there is very little research focusing on understanding the differences of using social media to promote academic activities between China and the US.

In this paper, we focus on understanding why and how Chinese academics use social media, how social media is used by Chinese academics to facilitate their research, and whether it's an active mechanism for establishing and coordinating research collaborations and disseminating research outcomes in China. To answer these research questions, we conducted interviews and found that social media is especially helpful for supporting auxiliary research activities, but is only modestly effective in establishing research networks or enhancing career development. We also report a unique cultural context in how the Chinese higher education system adopts social media as a work platform, and the consequences it brings to Chinese academic users.

2. RELATED WORK

2.1 General Use of Social Media
Benefiting from mobile and web-based technologies, social media apps and sites create highly interactive platforms through which individuals and communities can share, co-create, discuss, and modify user-generated content while

also participating in social networking. Whiting et al. identified ten uses and gratifications for using social media: social interaction, information seeking, passing time, entertainment, relaxation, communicatory utility, convenience utility, expression of opinion, information-sharing, and surveillance / knowledge about others [4,9,58].

In the realm of business and entertainment, studies such as "Motivations for social networking at work" explained the impact that social software was projected to have inside the corporate firewall, and ultimately how staff would work together in the future[11]. Newson et al. gave practical guidance on using social media in business as well as the risks associated with it [1]. Safko provided practical examples of how businesses have successfully implemented strategies for using social media to reach their desired audiences with powerful and efficient messages in their book "The social media bible: Tactics, tools, and strategies for business success" [41]. Qualman talked about Socialnomics and how social media transforms the way we live and do business [40]. Another case study by Zhang details the early adoption and use of micro-blogging in a Fortune 500 company [68]. Research also offers advice for companies on when to utilize social media [25]. Kietzmann et al. presented a framework that defines social media by using seven functional building blocks: identity, conversations, sharing, presence, relationships, reputation, and groups, to help executives with understanding social media use [26]. Treem et al. uncovered four relatively consistent affordances enabled by social media—visibility, persistence, editability and association—that are important to the organizational communication processes [56].

In higher education, research has hypothesized that Web2.0 and social media platforms such as video, podcasts, and wikis can be valuable tools for teaching and collaborative learning. However, existing research has shown mixed or negative results in attempts to use social media to promote learning [10, 14, 36].

A literature review of social media use in higher education found that while most research projects rely on self-report data, there is very little evidence as to whether social media could facilitate effective learning outcomes [15,17,24,53,59].

2.2 Academic Use of Social Media in China

WeChat and QQ are the two most popular social media platforms in China now [50]. Previous studies on social media use in Chinese higher education commonly fall into the following three categories.

（1） General discussion about the feasibility and effects of adopting social media in teaching and learning. Yue et al. argue that mobile education involving social media platforms, such as WeChat, is a new experience in digital informatization teaching and will be one of the indispensable learning modes in the future [67]. Lu et al. found that social media use in teaching resulted in positive effects, such as enhancement of collaboration, creation of learning opportunities, improvement in enthusiasm and engagement, and reduction in teaching costs. It also led to some negative effects, such as lowering students' independence, integrity, and creativity, causing learning distractions, reducing persistence and reflection, interfering by presenting improper information, and influencing the development of students' ability to communicate in the workplace [31].

(2) Practices, educational platforms, and pedagogical models in social media assisted teaching. Such studies are usually conducted in language courses such as English as second language, and findings revolve around the possibility and feasibility of using social media platforms such as WeChat to assist formal class teaching [35,54,57,62].

(3) Use of social media by academic institutes to improve educational services. For example, research has focused on how college libraries provide interactive reading and knowledge dissemination services based on various social network platforms [12], deep integration of social media in academic publishing [66], use of social publishing in academic journals [39], construction of interactive platform for academic journals [51], and altmetrics research [30]. As social media has become increasingly popular and has exerted a more extensive influence on society [6], researchers have utilized social media for behavarial analytics, prediction, and evaluation purposes [43,44,46]. Biswas and Kirchherr have argued that evaluation to research performance could also include measuring social influence beyond current methods for academic achievement evaluation, such as citation analysis of publications and citations in prestigious peer-reviewed venues[3]. Research impact could involve knowledge dissemination among the academic communities as well as practitioner groups and the general public who are used to accessing recent research findings in areas that inform their professional practices and are relevant to their daily lives.

(4) Factors influencing university teachers' use of social media to assist knowledge sharing and teaching. Xu Meidan constructed the acceptance model of university teachers to use WeChat as an auxiliary teaching technology. The empirical research investigated factors influencing WeChat use in teaching among faculty. The results showed that perceived usefulness and perceived ease of use have a positive impact on the intention to use. While age and educational level have been found to have some impact on the intention to use, gender or prior experiences have no effect [64]. Research has also been conducted on factors influencing intention of sharing academic information using social media [21,61,71].

Existing research provides a good foundation for understanding the role of social media in academic settings; however, research about how social media is used by scholars in the higher education setting in China is still

largely understudied. Do Chinese scholars find social media useful and helpful for academic purposes? How do Chinese scholars leverage social media for research collaboration, knowledge dissemination, and career development?

2.3 Social Media in China Compared to the U.S.

There are plenty of social network sites around the world, and users have diverse goals in their usage. The two most popular in the Western countries, Facebook and Twitter, are blocked in mainland China due the Chinese government censorship, which isolates the general Chinese netizens from communicating with the populations outside of China [65]. Obvious differences exist between the patterns of social media usage in China and the Western countries. In China, users predominantly use a narrow set of government-sanctioned platforms to support a variety of purposes. In Western countries, although the majority of the social network platforms support both text content publishing and photo/video sharing, users are able to adopt different social media platforms to achieve different goals. Among the most popular social media platforms in the U.S. such as Facebook [2,32], Twitter [18,19,28,45], Instagram [22,23], YouTube, etc., users utilize each platform's respective strengths to achieve different aims. For example, people could use Facebook to connect with others and share photos to maintain personal relationships. They might also own Instagram or Pinterest accounts for formal/professional photo sharing and photo gallery curation; meanwhile, Twitter is primarily used to share small bits of information such as thoughts, quotes, links, and observations.

According to Statista, the top three social media sites QQ, WeChat, and Sina Weibo hold a commanding market share in China; just like Facebook and Twitter in the U.S. [50]. However, QQ and WeChat both belong to the same company, and QQ has more advanced file sharing and group function whereas WeChat mainly focuses on mobile features. Besides basic functions inherent in social media, WeChat blends functionalities in messaging, Facebook, Twitter, social gaming, mobile payment, and more into a single platform. For example, there are several Instagram/Pinterest-like apps in mainland China, such as LOFTER, Tuding, etc., but they are only adopted by a much smaller set of populations; none of them could achieve the similar degree of user adoption to what Instagram or Pinterest has achieved in Western countries. The most popular photo sharing app is, in fact, the WeChat friends circle. Even business could be done entirely through WeChat, including communication, contracts, distribution, payments etc. These unique differences make the social media ecology in China quite different from that in the U.S., significantly impacting the use of social media for academic purposes.

3. METHODS

We began our data collection by using the snow sampling method. We contacted over 20 scholars from different Chinese universities ranging from the authors' acquaintance to visiting scholars who had previously lived in the U.S. for a period of time. We began with informal conversations about their perception of social media use and adoption for academic purposes. The informal conversations focused on their general situation regarding social media usage. We then followed up with semi-structured interviews with 15 of those who were willing to participate in formal interviews. Our study participants consisted of researchers from provincial or national research institutes in China, as well as college teachers whose appointments varied from rather prestigious universities to regular colleges. The diverse composition ensured sample variety in age, discipline, professional background, and the level of organizations to which they belonged. All of the interviews were conducted on QQ and WeChat, the two most popular social media platforms in China. Some of them also had Facebook or LinkedIn accounts and had access to YouTube, microblog platforms such as Twitter, etc. despite the restrictions leveled by the Chinese Internet policy prohibiting widespread use of these social media platforms among Chinese academic communities.

Table 1 shows the demographic information for the interview participants. The "Unit size" column represents the number of faculty and staff in their academic unit, such as the school or department they belong to in the university, instead of the entire higher-level academic institution. About 80% of them had experience studying abroad in Western countries, which ensured that they had a good understanding of the differences in social media usage between China and Western countries. We do not specify the participants' home institution and academic units in order to ensure their anonymity.

#	Gender	Age	Major	Role	Unit size
P1	F	36	CS&MGT	Faculty	40+
P2	F	32	Art History	Faculty	60+
P3	M	45	Information Security	Faculty	70+
P4	M	44	Computer Science	Researcher	100+
P5	F	35	Public Administration	Researcher	90+
P6	M	52	Industry Economics	Researcher	150+
P7	F	40	English	Faculty	50+
P8	M	35	Business	Faculty	300+
P9	F	35	Economics of Law	Faculty	40+
P10	M	44	Computer Science	Faculty	60+
P11	M	44	Computer Science	Faculty	100+
P12	F	43	Information Science	Faculty	40+
P13	M	42	General Practice	Faculty	35
P14	F	40	Exercise Immunology	Faculty	60
P15	F	42	Pedagogy	Faculty	90

Table 1. Demographics of Interview Participants

The interviews lasted between 35 to 75 minutes each. The interview questions focused on themes related to their experiences with using social media for academic purposes (e.g., research, teaching, learning, networking, collaboration, etc.) and the perceived benefits and challenges. We tried to understand how the interview participants used social media to interact with professorial colleagues and academic

peers. We also asked them how they used social media differently when they were living in China and in Western countries. The interviews were translated from Chinese to English, and analyzed with an open coding approach [7]. The authors iteratively refined the emergent themes until saturation was reached. We report the findings in the remainder of this paper.

4. RESULTS & DISCUSSION

We found that social media is quite useful in supporting auxiliary activities relating to research, teaching, and learning, but it is not very helpful with academic development or establishing research collaborations. The results are summarized using the following categories: general usage, intentions, benefits, limitations, reason behind usage and suggestions/potential uses in the future.

(1) The most widespread of social media is to obtain information, yet it's usually bits and pieces of information; which is difficult for users to apply it to further tasks due to inadequate functional support on the social media platform.

Participants' main usage of social media for academic purpose is to obtain related information and track the research trends, which is similar with the results Han et al. found in 2016 [20]. Whiting et al. also identified information seeking and sharing as the most cited uses and gratifications of social media use [58].

"You could see many conversations on different topics in QQ or WeChat groups, then you could be inspired from these ideas and understand the research dynamics." (P9)

Nonetheless, this type of information acquisition is rather passive in most cases because the discussion (even in a social media group created for academic purposes) is usually quite casual. With multiple simultaneous threads, cross-message coherence is typically hard to infer.

Active information seeking through social media is target-driven, yet it doesn't contribute to core academic tasks.

"For me as an editor of an academic journal, when selecting a peer reviewer for a submission, you could determine whether or not his research is relevant to the topic of the submission from his blog (if he has one) and maybe shoot him an email inviting him to be the reviewer. However, if it is for an important collaboration for my research project, you must possess a deeper understanding [of the personality] of this person." (P4)

This perspective is pervasive among our participants, explainable by Goffman's (1978) information control and personal identity theory [16]. Most people tend to curate their virtual personal images on social media platforms, which in general, are what they wish others to accept. Our participants are often skeptical that social media profiles and posts can be taken at face value especially for academic and professional-related activities.

Almost all of the participants acknowledged that social media only works for very general bits and pieces of academic information, and it isn't their main means of accessing more valuable and specific research resources. Most indicated that social media is not very helpful for their professional development; on the whole, it's only a tool for receiving and posting peripheral information. If further information processing is needed, social media platforms, in most cases, aren't seamlessly connected with other professional software, such as Office, Mindmaps, etc [47,48,49].

Unlike Facebook users who could easily post or comment either on mobile devices or desktops; the mobile-born WeChat, the most popular social media currently in China, focuses on the mobile experience, which conforms to the trend of mobile technology. Our participants also reported experiencing difficulties reading and posting academic information on mobile devices because social media platforms are generally not designed to support academic usage at the onset. Compared with academic databases, information posted on social media platforms usually involves broader range of topics instead of being highly correlated with users' specific research interests. Chinese scholars also do not feel comfortable sharing their research results on social media platforms.

The less optimistic situation surrounding social media in academic information utilization could also be ascribed to the fact that the majority of users tend to check their accounts "when they have time away from work," which seems not good time to think about work-related questions.

P12 followed more than 10 public accounts related to research knowledge. When she found a useful post, she would "collect" it for "a more appropriate time in the future" instead of browsing through it at that moment. On the contrary, recreational and viral posts have a much higher chance of being read.

Furthermore, people also expressed concerns about being distracted by irrelevant information, even in academic communities. Due to the lack of control on social media, concerns about information authority and intellectual property also discourage social media use in academic contexts. Participants refrain from posting original research summaries due to content length and copyright limitations. They also strive to make the posts more attractive and interesting, which conflicts with the desire to make their posts appear to be credible and authoritative to some degree.

(2) Social media improves efficiency during informal academic activities such as community building and educating the public.

Due to the huge user base of QQ and WeChat, people with the same interests could gather information easily and quickly. Many participants claimed that they found social media to be a powerful tool for conducting informal

academic activities, such as conference organizing, calling for paper submissions, and disseminating research findings.

P9 and several other participants particularly stressed that "information sharing is quite quick via QQ or WeChat groups." Questions and interests can be expressed and discussed in the relevant academic groups. People also transfer the information to friends outside the group if they believe that the information is relevant to them. Participants have found that sharing academic news in social media groups is more effective than sending group emails.

"Let's use organizing a conference as an example, you send the information in a relevant WeChat group, and people will respond quickly so the conference could soon be organized. It is very efficient."(P4)

"The editor of CPA (an academic journal) invited all the writers who has contributed to the journal over the years in a WeChat group. When there are needs of academic compositions, requirements will be posted into the group chat and within a very short period of time, the editor will receive a lot of high-quality articles. Comparing with the traditional way, this propagation is more effective in timeliness and extensiveness." (P5)

The information diffusion ability echoes Kwak et al., who said that "once retweeted, a tweet gets retweeted almost instantly on next hops, signifying fast diffusion of information after the 1st retweet" [28]. Social media is effective in making information more accessible to a larger number of potential target audiences and making subsequent tasks go smoothly.

Traditional channels for releasing research results, by contrast, are quite limited in small groups and are often unknown to the public, while social media has a wider reach. Our participants mentioned how they successfully disseminated relevant research findings with WeChat groups such as non-profit communities and non-academic magazines and received many positive feedback and discussions. Another social science researcher is planning to share part of his new book through social media out of the concern that it would otherwise limit his audience to those who access the physical copy. He believes that social media could make a difference in improving access to and visibility of academic work among the public with the platforms' strong information dissemination capability. This view is echoed by the concept of "sociable scholarship" and the use of social media in the 21st-century academy [37]. In general, our participants believed that social media, together with many other Web 2.0 tools, could broaden the reach of academic findings and enable wider public participation further strengthen the academy's commitment to social justice.

(3) Maintaining and enhancing existing connections with peers, instead of creating new relationships
Social media's main advantage over traditional media is its merging between content distribution and social interaction.

For this reason, there is a perpetrated belief that social media could facilitate the creation of new connections and relationship building that could lead to fruitful academic collaboration and partnerships. Based on our interviews, we have found that social media has failed to lived up to the hype. For professional networking, most participants indicated that social media is only helpful for maintaining and enhancing their existing connections with peers, instead of creating new relationships. Such view echoes the result in Lampe [29] but differs with the result in Han et al., who investigated this phenomenon from the perspective of graduate students who are seeking to create more connections at the start of their career [20].

"I haven't had such experiences [of meeting somebody online and develop into research partnership offline] yet. As a matter of fact, QQ and WeChat both support closed groups, they are more about maintaining close relationship with friends living far away than making new social connections with strangers."（P6）

Another participant shared the same experience: *"As for WeChat, you thought you are making more and more friends, however, you'll find you are actually still within the same group of friends."（P2）*

P4 emphasized that *"trust building and academic collaboration of scientific research must be conducted upon mutual understanding. [Get to know a person] through social media is only a part of it. You still have to be in touch with them offline in real life."*

Besides, nearly all of the participants indicated that the most suitable communication method for research collaboration is still email, which has been proven to be the most successful application in the CSCW area by far.

Regarding whether social media helps them get to know or recognize experts in their research area, they typically report the following:

"It is unreliable to establish academic contact via social media. For example, expert A (a well-known professor in P1's research field) seldom uses these platforms. In this situation, you have no opportunity to meet him [through social media]. For serious academic questions, I'd rather choose the traditional ways like emails. QQ and WeChat are only appropriate for short and rapid communications." (P1)

P2 is now visiting a university abroad temporarily, and she keeps contact with domestic counterparts through WeChat. She has found that "to get in touch and start the relationship-building process is always through email." (P2)

"Collaboration between acquaintances and communications on specific things, I would use cell phones or telephone. QQ is too informal, if there is a need, I would transfer documents via email [instead of QQ]." (P2)

"Domestic collaboration is usually established by face-to-face communication or via email. [To coordinate] with foreign collaboration? No, I will not go for social media." (P9)

P8 did have several collaborators that he had never met in person. They have co-published papers and contacted each other through email, but he met them through mutual acquaintances instead of through social media. In these cases, the intermediary person acts as a necessary proxy to establishing the sense of trust.

In our interviews, participants report a general lack of success in fostering new collaborative relationships via social media. Hardly anyone views social media to be a proper approach for making new connections; face-to-face communication is still considered to be the most effective way of meeting a peer [27,33,42]. Our participants tend to add people they know at research venues such as conferences, seminars, and workshops into their social network and steadily develop it into a collaborative relationship if possible. No one reported that they had obtained new collaborative partnerships entirely through social media tools, even if they appeared in the same social media group. This result is different with prior research findings in this space "In online interaction, trust is not as necessary in the building of new relationships as it is in face to face encounters" [13]. The small-world phenomenon does provide more opportunities for people to connect with others in the world, but people are still concerned with trust-building when meeting for professional purposes.

Although Han et al. 2016's results differ from ours [20], it may be due to the fact that their study included mostly graduate students. Graduate students generally are less reputed and they have an urgent need to establish their professional networks for their budding academic career. In our work, we focus on current academic scholars in higher education, and they tend to be more cautious about making meaningful research connections that could deliver research outcomes.

As one of the top 3 most popular social media platforms in China, Sina Weibo is a media platform with social functionality whereas WeChat is a social communication tool with media sharing functionality. Although WeChat also has content sharing capability, the information is only accessible by a limited group of users that are added to the *circle of friends*. On the contrary, Weibo is publicly broadcasting, so users could access content easily without following certain accounts or joining some groups. When comparing between WeChat and Sina Weibo, our participants reported that they use Weibo to broadcast content to the general public whereas they use WeChat to maintain social relationships. WeChat allows the users to maintain real life connections virtually, whereas relationships on Weibo are essentially unidirectional and are much weaker than the stronger bidirectional relationships on WeChat. The differing affordances of these social media platforms is another reason why our participants universally mentioned that social media helps people with maintaining and enhancing existing connections instead of creating new relationships.

(4) Privacy, time management, and interruption challenges on using social media platforms for work communication in China

Privacy concern is a pervasive topic on all aspects of social media use, and the same is true for the academic settings. Davis III et al find that faculty members are highly concerned with multiple aspects of public use privacy surrounding class discussions and course materials, and personal privacy for students as well as for themselves [9]. When used to support academic tasks, we found that privacy concerns could become more nuanced.

In spite of the ease of communication between him and his research collaborators, P13 emphasized that it is impossible for him to discuss specific technical details through social media because users can do very little to ensure security. Too many security vulnerabilities could result in sensitive information leakage. He said his academic unit maintains a custom platform developed to support academic collaboration.

"It is always about copyrights when you are thinking about academic research, but the relevant policy/law of [exchanging information via social media] are not in place yet, so we will definitely transfer important information by emails instead of through social media."—P13

Many of our participants also expressed difficulties related to time management when using social media. Some participants even referred to themselves as social media addicts. Since QQ and WeChat provide many mobile-friendly features such as the ability to pay for a cup of coffee, call a taxi, book tickets, shop online, donate or pay credit cards, which in turn means they spend a lot of time on the integrated social media platforms daily. In addition, many organizations currently adopt these social media platforms as official channels for work communication much like Slack in the U.S. This subsequently increases the amount of time that they spend on the social media platforms. It has been reported by over half of our participants that their academic institutions require them to share their social media accounts for organizational purposes, with the majority of notifications and documents being distributed via social media. This is entirely different from social media use in the U.S., where email systems and official websites currently are still the main staples for official work-related communication and coordination. Therefore, the boundary between work and life is especially reduced and blurred for Chinese academics. Since the read receipt is invisible in WeChat groups, people feel obligated to check their social media accounts frequently to "clock-in" and ensure that read receipt is visibly displayed for expectation management. At the same time, it is difficult for them to avoid being interrupted by the context-switching and be distracted by non-work-related notifications and information content when attending to work functions. On the other hand, when our participants attend to personal messages for social and entertainment purposes during non-work hours, they are constantly

bombarded by work-related requests and messages during the evenings and the weekends. We found that very few people could manage the work and life balance on social media platforms. Over 80% of participants expressed their dissatisfaction with such a situation, stating that social media used in this way causes more anxiety for them, which greatly reduces their efficiency at work in the academic settings.

(5) Potential
When academics talk about opportunities and expectations of using social media for academic purposes, the feedback has generally been positive yet not very optimistic. Several participants said they believe that QQ or WeChat is only a tool for communication—it falls short for fostering new relationships and collaboration opportunities and people should not expect too much of its applicability in educational and research environments. Still, they noted some potential areas of use.

Participants believe that social media could foster broader knowledge dissemination and enable informal learning. Short videos could be very attractive for online learning, especially for those who no longer study systematically in educational institutes. Mobile technology and social media bring both challenges and opportunities to support learning. Popular Chinese social media platforms such as WeChat public classes (similar to MOOC platforms such as Coursera and edX in the U.S.), live classes on Zhihu (a popular Chinese Q&A platform that is similar to Quora and Piazza); and other modular "micro-classes" are increasingly popular in China [63,69,70].

P8 claimed that Wikipedia and YouTube and Google are effective self-learning tools. Although none of these platforms are easily accessible in mainland China, their functionalities are being replicated in Chinese social media platforms. Social media could help with bridging the gaps that exist among the academics, practitioners, and the general public. This could lead to further reforms of evaluating the impact of scholarly publications.

Different from P10's unsuccessful practice among undergraduate students, P4 verified the efficiency of social media when coordinating graduate students in research projects. Unlike undergraduate students, the research supervisor has more direct influence on the graduate students, and there exists a common research goal. However, small success alone may not lead to the conclusion that social media is successful in academic contexts. When there exists a lack of clear group or organizational structure [55], P12 observed that the discussions in large WeChat academic groups tend to be disjointed and lack coherence.

5. IMPLICATIONS FOR DESIGN
Although social media is convenient and efficient, its role in academic contexts is not without controversy. Based on the interview results, we suggest that the concerned parties should take the following suggestions into account when considering adopting social media for academic purposes.

(1) Understanding the limitation of social media
As a form of information and communication technology (ICT), social media is not a panacea to effective collaboration, and its adoption cannot guarantee a successful research outcome. Decision makers at academic institutions in higher education should be cautious when considering adopting social media for professional purposes.

(2) Have a clear objective, devise adequate policies, develop good time-management capability
The outcome of social media depends on its intended usage. When integrating these tools into daily academic activities, users should proactively define work objectives. Many setting choices in the social media apps could be used to support privacy settings and avoid distraction. Mindful use habits could reduce the negative effects of social media and draw a clearer boundary between personal and professional life.

(3) New features and enhancements for social media
More information management functions need to be added to assist transition and integration between the social media platforms and other work applications. Also, enhanced security features and settings must be present when disclosing sensitive work materials.

6 CONCLUSION
This paper describes an exploratory study to investigate the use of social media for academic purposes in mainland China. Our study finds a unique social media ecology and usage patterns among the Chinese academics. A lack of clear boundary is detrimental to user experience in both personal life and in academic contexts when social media apps are adopted as official communication platforms in academic institutions. Users are more effectively able to coordinate when users are grouped together by more defined objectives and there exists clear group or organizational structure. This echoes the role of traditional organizational and managerial structure to facilitate knowledge management and interdisciplinary collaboration. Deviating from general expectations on relationship building, our research found that social media is effective for maintaining existing connections rather but does not foster new relationships. One limitation of this work is the small sample size. The results need further validation with a large-scale survey. Future research could focus on factors such as organizational roles, prior relationships among group members, group size, organizational culture, and feature refinements for improving social media as a tool for supporting academic activities in the future.

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