Digitally mediated (dis)empowerment paradox in women-led group-buying during the Shanghai COVID lockdown

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Abstract

Extant scholarship increasingly attends to the mixed—and paradoxical—incorporation of information and communication technologies in social lives. Building on existing research, this study further explicates how digitally mediated (dis)empowerment paradoxes stem from the interactions among unevenly transformed structural affordances and constraints in the political, market, socio-cultural, and technological realms under digitalized contexts. Drawing on ethnographic data on women-led digital group-buying during the coronavirus disease 2019 lockdown in Shanghai, China, this study illustrates that the pandemic-inaugurated digitalization paradoxically transformed existing technological constraints into digital resources and techno-skills for women to lead digital group-buying and empower them socio-technologically. Yet these empowerments paradoxically turned into new gender inequalities, as entrenched state and market inequalities compelled female organizers to meet added or dueling burdens. This study, therefore, contributes to understanding the re/configuration and varied interaction patterns of different facets of structural affordances and constraints that condition digitally mediated (dis)empowerment paradoxes under digitalized contexts.

Keywords: empowerment, disempowerment, paradox, group-buying, COVID-19 lockdown.

Recent scholarship has increasingly problematized reductionist accounts of information and communication technologies’ (ICTs) roles in social lives and recognized their mixed or contradictory implications (Bailur et al., 2018; Mansell, 2017). Some researchers further noted digitally mediated (dis)empowerment paradoxes. That is, technologically enabled affordances and digital engagements may have “backfired” and engendered, unexpectedly, disempowerments (David & Phillips, 2022; Sobieraj & Humphreys, 2021), or vice versa (Pei & Chih, 2021).

These studies point out that digital (dis)empowerment paradoxes arise from mutually conflicting or reinforcing interactions among different facets of structured settings—political, economic, socio-cultural, and technological—which simultaneously afford and constrain actors’ abilities in employing ICTs to change their life circumstances (Platt et al., 2016). In the digital economy, for instance, women and other minorities may have leveraged digital affordances in accumulating economic and social capital; yet they unexpectedly accrued added material and immaterial labor due to structured inequalities in domestic and professional spheres (Jarrett, 2015). In other words, structural affordances and constraints in different realms may bring about competing or incommensurate conditions and demands on actors, leading to paradoxical experiences and outcomes.

Women and vulnerable populations felt these paradoxes most viscerally, as multi-pronged structural constraints usually compete with affordances in technological and other structures (Wallis, 2011). During crises, such as coronavirus disease 2019 (COVID-19), women may have encountered heightened technologically mediated (dis)empowerment paradoxes, as mass isolation measures inaugurated sudden digitalization that radically transformed rules in many realms of social life and rendered gaps and tensions among structural affordances and constraints sharper (Nguyen et al., 2021). On the one hand, insufficient ICT access and technologically induced socio-economic inequalities subjugated women worldwide to more health risks, unemployment, and caring duties; on the other hand, they also showed remarkable levels of resilience in utilizing ICTs to turn the pandemic’s devasting effects into empowerments (ILO, 2020; Krishnan, 2022).

Chinese women, in particular, felt these digitally mediated (dis)empowerment paradoxes most acutely, as the country was hit more severely than elsewhere. How and why did such...
paradoxes arise and unfold? Using 56 in-depth interviews with key stakeholders in women-led digital group-buying during the Shanghai lockdown, this study illustrates that COVID-induced digitalization unexpectedly turned technological constraints into resources and enabled women to be group-buying leaders. Yet, the COVID digitalization did not change—but preserved and reconfigured—gender hierarchies in the market and state institutions, which constrained women’s empowerment and turned them into new digital disempowerments. The study, therefore, complements existing studies on the mixed, paradoxical incorporations of ICTs by elaborating the ways in which different facets of structural affordances and constraints were transformed in uneven ways when contexts shifted, and their varied interaction patterns led to different forms and trajectories of digital (dis)empowerment paradoxes.

Literature review
Digital (dis)empowerment paradoxes

The duality and mixed effects of ICTs on gender power dynamics have been documented in numerous studies (Wajcman et al., 2020). Recent studies further indicated that structural affordances and digital engagements unexpectedly lead to disempowerment, or vice versa, that is, the digital (dis)empowerment paradox (Pei & Chib, 2021). Disaggregating different dimensions of structures, existing scholarship suggested that such paradoxes may arise from varied dynamics when actors appropriate ICTs under conflicting, mutually reinforcing, and “flipping” structural affordances and constraints (Chib & Chen, 2011; David & Phillips, 2022; Kang et al., 2018).

First, digital (dis)empowerment paradoxes may arise from conflictual interactions between digital engagements and competing dimensions of structural forces (David & Phillips, 2022; Platt et al., 2016). Specifically, scholars disaggregated different facets of structural contexts and found that they may pose “oppositional pulls” in which some structures, for example, economic, may offer affordances to empower women and minorities while others, for example, socio-cultural traditionalism, may constrain or negate such digital empowerment, leading to disempowerment or mixed outcomes (Chib & Chen, 2011). Many ICT empowerment programs deployed in developing regions, for example, failed to deliver intended economic or political empowerment for women because their designs—although enabling many technological affordances (such as expanded digital access, devices, and literacy programs)—usually disregarded local socio-cultural constraints (gender norms) and encountered backlashes and ended up disempowering women (Murphy & Prieb, 2011). In many instances, women in the Global South have leveraged ICTs’ affordances to facilitate their e-business endeavors and improve their financial and social statuses in the family and community; yet cultural mandates that imposed caring obligations on women led to added family-supporting burdens (Singh et al., 2017; Svensson & Wamala Larsson, 2016). Otherwise, while traditionalist constraints and religious taboos may antagonize women’s uses of ICTs, women strategically maneuvered their digital uses within orthodoxy and patriarchal rules so that they could maximize technologically enabled empowerments, for example, business advancement, socialization and leisure, and community building (Masika & Bailur, 2015; Shahar, 2017).

Furthermore, structural affordances and constraints may mutually reinforce each other in which digital empowerments in one dimension seem to engender disempowerments in another (Åström & Karlsson, 2016; Duffy & Pruchniewska, 2017; Duffy & Schwartz, 2018). For example, the digital new economy turned gendered roles and attributes—women’s sociality and personable characters—into resources for female digipreneurs in expanding client bases and achieving business successes; these economic empowerments, however, forced women to further conform to gender stereotypes and invest added emotional and immaterial labor, which led to the “feminization of social media employment” (Duffy & Schwartz, 2018, p. 2972; see also, Duffy & Pruchniewska, 2017; Jarrett, 2015). Similarly, the flexibility of work arrangements in the gig economy appeared to have afforded women expanded opportunities to better balance work-life dual duties and find alternative employments and enhance their financial viability; yet such arrangements also entrenched socio-cultural norms and forced women to stick to aggravated caring duties (Dokuka et al., 2022; Hunt & Samman, 2019; Tubaro et al., 2022). Likewise, pandering to gendered expectations of communication styles, women who leveraged social media’s network effects and digital spaces have expanded their online social capital and visibility; but they also incurred surveillance and sometimes cyber violence to further conform to femininity norms (Komen & Ling, 2022; Zhao & Lim, 2021).

Lastly, ICTs’ paradoxical incorporations may also stem from “context flips,” as what appears to be technologically imposed constraints in one context may be viewed as or turned into affordances in another setting, or the other way around (Chib & Nguyen, 2018; Kang et al., 2018). As shown in North Korean female refugees’ experiences with mobile phones, owning and using ICTs incurred surveillance and retaliation while they were in North Korea and China; yet technological uses became afforded, if not necessitated, in South Korea (Kang et al., 2018). With shifting contexts, strategic digital self-curtailment and storytelling were employed by migrant mothers and mothers-to-be as they tried to circumvent patriarchal families’ gaze and stigmatization while building and showcasing ICT-mediated intimacies to counter isolation and the motherhood myth (Kang, 2018; Waruwu, 2022). Besides, context flips may also happen when digital technologies collapse or disaggregate existing boundaries and, thus, shift the conditions and outcomes of digital engagements. When digital contexts between work and family were rigidly separated, Singapore trans sex workers could benefit from utilizing social media to solicit clients and connect with family members; yet, when digital boundaries blurred, their social media presence may alienate them from family and friends and forced them to withdraw from these sites (Chib et al., 2021; Chib et al., 2021). In all, as digitally driven (dis)empowerments are “contextually sensitive conceptualizations,” structural affordances and constraints that engender the paradoxical outcomes should be also examined in situated, dynamic manners (Malhotra & Ling, 2020, p. 41).

Complicated digital (dis)empowerment paradoxes in China

In contemporary China, paradoxical patterns of digitally mediated (dis)empowerment have been nested in the complex power matrices of Confucian mandates of “women’s virtues” (nuide) (Gao, 2008), “patriarchal capitalism with Chinese characteristics” (Meng & Huang, 2017, p. 659), and the
First, paradoxical effects of digital engagements in China can be observed most notably from competing structural affordances and constraints in the cultural realm and political, commercial institutions. Traditionalist gender norms deeply rooted in Confucianism usually collided with neoliberal-driven state institutions and commercial platforms in (dis)empowering women, as demonstrated in the digital "she economy" (Ali Report, 2022; Zhang & Jurik, 2021). Fueled by the state and the tech giant, Ali (China's Amazon), village e-commerce mobilized rural female entrepreneurs into the new household economy and enabled them to achieve considerable economic power; yet Confucian tenets of women's domesticity and immobility—particularly salient in the countryside—forced women to transfer the legal and practical control to their husbands and, thus, reproduced the masculine structure in these presumable female-dominated businesses (Cui & Pan Shan, 2016; Yu & Cui, 2019; see similar, Wallis, 2015). While the neoliberal state-market mobilized women as untapped human resources for the country's growth and inadvertently afforded them expanded opportunities for socio-economic mobility (Yu & Cui, 2019), gender traditionalism competed with these opportunities and thwarted their further empowerment in the digital fem-preneurship. In other instances, however, rural women strategically leveraged their parents-in-laws’ authorities rooted in Chinese filial piety and women’s virtue of thrifty housekeeping (qinjian chijia) to discipline their husbands’ “reckless spending” and, in this way, took back control over digital bank accounts of these family businesses (Liu, 2022). In other words, seeming cultural constraints enabled women to push back unfair terms and re/gain control in managing family finances.

Furthermore, with the retreat of state feminism and the rise of neoliberal ethos (Roefel, 2007), mutually reinforcing interactions between structural affordances and constraints in digital work were also brought into sharper relief. Digital promises and beliefs of gender equality, freedom, and justice paradoxically fed into compliance with or acceptance of digital self-subjugation and disenchantments. This paradox is seen most palpably in the re/invention of a neo/liberal identity among Chinese women through digital consumption and labor (Guo, 2022; Meng & Huang, 2017; Orgad & Meng, 2017). On the one hand, Double Eleven and similar national e-shopping holidays seemed to salvage women from socialist gender sameness by re/affirming their individuality and autonomy through digital purchases; on the other hand, they also molded shopaholic femininity that fed into further neoliber alization of the state and market (Meng & Huang, 2017; Li, 2020; Huang, 2021). In digital prosumention, appropriating both technomobility and post-socialist modernity ideals, transborder female resellers achieved a sense of self-autonomy and mobility by exhibiting their international shopping travels on social media; yet such digital exhibition work also tied them constantly in front of cameras and performed soft self-branding, which strengthened “biopolitical governmentality of both advanced capitalism and the patriarchal Chinese state” (Zhang, 2017, p. 187; see also, Zhang, 2018). In another instance, China’s maker movement—adapting to neoliberal sexism and racism—enabled young Chinese women to participate in creation processes and exhibit their creativity; yet they were also trapped in the “happiness work” that reproduced ideals of white male entrepreneurship (Lindner, 2020).

Lastly, digital (dis)empowerment paradoxes engendered by context shifts also took unique patterns in China, as ICT-enabled im/mobilities changed along with the country’s shifting power geometries within and across national borders. As the rural-urban divide in China has been instituted through the household registration system (hukou), rural women acquired computer literacy skills and moved to urban regions to get rid of status subjugation and poverty; yet, after migration, these digital skills failed to deliver empowerments but put them in menial data-input jobs precisely because of their “backward” rural background (Wallis, 2013). Alternatively, Chinese women also selectively leveraged ICTs to shift the contexts and turn digital disempowerment into empowerment. For example, while ICTs collapsed physical distances between migrant women and their families by putting them in a common spatio-temporal digital space, women tried to re/establish boundaries by minimizing the use of synchronous communications or media-rich features of digital devices to push back surveillance and create more autonomous space for themselves (Kang, 2018; Pei, 2021). These digitally mediated (dis)empowerment paradoxes were further complicated during crises when radical digitalization of social lives reconfigured aforementioned structural affordances and constraints.

Digital (dis)empowerment paradoxes in COVID-19

Pandemic control policies since COVID-19 have radically precipitated technological mediation of social lives and heightened digital (dis)empowerment paradoxes (Yap et al., 2021). In China—a country hit most devastatingly by the pandemic—two forms of digitally mediated (dis)empowerment paradoxes stood out saliently. On the one hand, heightened digitally driven structural constraints did not seem to suppress, or trigger, women’s digital participation and empowerment. On the other hand, these digital empowerments also appeared to have furthered digitally mediated disempowerments for women.

As social distancing policies shifted most work and daily activities online, structural constraints in work, socialization, and health—when interacting with prior digital constraints—seemed to have further disadvantaged the underprivileged. Due to remote online work, women faced graver job insecurities and health risks (Alon et al., 2020; Yavorsky et al., 2021), added work-life tensions (OECD, 2020), and higher levels of distress (UN Women, 2020a). Indeed, multiple digitally induced structural constraints formed “feedback loops” in reinforcing female’s vulnerabilities during the pandemic (Zheng & Walsham, 2021). Paradoxically, these technologically driven constraints did not seem to deter them from appropriating ICTs to shield themselves and their communities against risks. Women were active in formal and grassroots organizations and mutual help networks that distributed crisis relief information, offered legal assistance to victims of gender-based violence, and lent mental support to underserved populations (UN Women, 2020b).

The paradoxical intensification of digitally mediated constraints and empowerments has been manifested most palpably in China, as the country’s “Zero-COVID” policy and periodical lockdowns exacerbated digitally driven structural
constraints, which also prompted ingenious responses. The stringent containment measures deepened gender injustices through digital surveillance (Yu, 2020) while exploiting gendered tropes to extract unpaid care labor from female workers on social media (Cao, 2022). In contrast, Chinese women showed remarkable levels of resilience against these digitally mediated constraints and led many hybrid online-offline civic organizing initiatives (Yang, 2022). Feminist grassroots organizations, for example, built online support networks to offer help and maintain women’s mental well-being (Zayts-Spence et al., 2023). Alternatively, social media activist campaigns, for example, #Anti-DomesticViolenceLittleVaccine and #SeeingWomenWorkers, were launched to curb violence against women (Bao, 2020) or bring visibility to female workers’ contributions in the pandemic containment. During the Wuhan lockdown, digitally mediated intergenerational care—mostly by daughters—helped old people obtain daily necessities and navigate lives amidst uncertainties (Yu et al., 2023).

Yet studies also warned that such empowerment somehow turned into new digitally mediated gender constraints. By contributing to #workfromhomewithchildcare, work-from-home mothers forged a collective space to express their distress to aggraved caring burdens during the COVID lockdown; yet the humor-imbued aesthetic circumscribed its critical potential and reproduced the motherhood myth (Han & Kuipers, 2021). Likewise, while Mainland female migrant workers in Macao leveraged social media to relieve stress, heavy usage also led to social media addictions and added anxiety (Ju et al., 2023). In all, the aforementioned studies alluded to how shifting contexts have aggravated or engendered existing and new forms of digital (dis)empowerment paradoxes. More analyses, however, are needed to specify in which ways specific structural affordances and constraints have been transformed and how their interactions led to the paradoxes. In particular, how did digitalization during the COVID-19 lockdown transform structures in political, market, social, domestic, and professional spheres? How did these transformed structural affordances and constraints impact women and other vulnerable populations’ abilities to empower themselves? What are the implications of the latter’s strategic responses to these varying—and oftentimes competing—structural affordances and constraints? This study uses women-led group-buying in Shanghai’s COVID lockdown as a case to answer these questions.

The case: women-led digital group-buying during the Shanghai COVID-19 lockdown

Since March 2022, Shanghai witnessed surging Omicron infections. Under China’s “Zero-COVID” policy, the municipal government first enforced partial lockdowns and then a complete lockdown on April 1, 2022. Unpredictable traffic controls and massive quarantine of delivery drivers immediately collapsed most online grocery stores’ supply chains, leaving millions of Shanghai residents starving.1

A new form of digital economy—community group-buying (group-buying hereafter)—emerged to fill the void. Residents in the same locked neighborhoods purchased items in bulk and then had them delivered directly from suppliers to their apartment compounds. Compared with individual shopping, group-buying required far fewer delivery couriers yet explosive amounts of organizing labor. Group-buying organizers, that is, tuanzhang, played essential roles in coordinating such bulk orders. They would first assess the demands and send calls and descriptions of the goods in WeChat groups (qun, similar to WhatsApp groups) to ensure the minimum number of orders. Then, tuanzhang needed to tabulate them and collect payments from residents who joined in group-buying. Meanwhile, tuanzhang started scouting and contacting state-authorized suppliers to place and track the orders. To ensure that the goods were safely delivered to their neighborhoods, tuanzhang also had to get permission from the Neighborhood Committee (juweihui), that is, the grassroots state agency that enforced lockdown measures, to let delivery drivers in the residential compounds and distribute them to individual households.

Although men usually dominate the economic sphere, most group-buying in this digital economy was led by women.2 This study, therefore, utilized multiple strains of qualitative data to explain how and why women organized group-buying against technological and other limits to empower themselves and Shanghai residents, as well as its consequences on gender hierarchies.

Data collection

To account for the changing structural contexts and their impacts on women-led group-buying initiatives, this study mainly builds on in-depth interviews and online participant observations from March 2022 to 2023. First, we conducted in-depth interviews with 56 key stakeholders who played critical roles in the Shanghai digital group-buying crisis economy, including female and male tuanzhang, volunteers, suppliers, delivery drivers, and residents who took part in group-buying (Supplementary Table 1). Because of the lockdown, we recruited and interviewed the informants mainly through the two popular Chinese social media sites, Weibo and WeChat (China’s Twitter and WhatsApp). After observing online calls from Shanghai residents who were running out of rations (e.g., under Weibo’s Super Topic), we first identified and contacted several tuanzhang (mostly women) to know how and why they organized group-buying. Based on existing literature and our observation, we constructed the interview guide with semi-structured questions, for example, their experiences of the lockdown, group-buying organizing processes, and the implications on their lives (Charmaz, 2014). Each interview lasted from 40 minutes to about two hours through internet phone calls.2

Furthermore, we also complemented the interviews with online observation in WeChat groups, under themed topics

Methodology: case selection, data collection, and analysis

This section outlines the background of the case before detailing the data collection and analysis strategies. The case is selected because it captures complicated processes in which digital disempowerment and empowerment seemed to mutually engender each other under technologically shifted contexts. By showcasing heightened digital (dis)empowerment paradoxes in ICT-saturated contexts, the study serves as an “extreme” case (Flyvbjerg, 2006) to bring into relief the broader trends and distinct power dynamics in non-Western settings.
on Weibo, and in Douban (similar to Reddit) discussion groups. For this specific study, we drew on five extended ob-
servation memos and two photo memos. Besides, many
informants also supplemented their narratives with other
data sources, for example, chat records, pictures, and videos
of the lockdown and group-buying, peer-produced self-help
online guides, and other digital records. The variety of the
sources not only helped us triangulate our data but also
enriched our understanding of the dynamics in this women-
led digital economy.

Data analysis
Following constructivist grounded theory (Charmaz, 2014),
the interviews and data analysis went hand-in-hand (Ellison
et al., 2006). Each interview was recorded and immediately
transcribed. We anonymized all informants’ names and
imported the interview transcripts, along with observation
memos and other materials to Maxqda for three rounds of
data analysis. First, during initial coding, we coded the tran-
scripts line-by-line through constant comparative methods
(Thornberg & Charmaz, 2014). Significant and frequently
mentioned codes, for example, women’s digital shopping
experiences, were selected for theoretical sampling and inter-
view guide refining. That is, we used initial codes to identify
key stakeholders (such as volunteers and residents) and gaps
(e.g., digital resources upon which women tuanzhang drew in
the organization) in understanding digital (dis)empowerment
processes in group-buying. Then, we tweaked our interview
guide by adding and dropping questions and recruited these
informants to fill in the missing links. The sampling pro-
cedures followed theoretical sampling since the recruitment
and interview questions were evolving to enrich the central
concepts and their properties and dimensions (Charmaz, 2014;
Xie, 2008). Overall, while our informants covered a wide
geographic diversity and residential status in Shanghai,
women tuanzhang are largely from urban, professional,
middle-class backgrounds (see demographic information in
Supplementary Table 2).

Subsequently, during the focused coding stage, we used the
initial codes to “sift through” our data and integrated codes to
abstract them into conceptual categories (Thornberg & Charmaz, 2014). We identified the central tensions between
digital constraints and COVID-induced affordances, women
tuanzhang’s group-buying organization and institutional envi-
nronment, and digital empowerment and disempowerment for
women tuanzhang (Supplementary Table 3). Lastly, in theore-
tical coding, we combined the literature on digital (dis)empow-
erment paradoxes with Glaser’s (1978) coding families—
paired opposite and process—to formulate how changing structural affordances/constraints and digital engagements en-
gendered digital (dis)empowerment paradoxes (Figure 1).

Digitally mediated (dis)empowerment paradoxes in the Shanghai lockdown

The Shanghai COVID lockdown inaugurated a sudden digi-
tal mediation of social lives and ruptured all existing struc-
tural rules. The changing circumstances turned technological
disadvantages in the domestic and work realms into digital
skills, resources, and networks for women to organize group-
buying. By leading these digital initiatives, women tuanz-
hang, thus, managed to feed themselves and others, garnered
more economic, social, and technological capital, and headed
off social isolation and anxiety. Yet patriarchal structures in
state, market, and social institutions persisted vis-à-vis digita-
lized context and converted digitally mediated empowerment
into new gender inequalities. The following sections explicate
the paradoxical implications of COVID-induced digitaliza-
tion by specifying how shifting structural affordances and
constraints in different realms interacted in broadening or
blocking opportunities for digital empowerment.

Digital subversion and preservation of
gendered roles

Before COVID-19, ICTs had already extended unequal divi-
sions of roles by imposing online shopping responsibilities on
women; these digital shopping duties also accidentally pre-
pared them with digital shopping experiences and networks
to organize and lead group-buying. Yet, although assuming
central roles and decision-making power, women tuanzhang
were still curtailed by gendered divisions of labor and subor-
dinated to men’s control and immobility since COVID-
induced digitalization did not appear to unsettle gendered
market and state structures that support male suppliers’ and
volunteers’ dominance.

As documented in media reports and witnessed by the
informants, women tuanzhang substantially outnumbered
male ones.

Yes, among most of the tuanzhang that I know of, the ma-
ajority of them are female—70% of them are women. Male
[tnanzhang] indeed are truly rare…so in our team of
tuanzhang, we have about three or four men. Our team
has relatively more men [than other teams]. (Ma)

Besides, women tuanzhang also took leading positions and
exerted considerable decision-making power, for example, in
deciding the items on group-buying lists and strategizing de-
livery plans. In contrast, men seemed to be relegated to subor-
dinate roles, for example, volunteers, as they merely
followed orders.

The subversion of gender roles can be seen in women
tuanzhang’s definition of “necessities.” To minimize the risk of
contracting the virus via deliveries, there was a consensus to
limit group-buying to satisfying essential needs only.
Women tuanzhang, however, decided to satisfy “unique” fe-
male needs, for example, female hygiene products, with rela-
tively low demands. “Then some [women] tuanzhang also
started pulling orders for female hygiene products…they
worked really hard. In fact, [for] these hygiene products…
our neighbors really did not need such large quantities. It was
difficult to form a bulk order” (Feng). In contrast, men’s
demands for cigarettes or alcohol were dismissed as “non-
essential,” even though these orders had much higher
demands. Male residents, thus, had to turn to the very few
male tuanzhang to satisfy their non-essential needs, “[for my
occasional orders of] cigarettes or alcohol, I’d ask for male
[tuanzhang]” (Cui). By exerting their decision-making power
and redefining what constituted “essentials,” traditional gen-
dered roles that required women to submit to men’s business
decisions also seemed to be reversed (Wallis, 2015).

Paradoxically, it was exactly traditionalist gendered role
divisions that equipped women with the requisite digital
knowledge, experiences, and networks to take charge of this
digital crisis economy. Indeed, COVID-induced digitalization
moved to the center many hitherto mundane, invisible digital
domestic labor and skills, for example, online shopping information and social media connections to vendors. Women’s disadvantaged positions, in many ways, became sources of digital empowerment in enabling them to lead group-buying.

First and foremost, as the lockdown collapsed most regular retail shopping sites online and offline, women’s familiarity with less-known digital shopping venues and channels helped them secure reliable, continual provisions for group-buying. Indeed, while the municipal government publicized official channels to reach out to daily essential suppliers, many people found that these providers’ hotlines were busy or they immediately ran out of stock as starving Shanghai residents instantaneously grabbed everything upon notification.

There are some official channels [of suppliers] … [released by] the Shanghai municipal or Changning district government … But as long as the government publicized such information, it became harder to get through the hotlines because everyone was calling them. So we preferred to go for … more reliable resource providers. (Feng)

Women tuanzhang, hence, resorted to small, nearby digital vendors that they used to frequent for their households’ daily groceries. To get notified of fresh, quality products with more affordable prices, many women had added nearby vendors’ digital contacts (e.g., WeChat). These digital contacts became invaluable channels for women tuanzhang to procure daily necessities that were acutely undersupplied during the lockdown.

[Before the lockdown] I used to like frequenting some small stores on a regular basis. And I’d add my favorite store owners’ WeChat contacts. And at one point [during the lockdown], an owner said that he had milk provisions and could guarantee the quality of the milk. He also showed us all the certificates [of the milk and delivery] … We thought that we have many old people and little kids in our apartment building, and many little kids couldn’t do without milk. They need it every day. So we thought we might give it a try and start group-buying. (Shan)

Many men also acknowledged that women tuanzhang had an edge in locating group-buying suppliers because they were more familiar with various shopping channels in their routine domestic labor in purchasing and stocking essentials for the family.

Because they [women] may need more things in large quantities. Then they paid more attention to these shopping channels regularly. Maybe [they] paid more attention than we guys did. Because they need them more, right? And they might also attend more to different facets of [the shopping] information. (Li)

While Li and other men thought that women’s personal needs and shopaholic femininity (Meng & Huang, 2017)—instead of caring roles for household members—prepared them for group-buying, they still affirmed the value of such skills during the pandemic.

Aside from their past digital connections to vendors, many women also broadened their sources of supplies through social media sharing networks. As women perform most domestic shopping duties, they are also more likely than men to share shopping tips and offer advice on social media. Xiaohongshu (similar to Instagram)—a female-oriented social media app in which they share lifestyle information (Guo, 2022)—became the main site to seek and share provision information among Shanghai women tuanzhang. Xiaohongshu’s optimized searching and hashtagging functions particularly helped them locate suppliers.

[Women] are more inclined to share things … [I found the suppliers’ information] on Xiaohongshu. I was searching...
on Xiaohongshu to see whether [they had tips to get] provisions. Then I messaged them and asked them how to organize group-buying. Then at one point, I managed to get into a [women] tuanzhang’s chat group where they shared many many providers’ [information]. (Chen)

Beneficiaries also further spread such suppliers’ information to others. Shan recalled how she benefited from others’ social media posts of milk, bread, and cakes and decided to relay the information to others on Xiaohongshu. In all, women tuanzhang formed loose networks of digital sharing through these apps.

Gender empowerment in the digital realm, nonetheless, did not disrupt gender biases in the market and policy spheres. While women appeared to have dominated group-buying and transformed gendered roles, male vendors and suppliers still controlled critical resources from behind. Many informants indicated that food and other essentials suppliers are predominantly male.

This uncle [male supplier] is like Doraemon. He continually supplied [all kinds of] resources, protective gears, instant noodles, fresh meat just like coming directly from the butchery. I have never seen such a big ham ... lots of chicken legs, eggs, and milk. (Miao)

As long as men routinely dominated top positions or owned businesses (Liu, 2013), they retained and entrenched patriarchal market power through their control of the supply chain, even when women tuanzhang seemed to ascend to centrality in this digital economy. Ultimately, women’s very visible labor, for example, leading roles in the frontage, was an extension of their often-invisible care work, as they still depended on male suppliers to channel goods and resources to them.

Moreover, the state furthered male dominance by allocating them other essential resources, for example, traffic passes. While no one was allowed to leave their neighborhood compounds during the lockdown, neighborhood committees issued traffic passes predominantly to male tuanzhang, suppliers, and volunteers. “Because he [a male tuanzhang] has the traffic pass. He can go out. So he can contact those supermarkets that are still open [offline] but not on digital platforms, and he will help us purchase things” (Hua). Neighborhood committees and other state agencies afforded men these critical resources on the sexist assumptions that men’s inherent abilities and physical strength made them more suited for masculine tasks, for example, driving or delivering goods.

[The neighborhood committee] would ask females not to go [for volunteering]. [They would say that] things are all pretty heavy ... when delivering the rice, they [directly] asked if men would like to help, [saying that] it’s heavy, to protect [women]. (Jia)

Invoking benevolent sexism, that is, reinforcing gender role divisions in the name of protecting women (Blumell, 2020), the state thought that men were physically superior for driving and delivering tasks and thus, gave them traffic passes and opportunities to move around and get critical resources. Women, in contrast, were forced to be immobile and stay at home. In all, the patriarchal market and state curtailed the transformative potentials of digital group-buying and preserved gender hierarchies even under radically shifted conditions.

**Digital expansion and expenses of techno-social capital**

Previous scholarship indicates that unfair divisions of labor at work and home relegate women to digital “housekeeping” roles, for example, managing and curating data (Horst & Sinanan, 2021). Yet group-buying—as a novel form of make-shift digital economy—centered on such data processing skills and digital labor. Women, hence, leveraged their digital savviness to further expand their techno-social capital, for example, data management skills and social connections through peer sharing. In performing these tasks to empower themselves techno-socially, however, women tuanzhang were also exposed to the conflicts between outraged, deprived residents and volatile markets and bureaucracies. Women tuanzhang had to expend the newly gained capital to settle these sociopolitical tensions.

Recent scholarship on gender digital divides indicates that women’s digital literacy and uses have been largely ignored or undervalued as they have performed mostly invisible, un(paid) digital “housekeeping” labor at home and work, for example, data cleaning, curating, and archiving (Marshall, 2021). As group-buying heavily relies on these types of digital housekeeping activities, women tuanzhang took advantage of their technological know-how to gather and evaluate information, tabulate residents’ needs, finalize orders, and collect payments through a range of digital tools and apps (Figure 2).

Initially, I saw that they were organizing group-buying ... and I joined the [WeChat group]. But I found everything was in a chaotic mess ... It occurred to me that my job is related to data analysis ... Then I offered to help them with the online forms [of the digital orders and payments] ... later I became the leader in heading group-buying. (Feng)

Digital bookkeeping is the most basic [digital housekeeping that I do] ... and I also [use] many other digital products [AI and Internet of Things] ... they together ... definitely helped [my group-buying organization]. They helped us to be more efficient and [we] can pull data and other things anytime we want [just like how we digitally manage household chores]. (Wen)

Ironically, gender biases at work and home equipped women tuanzhang with essential techno-skills to assume leading roles in this digital economy.

Women tuanzhang further accumulated more techno-social capital when organizing group-buying. Since none of the existing digital platforms was tailored to meet the data needs of this digital economy crisis, many tuanzhang experimented with multiple apps and shared their experiences through peer-produced online documents.

We even worked out [online] PowerPoint [documents], teaching [each other] how to tabulate orders, how to handle payments, how often certain items should be restocked, and what should be removed from group-buying lists. (Ma)
[Through group-buying] I gained lots of experience. Indeed so. I often joked that if I were looking for a new job in the future, I would put my tuanzhang experience during the Shanghai lockdown on my résumé. I think it is really rewarding. (Chen)

Group-buying, henceforth, not only honed and augmented their digital skills but also cemented solidarity among women tuanzhang through peer sharing, which may benefit their future careers and prospects.

Meanwhile, through digitally mediated interactions in chat groups and on social media, women tuanzhang also widened their digital connections and expanded social capital by helping strengthen community ties. Before the pandemic, most residents in the same neighborhoods were thinly connected. While a few neighborhoods formed WeChat groups so that state agencies could send one-way notifications to residents; many residents did not join in such groups or seldom chatted with each other. In organizing group-buying, women tuanzhang either reappropriated these groups or created new ones to facilitate the exchange of group-buying information. Residents utilized these chat groups to barter food, share survival tips, and emotionally support each other,

Before this [the lockdown], we were in a relatively estranged state. But because of that [group-buying] group, we found that many sisters in our apartment compound would chat with each other or gather together to walk our pets [when they were allowed to walk in the neighborhood]. This is truly nice. Maybe this is what is called the harmony [of the neighbors]. (Ma)

As community ties deepened in group-buying, women organizers also enhanced their social capital that translated into trust and economic capital. When women tuanzhang were bullied by male tuanzhang, residents showed invaluable support to them, “I was being kicked out of his [group-buying] group [because my group-buying offers are less pricy than his]. Many people added me through WeChat and told me … [that they] supported me and dropped out of his [group-buying] groups” (Yu). Indeed, residents’ support continued beyond the lockdown,

In fact, my neighbors now show lots of trust in me … Even after the lockdown, I have been keeping organizing group-buying. Yesterday a neighbor told me in the group, he said that he had quit all the [group-buying] groups but stayed in mine because of me. I am truly moved. (Tang)

Digital exchange—either goods or communication—in group-buying helped women tuanzhang garner trust and repect among residents and, thus, enhance their social capital (Figure 3).

Nevertheless, techno-social empowerment unfortunately turned into vulnerabilities for women tuanzhang, as they—as organizers—had to mediate conflicts between residents and the unpredictable market and state. On the one hand, uncertainties in the supply chain forced women tuanzhang to settle the conflicts between vendors and residents. Many suppliers experienced sudden, unexpected shutdowns due to shortages of goods or drivers whenever coronavirus was detected in their supply chains. Women tuanzhang then had to cancel the orders or find alternatives to appease dissatisfied residents who were waiting anxiously for essentials.

During the pandemic, [the suppliers] could not offer real-time stock information … things might be gone just all of a sudden. Then you’ll have to communicate with the residents and ask them to cancel the orders or switch to other things. But then confrontations would arise. Some
[residents] wouldn’t switch [while] others wanted to cancel the order. Whatever you do, some of them would be dissatisfied and unhappy. (Chen)

In other instances, women tuanzhang had to pay for defective or lost items, as digital, informal group-buying made it easier for suppliers and delivery drivers to ghost them. [We ordered 10-kilogram vegetable packs]. But when the packs were delivered, we found that these packs were short-weight. They [residents] came to me … and I went to ask the supplier, but he wouldn’t respond … I was inexperienced and didn’t know what to do … later I reimbursed [the residents] … [and] deleted the supplier [from my contacts]. (Tang)

Almost every woman tuanzhang mentioned that they had to cover the losses out of their own pockets. In addition to financial burdens, women tuanzhang also experienced emotional and mental exertion, as they had to monitor fluctuations in the market and come up with quick solutions during the entire process of group-buying.

On the other hand, women tuanzhang had to negotiate onerously with local bureaucracies to make up for the state’s failure—or resistance—to satisfy residents’ basic needs. Neighborhood committees (NC) were the main target of public dissent during the lockdown. Many residents complained that NCs not only failed to help them survive the emergency but also aggravated the crisis by blocking self-organizing initiatives to prevent the spread of the virus.

But we only organized self-help groups because the government is absent. If you [government] can properly secure [our needs], we would not withdraw all our trust to you … news has been around for quite a while that group-buying will be prohibited soon … I mean it: our NC is truly really incompetent. (Feng)

Indeed, while women tuanzhang stepped up to fulfill residents’ daily needs, NCs asked them to take full responsibility for group-buying. “They [our NC] were really unreasonable … they made unpredictable policy changes. Yeah, we had to come up with solutions on our own” (Wan). During the “static management period” in which the government denied that it was a lockdown but prohibited residents from going outside their homes, NC banned all ongoing group-buying initiatives and refused to let in the delivery drivers. As China’s governance was fragmentary and enforced by local staff in variable ways (Fu, 2017), women tuanzhang took advantage of the fragmented state governance at different levels and circumvented bans through ingenious innovations, for example, rebranding group-buying as pindan (similar to group-buying but not being banned) or hiring multiple deliveries to relay the products to their communities. In some instances, women tuanzhang also mobilized “collective cyber violence” toward government staff by adding them to WeChat groups so that residents could condemn and pressure them to enforce the policy more leniently. Ultimately, while COVID-digitalization helped women tuanzhang accumulate techno-social capital, market and policy uncertainties forced them to expend the newly gained capital to settle conflicts among residents, markets, and bureaucracies.

Deflecting and amplifying work and life insecurities

While teleworking during the lockdown seemed to heighten work and life insecurities for women (Zheng & Walsham, 2021), remote online work, unexpectedly, afforded them more flexible schedules and incentives to organize group-buying to make up for professional and emotional losses. Yet, these digitally enabled socio-economic gains also incurred moral censure and exacerbated their time conflicts and insecurities both at work and home.

As the lockdown shifted most work online, women experienced more job insecurity and dipping wages (ILO, 2021). Many Shanghai women suffered reduced work hours and income and experienced increasing levels of anxiety toward bleak professional prospects.

Since Shanghai currently is still in complete lockdown, we’ve barely received any business orders so far … we have to stay at home, and we salespersons can only get basic salaries. Anyways there is a huge gap [in our income] … and I am in a pretty difficult situation. I switched to this [new] company just in March [2022]. It [the lockdown] started right upon my arrival. I began remote work as soon as I started my job at this company. You see what a difficult position I am in now. (Ma)
Paradoxically, telework-engendered disadvantages also afforded women more flexible working hours and motivations to organize group-buying. Working women, hence, split their hours and turned to group-buying to make up for the lost income.

I had a relatively light workload during that time [lockdown]. Maybe we had a scheduled meeting every day, then I would try to move [group-buying] to other [periods]. (Zhou)

Initially, when I started group-buying, I was thinking of making a bit of money. Because [I] had no income [when we work remotely]... [But] I would always ensure a reasonable price for all the group-buying orders I initiated, and they are pretty close to market prices. Then I would make a small profit out of it. (Chen)

Pressured to feed their families, stay-at-home mothers also tried to broach additional income streams to make up for skyrocketing commodity prices during the lockdown.

Besides, busy online chats and interactions in group-buying also directed women tuanzhang’s attention away from anxiety and isolation. They indicated that they were imbued with a sense of empowerment, as they helped others in the face of extreme scarcity and uncertainties.

Although I would imagine wild [bad] things in my head, I would forget these when helping others. I would only focus on the thing I was doing. [Group-buying] might not be something big, I am just saying that I was busy with something that could help others. And that was it. (Shan)

It is better to keep me busy with something. [I] just won’t be in such despair. At that point [during the lockdown], [I] truly had no idea when the lockdown would be over. [I] didn’t know when I could go back to work. I was very depressed. And I wouldn’t be so preoccupied [with negative emotions] when I was busy with [group-buying] ... and [I] just felt [my] life became more meaningful ... I felt I helped others by just doing these. [It] made a difference [to my life]. (Chen)

Group-buying afforded women tuanzhang—especially single professional women with relatively sparse supporting networks—digital means and venues to head off socio-economic losses and emotional drains.

Yet, these technologically enabled economic and emotional gains turned into burdens and paradoxically heightened women tuanzhang’s socio-economic vulnerabilities. In particular, many tuanzhang were criticized for gouging prices and capitalizing on a public health crisis in the state media, even though it was the “Zero-COVID” policy that drove up the labor and processing costs and rendered commodity prices absurdly high. Residents complained:

They absolutely profited from it [organizing group-buying]. I don’t believe they didn’t. I don’t believe it. I’d rather believe they earned money from it... Why would they do everything for free for you, right? Of course, it is her choice how much she profited. It is very obvious that things were more expensive than regular [prices]. (Su)

Women tuanzhang had to take the blame for the surging prices and became the targets of moral reprobation. Chat groups and digital contacts became the main channel for furious residents to locate tuanzhang and vent their anger toward them. One tuanzhang confided her traumatic experience:

Someone added my WeChat contact and started cursing me since 8:00 or 9:00 [pm]. [He] said that my entire family will go to hell for making [immoral] profits. It is really ridiculous. He claimed that [I] profiteered out of a national disaster and my family [should] all die immediately. I swore back that my family would go to hell if I made even one cent of [unjustified] profit [out of group-buying]. He cursed again that all [my family] would die out and our corpses would be exhumed from the tombs and publicly flogged. Then I was distressed the whole night. I was so distressed that I did not fall asleep until 5:00 am the next morning... Later that day I still managed to [muster myself] and distributed the [group-buying] orders of steamed buns. (Ma)

Fanned by the media coverage and online rumors of their excessive profits, many tuanzhang were blamed for being “greedy” and immorally exploiting the crisis, which incurred public outrage as they violated the traditional moralistic image of women as “selfless helpers” (Gao, 2008).

More importantly, women tuanzhang’s work and life also became more precarious. For professional women who worked from home, group-buying completely delayed their schedules and devoured their time for work. Like women who performed micro-work (Tubaro et al., 2022), many tuanzhang found it difficult to divide their time between work and group-buying.

Initially, I felt I almost had no personal time at all. And I really contributed little time to my remote work. [I] focused solely on group-buying. And I slept for maybe about five or six hours every day... I was really tired at that point. I felt I couldn’t make it at some point. (Han)

As group-buying required women tuanzhang to attend to volatile market prices, unpredictable state policies, and changing residents’ demands all the time, many of them indicated that their sleep and health were deteriorating. They invariably acknowledged that their job was negatively impacted. They also feared that it might hurt their career prospects in the long run, as the lockdown seemed to be indefinite and threw the job market into ever graver declines. The dual demand of group-buying and work pushed many tuanzhang to their physical and mental limits and exacerbated their job insecurity.

Group-buying similarly heightened stay-at-home mothers’ time constraints. On the one hand, more cooking and cleaning work was added to their routine domestic responsibilities when other family members worked or studied from home. On the other hand, the enormous time dedicated to group-buying forced them to manage multiple tasks or sacrifice their quality of life.

As a tuanzhang, I almost abandoned my family. We had to pick up the orders from time to time. These [orders] might arrive at noon. Then the kids wouldn’t get their lunch... we didn’t have time to keep an eye on their online classes, so we hardly knew what they were doing... [but]
the kids understood that their parents were tuanzhang and volunteering for group-buying and unable to take care of their schoolwork or even their daily life. (Yao)

Group-buying, therefore, competed with other demands in women’s lives and affected their career and domestic life to varying degrees. In all, while women tuanzhang reaped some benefits from this digital economy, these gains could not compensate for—but oftentimes aggravated—their socioeconomic precarity in their professional and domestic lives.

Discussion and conclusion

Using women-led group-buying during the Shanghai COVID lockdown as a case, this study accounts for processes that gave rise to what seemed to be digital (dis)empowerment paradoxes under changing structural settings. The findings first showcase how ICT-mediated gender disadvantages (for example, unequal divisions of labor and gendered domestic obligations) paradoxically turned into essential digital skills and resources — online shopping, data management, and digital networking — for women to organize and lead group-buying, when contextual shifts transformed certain constraints into affordances. Previous studies attributed such paradoxes to social actors’ innovative appropriation of ICTs (Pei & Chib, 2021; Shahar, 2017) and the unintended consequences of digital technologies’ social incorporation (Sobieraj & Humphreys, 2021). Complementing these insights, this study focuses on the changes in structural contexts that afforded opportunities for such digital engagements. Specifically, drawing on previous studies that differentiate structural contexts into different dimensions, for example, political, economic, socio-cultural, technological, and domestic (Chib & Chen, 2011; David & Phillips, 2022), we have found that these aspects of structural contexts have been transformed by COVID-19 in uneven ways. While gender inequalities in the technological realms were turned into digital resources, they largely remained unchanged in the political and market institutions. In sum, it was the asymmetric and complicated interactions between these changing affordances and constraints in different realms that were appropriated by women to empower themselves and their communities.

By emphasizing how structural affordances and constraints interacted in varying patterns in shaping digital technologies’ paradoxical enactments, this study also deviates from previous research’s focus on the “feedback loops between digital, social, economic and political exclusion” (David & Phillips, 2022, p. 2071). While these studies stress how interlocking oppressions entrapped women and the underprivileged in permanent disadvantages, this study indicates that structural affordances may come along with constraints, especially during rapidly shifting contexts. Future studies, therefore, can extend our findings to explore more varied interactional patterns among different dimensions of structural affordances and constraints and attend to interstices in structured dominations, which may open new avenues for digital empowerment.

Besides, by dissecting structural contexts and identifying specific institutions that intervened in transformative processes, we have accounted for why digital empowerments that women tuanzhang had achieved led to disembowerment. Previous studies pointed to the persistence of patriarchal structures in holding back or overturning digital empowerment by and for women and other minorities (Duffy & Pruchniewska, 2017). Whereas we agree with these arguments, we further pinpoint the specific gendered structures—political and market institutions in this case—that thwarted women tuanzhang’s digital empowerment while turning them into new vulnerabilities. Policy and market unpredictabilities, in particular, forced women tuanzhang to absorb risks and bear the losses in group-buying through their newly acquired techno-social capital, as well as experiencing new forms of job and life insecurities. As the study distinguishes specific opportunities and barriers for digital (dis)empowerment, scholars and activists may conduct more targeted research and engage in change initiatives to leverage openings in certain dimensions and transform patriarchy in other institutions. Such research and activism will be particularly fruitful during crises when power geometries undergo radical reconfiguration.

Lastly, while this study illustrates digital (dis)empowerment paradoxes through the experiences of Shanghai women tuanzhang, the findings may also apply to other minorities who share similar oppressions, such as racial minorities, migrants, the homeless, or people with disabilities (Seo et al., 2022). Yet, it should be noted that social actors’ positionalities—nested in intersectional power structures—may shape their abilities to appropriate structural affordances and constraints and the outcomes of their digital engagements (Zheng & Walsham, 2021). In our study, as middle-class urbanites, women tuanzhang—although disadvantaged vis-à-vis their male counterparts—were already equipped with digital devices and skills and resided in relatively stable shelters, which enabled them to organize group-buying in the first place. Less advantaged women, for example, migrant workers with no shelters, were excluded from leveraging these technological affordances. Rather, they were stuck in multi-layered disadvantages, as indicated in previous studies (David & Phillips, 2022). Future studies, henceforth, may take an intersectional lens and explore different strategies and outcomes of digital engagements by differently situated people against shifting structural affordances/constraints.

Supplementary material

Supplementary material is available at Journal of Computer-Mediated Communication online.

Data availability

The data of this study are not publicly available for the privacy of research participants and ethical concerns. To protect the privacy of the research participants, the data of this study cannot be shared publicly.

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Notes
1. See https://www.sixthtone.com/news/1010087
2. Per our university research protocols, we obtained oral consent from the interviewees. We conducted the interviews and data analysis in Chinese. Only the quotes in the findings section have been translated from Chinese to English. All the errors are ours.
3. Since the organization of group-buying during the lockdown requires enormous digital, social, and economic capital, it is unsurprising that these women tuanchang are more well-off and tech-savvy than those on the “demand” side of group-buying, that is, residents who struggled to obtain food and necessities.
5. Doræmon is a fictional manga character that has a magic pocket from which he can get anything he wants.

References


