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Promoting Active Ageing and Social Participation with Time Voucher/Bank

研究以時分券/時間銀行推動積極樂頤年和社會參與

Final Report

[Project No.: 2022.A4.090.22B]

Principal Investigator: Prof AU, Kevin Yuk-fai

Co-investigator: Dr NG, Frank

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EXECUTIVE SUMMARY

ABSTRACT

Time voucher/bank is usually understood as a community-based exchange system that enables participants to exchange goods and/or services using time credits as 'currency' for exchange. In Hong Kong, time banks have developed considerably in the past few years. However, as the organization of time banks begins to take shape, the development of many time banks reached its bottle neck. There is yet enough indigenous research studying time banks in Hong Kong. Academic knowledge aside, practical understanding is also crucial to inform policies that promote active and healthy ageing and volunteering.

From our interviews, focus groups, as well as our field observations with time bank stakeholders, we discovered several trends that are in action to drive the latest developments and revealed nuances in the organization of time banks in the local context. More importantly, this project examined strategic- and policy-implication of time banks, and highlighted where the government agencies could and need to play an active role in time bank development in Hong Kong. From our analyses, we proposed a theoretical model that reveals the underlying mechanisms of time banking. Based on the model, we derive practices that could lead to the favourable outcomes of sustainable generalized exchange among time bank participants, and that can produce collective good, improve self-worthiness and meaningfulness, and enhance social capital in the community. In essence, time banking for altruistic exchange should not be a simple imposition of market mechanisms, including quantified and materialized exchanges, on community members.

Alternatively, time bank is "a dignified way to realize potentials among the elderly as well as other community members." On the one hand, time banking can serve as a facilitating mechanism that attracts participants and sustains the long-term accumulation of social capital. On the other hand, social capital in the community itself is important in maintain the development of time banks. Actively and continuously conveying the meanings of participating in time bank, so-called sensegiving, is imperative to give an imprint of a "social experience". For instance, NGOs and social workers should label time bank participation as volunteering compassionately, and explain that the time credit is not enough to create real communal exchange and social capital. Overall, this model could serve as a guide for practitioners and policymakers. We identified several practical implications regarding the designs, usages, coordinating mechanisms, as well as technological and non-technological enablers for the organization of time banks.

時分券/時間銀行作為一種社區經濟交換制度，讓參與者以付出的時間作為交易單位的「貨幣」，交換大家所需要的貨品和服務。香港的時間銀行在過去多年有著長足的發展。然而，隨著時間銀行的組織開始成形，很多時間銀行的發展遇到了瓶頸。本地針對香港時間銀行的研究亦略嫌不足。 而無論學術研究 如何，時間銀行的實踐對積極樂頤年和義工服務的政策制定亦同樣重要。

透過對領域人士、焦點小組的訪談以及實地觀察，我們發現了一些本地時間銀行正在推動最新發展的趨勢，也揭示了不同時間銀行組織之間的細微差別。這研究項目更重要的目的，在於從組織層面和政策層面研究對時間銀行的影響，並指出政府機構可以並且需要在哪些方面發揮積極作用。從我們的分析，我們提出了一個理論模型，解釋了時間銀行如何為參與者和社會持續帶來有利的廣義社會交換結果，產生集體利益、提高自我價值和意義並增強社區社會資本。從本質上講，我們認為時間銀行並非單純為社區參與者的利他交換提供一個市場機制，包括量化和物化服務交易。

相反，時間銀行是*讓每一位長者和其他社區人士有尊嚴地體現自身潛力的 方案*。一方面，時間銀行作為一個社區促進機制，從而吸引更多的參與者和長遠維持社會資本的積累；另一方面，社區內本身的社會資本對維持時間銀行的發展同樣非常重要。換言之，積極而持續的意義賦予對於留下「社會體驗」的印記至關重要，例如以參與義工服務來宣傳時間銀行和着力指出時間貨幣不能反映社群交換的真正意義 或增加社會資本。這個模型也當可為時間銀行業者和政策制定者指引。我們確定了有關時間銀行組織的設計、用途、協調機制以及技術和非技術推動因素的一些實際影響。

Key policy implications and recommendations

The primary goal of this research project is to offer practical recommendations on developing time voucher/bank as social participative means to promote active and healthy ageing and volunteering; as well as to capitalise underutilized social capital and to unleash the potential of elderly labour force as a complement to the government's welfare system. In line with our research framework, our recommendations focus on both individual- and ecosystem-levels.

First, from our field research, we observed how the time banks are organized. We acknowledge that while adequate social capital in a community helps with the establishment of a time bank, the gist of the problem lies in how enabling conditions could possibly be built at the early stage when such social capital was not quite available. We took the leaf out of other programmes that also aim at facilitating social capital. Instead of comparing time banks on several dimensions defined in an over-simplistic manner and naively asserting which time bank did "better" than the others, we engaged in high-level analyses and deep reflections on the (social) mechanisms of time bank organizations. We believe this scheme could offer insights to time banks and policymakers that aim at developing social capital in communities with time banking.

Second, in the ecosystem mapping, we document the development of time banks in Hong Kong over the last decade's time. We found that there have been three dominant forms of organizing: Coop-like time banks, Community developmental time banks, and Business-friendly time banks. While appreciating the presence of multiple enablers in the ecosystem, we propose there should be facilitators in the time banking ecosystem. We suggest the funding organisation may change the funding model to offering training and consulting provided by time bank consulting organisations. A time bank consulting organisation can be time bank practitioners, NGOs or any organisations that have experience in running time banks. These consulting organisations and agencies can take a more active role in shaping the development of the time bank community.

Third, we recommend it is important to develop measurement scales on time bank outcomes. Yet, equally important – as we derive from our theoretical and practical findings – is that the measurement of outcomes must adhere wholeheartedly to the social purpose of building social capital and solidarity via the means of time banking. Theoretically, a blind pursuit of numbers such as number of participants and number of time credit exchanged is itself an engine of a pure market logic against the social foundation of the effective time banking initiative. A time bank is found to be effective as long as numbers – of time credits in exchange for certain communal services – are non-substantive. Numbers cannot reflect real communal exchanges of care and thoughts and mutual compassionate adjustments, and therefore should not be used as a measurement of outcomes. Instead, any valid measurements should be geared towards acknowledging the building of social capital, possibly at the system-level. Time banking organizations and practitioners should also be able to distinguish time bank programmes from other social welfare and volunteering programmes. More urgently, it would be also useful in identifying effective time banks and facilitating the effectiveness of adopting new technologies and mechanisms.

本研究計畫的主要目標是為發展時間券/銀行作為社會參與手段，去促進積極樂頤年和義工服務，發掘未充分利用的社會資本，釋放老年勞動力的潛力，以配合政府福利體系，提供切實可行的建議。根據我們的研究框架，我們同時提供個人和生態系統層面的建議。

首先，透過實地研究，我們觀察了時間銀行的組織方式。如果在成立初期有足夠的社會資本，時間銀行可以克服許多困難。問題就在於在社會資本薄弱時，有利條件可以如何形成。我們借鑒了其他同樣促進社會資本的計劃。在本報告中，我們在不拙劣地比較過分單純地定義的所謂某產出維度的基礎上分析了時間銀行如何可能在早期階段發展社會資本。

其次，從我們的分析，我們刻劃了過去十年香港時間銀行生態系統的發展。我們發現有三種主要的組織形式：合作社式時間銀行、社區發展時間銀行和商業友善時間銀行。在欣賞時間銀行生態系統中存在多個推動者的同時，我們建議生態系統中應該需要促進者。我們建議資助機構可以改變資助模式，由時間銀行諮詢機構提供營運時間銀行的培訓和諮詢。時間銀行諮詢機構可以是時間銀行營運者、非政府組織或任何有運作時間銀行經驗的組織。這些組織和機構可以在塑造時間銀行社區的發展方面發揮更積極的作用。

第三，我們建議制定時間銀行成果的衡量標準非常重要。然而，同樣重要的是—正如我們從理論和實踐發現中得出的那樣—衡量結果必須全心全意地遵循透過時間銀行手段建立社會資本和團結的社會目的。理論上，盲目追求參與者數量和時間信用交換數量等數字本身就是純粹市場邏輯的引擎，有違了讓時間銀行行之有效的社會基礎。我們發現，只要換取某些社區服務的時間積分數量不實質的，虛的，時間銀行就有效。數字不能反映真正的社區關懷和具人情味的思想交流以及調整，因此不應用作結果的衡量標準。相反，任何有效的衡量標準都應該建基於社會資本的建設，可會在系統層面。時間銀行組織和社會工作者還應該能夠將時間銀行計劃與其他社會福利和志願服務計劃區分開來。更迫切的是，它還有助於確定有效的時間庫並促進採用新技術和機制的有效性。

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1.1 INTRODUCTION

Hong Kong is an affluent society with an ageing population. What is unique about the people and communities is also its long history of charity and caring for each other. Such philanthropic ethos originates not just from Chinese traditions and teachings but also Western religiosity and humanity spirit. This results in a hybridity of thoughts and systems in Hong Kong. As the demographics and society changes, social workers, NGOs, and scholars continuously bring innovative ideas which may complement embedded relations in the communities and enhance their functions to deal with challenges the changes caused.

Time voucher/bank is a community-based exchange system that enables beneficiaries to exchange goods and/or services using time credits as 'currency' for exchange (Cahn, 2000). The general idea is that individuals provide service to others to gain time credits, and such time credits can be used to exchange for services provided by others (Cahn, 2000). As early as in 2017, the Secretary for Labour and Welfare encouraged NGOs to study the feasibility of time bank projects[1]. The number of time banks has increased but relevant local research has developed merely at the nascent stage (Ng, Yim, & Fong, 2020). Academic knowledge aside, practical understanding is also crucial for us to inform policies that promote time banks for better community use.

The development of time bank could support active ageing and elderly employment policies, even though it is not considered as traditional workforce. It has the potential to alleviate the shrinking labour force, retain invaluable talents and experiences, prevent or reduce poverty, and likely save social welfare. In 2021-22, the expenditure on social welfare accounts for around 20% of government spending, has grown 62% over the past five years[2]. More importantly, it would engage able and willing elders for maintaining physical and mental health, pursuing meaning living, and staying socially connected to the society at-large. The Government has formulated a series of policy initiatives to promote elderly participation and employment. The 'multi-pronged' strategy aiming to tackle the demographic challenge includes 'building an age-friendly environment, promoting active ageing and tapping the valuable pool of elderly resources'; and creating a conducive environment for elders' employability (Chan & Yip, 2019). Just as important, the Social Welfare Department has been promoting volunteerism[3]. The Central Office for Volunteer Service, with its four sub-committees, formulates overall strategies on the promotion of volunteering. Not only time voucher/bank may encourage more elders to participate in time banking activities as volunteering work, it could also enhance volunteer services with respect to greater number and diversity of volunteers to take part in volunteer services. Time bank is thus useful for promoting

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[1] South China Morning Post. 11 Nov 2017. Elderly in Hong Kong encouraged to volunteer, in return for care later, in 'time bank' projects. https://www.scmp.com/news/hong-kong/community/article/2119436/elderly-hong-kong-encouraged-volunteer-and-later-get. Retrieved in Oct 2023.
[2] Policy Address. 29 Sep 2021. The Chief Executive's 2021 Policy Address. https://www.policyaddress.gov.hk/2021/eng/policy.html. Retrieved in Sep 2021.
[3] Social Welfare Department. 25 Nov 2021. https://www.swd.gov.hk/en/index/site_pubsvc/page_supportser/sub_centraloff2/. Retrieved in Nov 2021.

wider volunteerism. It is in this backdrop of unfulfilled potential and societal needs that we submitted the proposal in 2021 and started this research project in 2022.

1.2 OBJECTIVES

The following are the objectives for the study:

1. To investigate time voucher/bank as social participative means to promote active and healthy ageing, and volunteering –

a. how time voucher/bank can encourage the elders to participate in civic and social activities, as well as the physical well-being and positive image of ageing;

b. how time voucher/bank can improve the interaction and mutual assistance among elders, as well as that between the elder and younger volunteers for improving self-worthiness and meaningfulness;

c. how time voucher/bank can complement the Government's welfare systems, to capitalise on underutilised social capital and to unleash the potential of elderly labour force.

2. To investigate the current challenges and potential operational models of time banks in Hong Kong, including the design and operational processes, and collaboration across time banks and other organisations. The analytical focus will be on both macro-level of time bank ecosystems, and micro-level of generalised social exchange among the users and major stakeholders.

3. To explore the relevant policy implications of time banks in order to support the sustainability of their development in Hong Kong; and to make recommendations on active aging, employment, and volunteering.

A key goal of the current study, as in the research proposal, is to examine the developments of the time banks at an ecosystem-level as well as the sustainability of time banking at an individual organizational-level.

2.1 BACKGROUND

Time bank is a community-based exchange system that uses time credits as currency for exchange. For instance, member A helps member B on tutoring for an hour, and subsequently member A earns one unit of time credit, which s/he can use to buy an hour of service from another member on, say, repairing. Depending on the design and resources of the time bank, members may also pass on their time credits to others, or exchange for donated gifts or purchase discount. Following the principle of equality and 'co-production' (Cahn, 2000), services of different nature are measured by time credits, such as 1 (hour) credit or 60 (minute) credits. Time bank recognizes that all work and capabilities are equally important and valuable (Callison, 2003; North, 2014). Typical services include tutoring, childcare, elderly care and assistance for disadvantaged people (Carnero, Martinez, & Sánchez-Mangas, 2015). Different from the traditional welfare system, time bank is a social innovation that community members take both the roles of beneficiaries and service providers, encouraging active participation and collaboration within community (Kim, 2019).

2.2 Core Values of Time Bank

TB was founded on the original four core values of Edgar S. Cahn (2000), to which he added a fifth one more recently (Boyle and Bird, 2014):

1. **We Are all Assets:** Time Banking values people and recognizes that everyone has something special to offer others - knowledge, skills, resources, time, and so forth. Every human being has the capacity to be a builder and contributor as an individual or as a part of an organization.
2. **Redefining Work:** This means that members are rewarded for any kind of work, whether it would be considered financially profitable or not by market economy standards.
3. **Reciprocity:** The exchange works in a two-way process. Members can both offer and request at the same time and both earning time credits and spending them brings positive feedback.
4. **Social Capital:** The creation of social capital is imperative for any community. Social capital, among other things, solves problems for individuals regarding both unemployment as well as learning. The formation of social capital facilitates innovation and further development of a society.
5. **Respect:** Every human being is equal and matters to each other. This is a key element in the development of positive relationships among entities in a society. A higher level of trust leads to the possibility of further innovation by the facilitation of common projects.

2.3 Benefits of Time Bank

In developing our proposal, we have distinguished the benefits of time bank for the individual and the society. For individuals, members can cultivate work-related skills, boost their confidence and self-esteem, and feel valued for work that may not be sufficiently valued in the commercial market (Seyfang, 2006). Through participating in time banks, they can also cultivate friendship and trust, expand their social networks, and mitigate social exclusion/ loneliness. Such a community-based exchange system also serves as an alternative means to gain access to services or donated goods (Gregory, 2009). This is especially beneficial for individuals who have no income to purchase services through the commercial market and for those who are not eligible to obtain services through the welfare systems. Thus, time bank elevates individuals' quality of time, social capital, skill development for employment, and even upward mobility.

For society, time bank can provide benefit in several ways. First, time banks can reduce inequality in society, as it respects that service time of everyone is equally valuable. Second, time banks encourage self-sufficiency within the community. Time bank system requires individuals to earn for their own needs, and thus reinforces that 'welfare' is not given out for free (Boyle, 2003). In this respect, time bank also enables people in need to remain active participants rather than passive welfare receivers (Kim, et al., 2014). Lu, Chui, and Lum (2024) particularly explain how it enables active aging and social capital building for the elderly. Third, time banks harness the potential of social economy by utilizing untapped resources and skills in the community (Seyfang, 2006; Lu, Chui, & Lum, 2023). Past study revealed that time bank tends to attract women, retired, disabled or sick individuals, unemployed, ethnic minorities, and individuals from low-income families, who are typically least interested in participating in conventional volunteer work (Seyfang, 2003). By attracting these usually inactive groups, time banks can expand available social resources within the community and cultivate the work experience of community members.

Additionally, time bank may save costs on public health. For instance, the Rush Green Time Bank in UK could improve mental and physical health among participants and reduce medical cost (NEF, 2002; Kim, 2019). Also, peer support through time bank offered to patients with asthma could dramatically reduce emergency room admissions by 74% (NEF, 2002; Kim, 2019). Finally, by leveraging community resources, time bank can help ease pressure on social services due to aging population. Time bank enables younger members living remotely from their elderly parents to transfer credit to their parents or to save up the credits for future use (Kim, 2019; Nakagawa, et al., 2011). It can also encourage retired individuals above 60 to provide support and care for those above 80, so the former group can save up time credits for future purchase of care services when they get old (Young, 2019). These time bank practices facilitate social services across geographical distance and generations, which motivate capable individuals to help fill the service needs rooted from aging population.
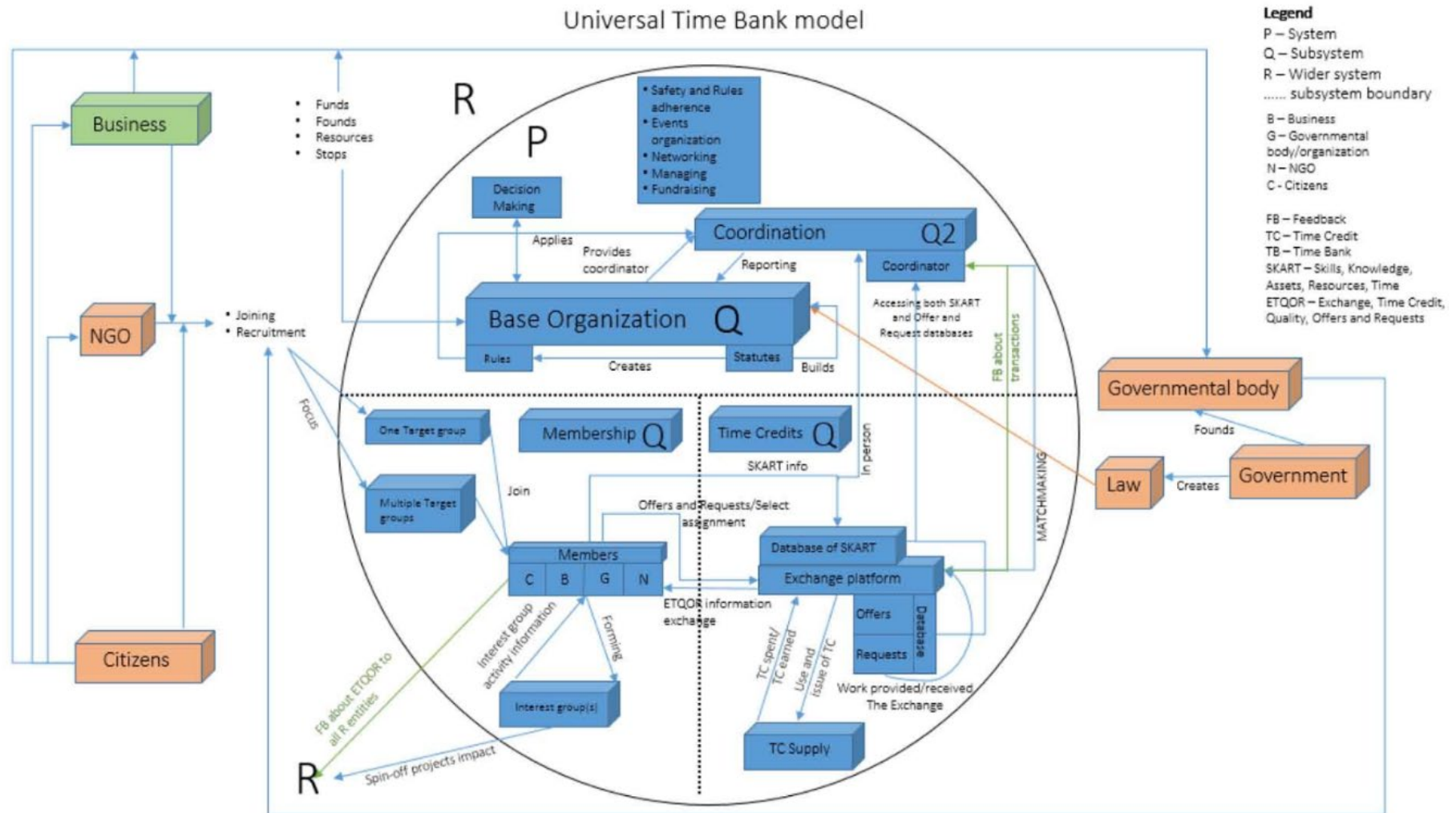
2.4 A Comprehensive Model of Time Bank

Time bank is complex, and it operates in context rather than in vacuum. Time banks comprise multiple elements - inputs, processes, and entities, and vary in their complexity. Figure 2.1 presents a comprehensive model (Valek & Bures, 2018). The diagram shows that surrounding the organization of the time bank, time credits and the membership, there are the government, NGO, and citizens. It also illustrates the key characteristics of the elements and processes among the time banks. This model gives an overall view of the time bank to facilitate our discussion.

Comprehensive as the model may look, however, a time bank is usually founded by a group of enthusiasts without much systematic research. This particularly applies in early stage of a community when time bank is being advocated. In some situations, including cases in Hong Kong, the founders merely use a guide from an internet source, a manual of some kind, or advice from those more experienced in the field or from a supportive organization (Valek, 2016). This lack of uniformity and systems is actually one of the oft-reasons that few wholesale, systemic descriptions of time bank can be found. This lack of ideal archetypes, though questionable that should exist, has led to some situations in which TBs are constructed on an almost random basis before founders learn basic facts. Many time banks are thus systemically in disarray (Valek & Bures, 2018). Fortunately, time banks are gaining more legitimacy and understanding. More experimentation and observation could better our understanding.

2.5 Development of Time Banks

Time banks are widespread across the world, including in China, Japan, South Korea, Europe, United Kingdom, the United States, and Africa (Kim, 2019). Around 500 time banks are registered in the US, and around 300 time banks are established in UK (Young, 2019). TimeRepublik also launched the first global time bank, which covers people from more than 100 countries (TimeRepublik, 2021).

Figure 2.1: A Comprehensive Time Bank Model (Source: Valek & Bures, 2018, Figure 9)

Table 2.1 presents the numbers of time banks and their participants in several selected countries based on a 2021 report in mainland China. The report also suggested that China had 240 time banks. Time banks have been launched in Beijing, Chengdu, Guangzhou, Jinan, Nanjing, and Shanghai (Chang, et al., 2021), and Beijing has implemented time banks for elderly services in 2022[4].

Region/ Country	Established	Name	Branches as at	Number of members
Japan	1973	Volunteer Labour Network	73 (2018)	Nil
USA	1980	Time banks USA	101 (2021)	8213 (2021)
UK	2002	Time banking UK	3792 (2021)	18015 (2021)
Australia	2012	Time banking Au	599 (2020)	6719 (2020)
Taiwan	1995	志工人力時間銀行	108 (2017)	2869 (2020)

Table 2.1: Time Bank Development in Selected Countries (source: 中国时间银行发展研究报告, 表 1-1)

Yet still, there are fundamental differences in time bank systems across countries. In the US, as one of the earliest countries that promoted time banking, the concept 'may be poised to be mainstream' among others (Cahn, 2011). There are many independent, segmented time banks operated by community organizations. There has been momentum building around an emerging use of time banking within their communities, where time credits are recognized by business organizations and public services. By comparison, time banks in UK are more centralized, which are coordinated by a national charity and membership organization called Time banking UK (TBUK, 2021). TBUK is responsible for nurturing the development of individual time banks by offering resources and support, as well as advocating time banking at government and business levels.

We propose that incorporating the concepts of business models into different time bank systems provides some insights. The centralized model in the UK is characterized as the B2C/B2B model of time banking system. In order to reach this catalytic stage to become scalable, it is important to have professional organizations or agencies (e.g., TBUK in the case of the UK) taking the major coordinating role of co-production. These organizations can catalyze the development of time banks by enlisting more beneficiaries and organizations to serve as co-workers and partners who 'co-produce' the desired outcomes among members. Alternatively, the US model is approaching an integration of C2B models and previous ones. The acceptance and awareness of time banking within community members, business and public organizations

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[4] People.CN. 20 Jan 2022. 養老服務時間銀行"將落地北京.
http://finance.people.com.cn/BIG5/n1/2022/0120/c1004-32335725.html. Retrieved in Jan 2022.

could yield sustainable development of time banking. Beneficiaries are empowered to provide services and seek help from many other beneficiaries or organizations within the community.

2.6 Time Banks in Hong Kong

Time bank is growing in recent years in Hong Kong. The support of the Government towards the time bank on improving elderly care services seems to have promoted public interest (Young, 2019). In 2017, the Secretary for Labour and Welfare encouraged NGOs to study the feasibility of time bank projects and to inspire elders to volunteer. Subsequently in the next few years, time banks in Hong Kong have grown in number and activities. By 2020, four NGOs that operate time banks in Hong Kong including Hong Kong Sheng Kung Hui Welfare Council Limited (香港聖公會福利協會有限公司), St. James' Settlement (聖雅各福群會), 天姿作圍 and Hong Kong Federation of Women's Centres (香港婦女中心協會) launched a public conference to discuss how time banks can respond to societal needs and to share experience in operating time banks[5]. Public awareness is also on the rise. For example, stories on how retired people participate in time bank programs to leverage their skills in return for their needed care services have been released in media[6]. Starting from around 2018-2019, the Community Investment and Inclusion Fund (CIIF) of Home and Youth Affairs Bureau of the HKSAR Government have actively funded NGOs to set up time banks as a means to fulfil their mission for building social capital and societal solidarity (report more below).

2.6.1 Challenges time banks faced in Hong Kong

Several challenges arise since time banks have been put into place in Hong Kong. Regarding mutual exchanges among members, the lack of diversity leads to a bottleneck in time bank development. The growth and sustainability of a time bank largely depends on its size and diversity. However, current time banks are operated by NGOs mainly targeting elderly as the only group of beneficiaries. It makes sense to do so because the number of elders aged 65 or above is projected to more than double in the next 20 years[7]. An ageing population will bring challenges in the labor market and social welfare systems. But the problem is that three out of the four aforementioned time banks are limited for elders. While these programs have achieved commendable results, the services offered were alike among participants. Consequently, some substantive needs among the elders (such as manual or technical works requiring strengths)

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[5] HKCSS. 8 Sept 2020. 誠邀參與「香港時間銀行網絡平台」成立暨第一屆研討會. https://www.hkcss.org.hk/誠邀參與「香港時間銀行網絡平台」成立暨第一屆/. Retrieved in Oct 2023.

[6] Mingpao. 29 Sep 2021. 靠手藝掙時分換服務 長者藉「時間銀行」互助. https://news.mingpao.com/pns/港聞/article/20210831/s00002/1630346724573. Retrieved in Oct 2023.

Sky Post. 9 Mar 2018. 照顧老人時數 未來提取自用 時間銀行締互助社. https://skypost.ulifestyle.com.hk/article/2026122/照顧老人時數未來提取自用 時間銀行締互助社/. Retrieved Sep 2021

[7] Population Policy. 2015. Popultion Policy: Strategies and Initiatives. https://www.hkpopulation.gov.hk/public_engagement/pdf/PPbooklet2015_ENG.pdf. Retrieved in Jan 2021.

cannot be satisfied by the homogenous participants. Also, some participants provide their services but do not consume their time credits as they cannot find any required services, or simply demand nothing from others. While these participants accumulate more time credits, participants who consume more find themselves in time credit debts and are unable to clear their debts. Meanwhile, some participants with disability or greater needs may see themselves having little to contribute (Callison, 2003). These participants are likely to be consumers but not service suppliers. The disability to earn time credits would eventually make these participants be excluded from the time bank systems. Liken to a recession, the mismatch in demand and supply of time credit leads to reduction of exchange (Seyfang, 2003). Indeed, time banks had closed due to the lack of exchange activities in other countries (Papaoikonomou & Valor, 2017).

Another significant challenge is the trust issue among beneficiaries (North, 2014; Seyfang, 2003). For example, many elderly-related services such as accompanying them on medical visits, dropping by for visits and buying groceries involve privacy issues. Many beneficiaries are reluctant to share their personal information or disclose their health conditions to others. In addition, time bank can blur the boundaries between professional and non-professional services (Stępnicka & Wiączek, 2019). For example, if a person who is not a licensed plumber repairs a leaked pipe for an elderly member, would it incur any hazard or legal concern? And if the work of the unlicensed plumber eventually leads to flooding and property loss, would the time bank 'consumer' have the customer rights to seek compensation? These questions create ambiguity and hesitation among beneficiaries to participate in time banking activities.

Challenges also exist for time bank programs/ projects. There are limited collaborations or synergies between different time banks. As mentioned, local time banks are almost exclusively operated by NGOs. These NGOs have the capabilities of connecting time bank participants and understanding their needs. However, individual time banks serve beneficiaries within their districts. The logistic problem prevents beneficiaries serving or seeking help of their districts. In addition, current time banking practices mainly rely on centralized processing by the NGOs based on manual, hand-written paper ledgers documentation. Bookkeeping and time credit transactions can only be done physically. Such practice (i) creates huge cost and inefficiency to manage bookkeeping, (ii) limits the capability to scale the operation or improve the operational system; (iii) lacks transparency and awareness of service offerings, or other information such as credit history; and therefore (iv) prohibits collaborations across time banks to create a community-based economies. To deal with these problems, time banks have gradually moved toward digitalization, for instance the time bank launched by Hong Kong Inheritance Foundation (香港傳承基金) use a mobile app as platform for membership registration, service provision enrolment, service ordering, gift redemption, and storage of individuals' transaction and training record in the time bank (Hong Kong Inheritance Foundation, 2021). Similarly, social development technology organizations, such as Shanzhai City, also support NGOs in developing digital and decentralized solutions to time banks. While these developers focus on the technical details of how digitalization can optimize the system design, we believe more can be done to enhance the collaboration among time banks in Hong Kong.

The discussion of time banks across countries in Section 2.5 may provide some insights into reconcile the current development and challenges of time banks in Hong Kong.

Different 'business models' of time banking systems are characterized by stakeholders having different roles in the system. Currently, Hong Kong does not fall into either the B2C or C2B models of time banking system. On the one hand, there is no centralized organization coordinating among all the time banks (that is, B2C). On the other hand, there is still no single time bank which is large or competitive enough to influence other stakeholders in the community (that is, C2B). At this initial stage, where the community members are not familiar with the idea of time banking, time banking in Hong Kong is in a scattered, neighbor-to-neighbor skill sharing stage, characterized as a C2C system. Despite a community-based initiative, exchange of services and time credits are limited to beneficiaries whom they consider trustworthy. It is difficult to attract others outside of the time banking system. As mentioned, the diversity of social capital and collaboration among time banks are limited.

Whether to develop toward a B2C or C2B model depends on the strategic and policy direction. However, based on the observation of overseas experience, we identify several common determinants in both models. First, both models have well-recognized institutions, or the 'rules of the game' of the time banking. In the B2C model, the time banking authority does not only serve the role of resource provider but also the gatekeeper and decider on the operation of time banks. Likewise, in the C2B model, time banks and participants have a clear understanding of the objectives and principles of time banks, and share commonly understood mechanisms, including the type of activities, requirement or criteria of participants and activities, time credit transaction and transfer mechanisms (e.g., unit of transaction, transaction processes). Second, stakeholders in both models require relatively high levels of trust, including generalized trust toward people in general. In B2C model, time bank stakeholders, including time bank participants and other business merchants, have a high level of trust toward the time bank organizers and authority. In the C2B model, time bank stakeholders also require a high level of trust toward single time bank.

Therefore, in order to achieve the objective of this project, we propose the focus of this report is not to compare among business models, but to address two fundamental questions: (i) how do design and implement well-recognized policies and institutions of time banks among time bank stakeholders in Hong Kong; and (ii) how to increase the level of trust of time bank participants toward time banks in Hong Kong.

2.7 Literature Review

Rather than drawing simply reference from relevant practices overseas, we posit that, as more time banks have emerged, it is timely to bring time banks in Hong Kong forward by analyzing the indigenous time banking ecosystems. In the next section, we will explain how we will use an ecosystem framework (Bloom & Dees, 2008) and generalized social exchange research (Cook, 2013; Simpson, et al., 2018; Whitham, 2018) to characterize time banking systems,

which would provide us some direction to address our questions. Before doing so, we provide a brief review of the literature of these research domains.

2.7.1 Literature review of time banks

The theoretical linkage of Time bank seems to be quite sketchy. The concept of time bank is related to classical economics theories concerning value, price, and trade. These relations are disagreed in Cahn's provocative movement of the time bank. Instead, he advocated co-production as the main imperative of time bank (Cahn, 2000). Co-production indicates the acceptance at all levels of society of the involvement of people as active problem-solving agents. As a matter of fact, the market economy neglects many aspects of human life and society, including natural functions and capacities. His analysis does not lead him to argue for replacing the market economy, but simply accepting the non- market economy as an equal part of the economic paradigm, thus creating win-win situations for the society. The notion of co-production may also be related to other theories, including knowledge management (Valek, 2018).

Meanwhile, an important theoretical thought related to co-production is the Relational Models Theory (RMT). It is a theory from anthropologist Alan Fiske (Fiske, 1992). This Theory expresses the notion that human relationships use just four relational models in various combinations no matter the societal environment. These models are: communal sharing (CS), authority ranking (AR), equality matching (EM), and market pricing (MP). These four models are structures out of which people construct, understand, evaluate, sanction and motivate most common activities (Fiske and Haslam, 2005). Particularly, the equality matching ES model is about equality and reciprocity, even though a difference in the skills of people is acknowledged. People are equal, and exchanges of knowledge, time and possessions are fair and reciprocal. Among the four models, EM is very typical for time banks, and indeed being one of basic aspects. Equal exchange emphasizes reciprocity, which is based on the various skills and knowledge of the people involved and can be related directly to the time bank's core values. Despite these ramifications, theoretical discussion concerning time banks seems to be underdeveloped.

In Hong Kong, due to the recent growth and nascent stage of development, local research on time bank is still quite limited. Some exceptions include Young's (2019) research on the multiplying effect of time credit and Ng et al.'s (2020) study on the challenges of time bank for elders in Hong Kong. Young's (2019) paper proposed that the nature of activities influences the multiplying effect. Some large-scale, one-to-many activities such as interest classes, concerts, and film shows, where a service provider can gain large amount of time bank credits at a time, can lead to a time credit multiplying effect particularly for young people joining time banks to provide services to the elders.

Different from Young's research that explores way to expand time credits available for elderly care, Ng et al. (2020)'s paper highlights the institutional challenges of time bank in Hong Kong. The challenges include limited popularity of the concept, lack of sustainability of volunteering among youngsters/students, low supply but high demand for time bank services, imbalanced

exchange among members, and the lack of governmental long-term planning and financial support on time bank in Hong Kong (Ng, et al., 2020). To address these problems, Ng et al. (2020) recommended that the Government provides more support to time banks and offers more education and promotion to encourage young people to join time banks. They also suggested time banks digitize their platforms to enhance the ease of use and modify the design of earning time credits for oneself to that for family members and others. In the end, Ng, et al.'s call (2020) for much more research on time bank.

While the two studies provide insightful observations and ideas, there remains practical questions unanswered, particularly the trust problems of beneficiaries in real life. In addition, both papers were written at a time when there was only one time bank in Hong Kong. Thus, the studies did not capture sufficiently the latest situation. Given the recent growth in numbers and digitization of time banks, there are pressing concerns of collaboration among time bank programs and the scaling-up of time bank for making a real impact in Hong Kong. For example, Shanzhai City has conducted ethnographic research of time bank for user experience and its digital transformation solution (Shanzhai City, 2021). Policy-wise, these studies are academic-oriented and merely touched upon the design of time banking systems from the practitioners' point of view. Thus, it is timely and imperative to understand the recent development of time bank ecosystem in Hong Kong and to explore the relevant policy for its promotion.

2.7.2 Literature review of ecosystem

A time bank may be originated or initiated from either the government, the society (NGO), and the commercial supporter. However, time bank is not a top-down, one-way welfare system but an inclusive, collaborative community-based program which involves many stakeholders, and more important, a vibrant time banking ecosystem to support its development and sustainability. Ecosystem framework, borrowed from the field of ecology, is a toolkit-like framework, discussed on social entrepreneurship by Bloom and Dees (2008), with the aim of supporting social enterprises to map out the broad environment (see Figure 2.1) and to hone their strategies to create systemic change. Ecosystem growth strategy has become an increasingly popular way for social enterprise to enhance social impact, and the broader literature has reported numerous success stories of ecosystem growth (Islam, 2020).

For Hong Kong, an indigenous study suggests that Hong Kong has an emerging eco-system to support startups and entrepreneurship (Dowejko and Au, 2014). Both academics and practitioners have regarded eco-systems as a tool and concept for creating resilient economies based on entrepreneurial innovations (Wurth, Stam, & Spigel, 2023). These elements can be understood as stakeholders who have inherited interest in the region they belong to. Following the ecosystems framework (Bloom, & Dees, 2008) for social enterprise, we proposed to pay attention and must investigate six types of players/stakeholders (including resource providers, customers, competitors, allies, opponents, and bystanders) and four environments (including economic, physical, cultural, and political) that are related to growth

and sustainability of time banks. The description of each player and environment is listed in Table 2.2.

Players	Descriptions
Resource Providers	Providers of human, knowledge, financial, technological, networking, and intermediary resources to time banks. This may include staff, professionals/experts, volunteers of time bank, impact investors, government funds, donors, community groups, marketing channels etc.
Customers	People who benefit from time bank activities, such as members of time bank and other beneficiaries.
Competitors	Organizations that compete with time banks for resources or for serving the same customers. This may include other time banks, welfare programs that provide services, low-cost or free service via the internet, etc.
Allies	Organizations or individuals who support time bank to create impact, such as promotors or supporters of equality.
Opponents/ sneerers	People who look down on time banks in their social impact. This may include individuals who spread distrust across members towards service exchange, or parties that advocate entry barriers for free service provision
Peripheral players	People who may influence the success of time bank or be affected by time bank, but currently have no direct impact on time bank. These players may become future allies or opponents of time bank.
Environments	**Descriptions**
Economic	This covers economic health and prospects, income inequality etc. For instance, ageing population and high-income inequality may increase the demand and supply for community-based service exchange via time bank.
Physical	This includes physical location and infrastructure. For instance, good transportation and high population density may ease service exchange among members of time bank.
Cultural	This covers demographic trends, norms, values, and social networks. For instance, a trusting and collaborative culture, a low reliance on traditional welfare, and an endorsement of equality may encourage participation in time bank.
Political	This includes the environment of laws and regulations in which time bank operates.

Table 2.2: Stakeholders and environments (source: proposal by the investigators)

Social entrepreneurial endeavors, including time banks, require an eco-system to develop because they do not operate in a conventional market defined by arms' length transactions and head-on competition between established firms. Instead, they thrive in network structures in which competition and collaboration co-exist to facilitate co-creation and fast growth. That means, prompting social endeavors requires not only smart moves by individual firms but also creating a wide context of benign systems, i.e., eco-system, to allow them to succeed (Stam & Spigel, 2016). To make an eco-system thrive (Mason & Brown, 2014), the push from a single stakeholder does not work effectively. Any effort from a single player, however strong, may act like pushing a string, as one cannot move other stakeholders at the same time. As a case in point, Dwejko and Au (2014) pointed out that to reverse the vicious cycle of innovation in Hong Kong, stakeholders of innovations, such as universities, business corporations, R&D centers, and so forth, need to change together just in small steps. If they can do so together in strides, the vicious circle of crouching innovation and igniting self-propelling cycle of innovation can be turned into a benign one.

In other words, initiating changes in the ecosystem, including time banking, requires many stakeholders to make a move together and, in a sense, be able to evolve together. In trying to make joint value creation, these stakeholders face a public good dilemma. Trying to move several groups of stakeholders in the same direction is a daunting coordination problem, being identified in economics and management research (Alchian & Demsetz, 1972; Freeman et al., 2010; Mohmood & Rufin, 2005). Nonetheless, governments or societal leaders must strengthen several of the stakeholders at the same time, only then can they improve the eco-system to foster more and better endeavors in the community and perhaps across regions. Essentially, high levels of collaboration can often be achieved and sustained because people do show concern for collective interest and others' welfare (Bridoux & Stoelhorst, 2016).

2.7.3 Literature review of Generalized Social Exchange

While ecosystems framework is helpful for identifying players and environments that affect time bank, it is crucial to understand interpersonal exchange behaviors among individual members to promote and sustain service exchange among members. Thus, we draw on generalized social exchange theory and its research findings for insights on how we can sustain service exchange momentum within time bank for supporting elderly welfare.

Generalised social exchange happens when individuals give and take valuable resources with others through social interaction for the benefit of a third party (Blau, 1964). It occurs in groups with at least three members that exchange resources through generalised reciprocity (Simpson, et al., 2018; Yoshikawa, et al., 2020). A generalised reciprocity means that individuals receive resources from one party and pay it forward to a third party. The risk of free riding (i.e., getting service without giving) is reduced while trust is ensured in a time bank, where generalised social exchange is formalised. Consequently, their members see higher odds of paying forward for the benefits of the third party (Whitham & Clarke, 2016). For example, Sawayaka Welfare Foundation launched a time bank system for provision of caring services, which enables

younger members living remotely from their elderly parents to transfer credit to their parents or to save up the credits for future use (Kim, 2019; Nakagawa, et al., 2011).

Extant literature suggests that generalised social exchange has roots from individual differences (Yoshikawa, et al., 2020). It is induced by norms, gratitude and positive reputation (Bearman, 1997; Simpson, et al., 2018), stabilised through centralized punishment to promote solidarity (Kanitsar, 2019), interaction rituals (Krishnan et al., 2021), and strengthened by group emotion and group-based social identity (Lawler, Thyde, & Yoon, 2009; Whitham, 2018). In the context of this time bank study, it implies that time banks introduce due processes to reward appropriate behavior and to punish abusers, cultivate the norms of showing gratitude and respect, and develop group-based expressive value and social identity across members. If these benefits are perceived to be readily applicable, time banks themselves could attract individuals who believe in generalised exchange to join and performatively raise their chance of success (Beckert, 2016).

To look at the literature another way, time banks can bring benefits to members in the community in two major ways (Collom et al. 2012; Dubois et al. 2014). On one hand, they build social capital by connecting members in the community, and also empower members, particularly disadvantaged groups, by promoting reciprocal exchange and replacing passive reception of assistance. Blockchain technologies have the potential to increase members' social connections as they attract more members to join while promoting genuine participation. On the other hand, they could strengthen the reciprocity norms in time banks as they ensure repay and members' contribution. As members become more active to give and receive "pay" from other members, they would experience "the core time bank principle that everyone is an asset with skills that can be put to use to help others" (Cahn 2000). This allows members to gain the emotional benefits of helping others, such as happiness and self-worth. Emotional and expressive value are key to develop group-based identity in generalized exchange (Lawler et al., 2009; Molm, Collett, & Schaefer, 2007). When members of a time bank develop a collective identity, they will become more committed to the time bank and experience more social solidarity for contributing to the community. Next, we delve into the theoretical analysis and insight of the research, while the section after reports the investigation and empirical observations.

3.1 ANALYSIS: ECOSYSTEMS FRAMEWORK

We map the ecosystem of time banks in Hong Kong longitudinally as well as cross-sectionally. Time banks in Hong Kong, like other social organizations, have thrived in various forms, embodying different organizational logics as well as demonstrating social needs at different time periods. This section summaries these changes.

3.2 Longitudinal Mapping of Time banks – Institutionalization of the Templates

We observed two major and one minor forms of time banks in Hong Kong with their respective logics and motivations in organizing the time-valued exchanges. They have thrived over the last ten years. We label the three forms as "Coop-like", "Community developmental", and "Business-friendly". This subsection explains the developments of both forms, while our main analysis in the next section focuses on the second form. We however note that the time banks organizers do not tend to categorize themselves into these forms; and there are time banks that shift their focuses from time to time as well as those that reasonably combine features of different forms.

3.2.1 The Coop-Like Time banks

The first form of time banks shares resemblance with how a cooperative frames its motivations for organizing the exchanges. While a cooperative is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically controlled enterprise; the Coop-like time banks often invoke motivational frames that resemble those principles set out as the Rochdale Principles in the International Cooperative Alliance[8], such as concern for community, autonomy and independence, and cooperation among cooperatives.

The motivations of enhancing living conditions of the local community and local economy are salient from the corresponding time banks' membership in the alliance named Concern for Grassroots' Livelihood Alliance Limited, which was founded in 2011[9]. The Alliance aspires to bring justice to the grassroots' livelihood by developing local/community economy (or "社會經濟 social economy") and engaging in advocacy. Accordingly, the corresponding time banks organize local productions and service provisions by local community members to

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[8] International Cooperative Alliance. Cooperative identity, values & principles. https://www.ica.coop/en/cooperatives/cooperative-identity/. Retrieved in Oct 2023.
[9] Concern for Grassroots' Livelihood Alliance Limited. https://ngo.hkcss.org.hk/ngo/109?lang=en/. Retrieved in Oct 2023.

improve their living conditions with local currencies named such as "基保券" (vouchers that secure the living conditions of the grassroots).

Relatedly, these time banks successfully organized interchangeable currencies among themselves. As they established the exchange rates for the time credits or local currencies, services and produces became tradeable and liquid for local participants of these time banks[10]. Transactions or exchanges were thus possible across local communities as well as across time banks. Members who subscribe to the motivational frames thus became connected; advocacy forums were also organized. For example, a few time banks co-organized 社會經濟及合作社政策論壇 in 2016 to convene to advocate for stronger local/social economy as well as cooperatives beyond the mainstream economic institution, which has remained the key or primary goals of these time banks (Wong, 2009)[11].

While these time banks thrived during the above period, some of them discontinued to operate in the last five years' time. Yet, the mother organizations of some of these time banks have continued to re-organize the corresponding projects as there was not a designated end-date for the time banks' operation.

3.2.2 The Community Developmental Time banks

While the Community developmental time banks place an emphasis on the community, this second form of time banks seldom invokes concepts such as local/social economy, economically poor living conditions of local neighbourhoods, or injustice against the marginalized. They are largely funded by the Community Investment and Inclusion Fund (CIIF), which aims at strengthening social solidarity and inclusion as well as enhancing self-help and mutual-help capabilities and resilience against adversities by empowering community members. The time banks proliferate first as projects run by established NGOs. The NGOs employed a largely shared model or template of organizing time banks to cater to the needs of communities based on their localities.

As CIIF aspires to promote and enhance social capital, the funded time banks also predominantly place community building as their primary objective. Given this primary goal to build small communities such as new housing estates located away from major shopping areas, most of these time banking projects have designated end-dates; for instance, funding periods last for 3 years, which could be followed by another year of extended support from CIIF. Advocacy for better economic conditions seldom appears on their lists of objectives. Note though some mother organizations of the Coop-like time bank also participate indirectly in or have separate projects funded directly by CIIF.

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[10] HK01. 09 Aug 2017. 時分券計劃改成六區通行　可跨區以勞動換糧油雜貨. **錯誤! 超連結參照不正確。** www.hk01.com/社區專題/110550/時分券計劃改成六區通行-可跨區以勞動換糧油雜貨. Retrieved in Oct 2023.

[11] Department of Applied Social Science, Hong Kong Polytechnic University. 2015. Research Report on the Evaluation of the Effectiveness of the Community-Oriented Mutual Economy Project by St James Settlement.

As a part of the government's agency, CIIF centrally organizes related or comparable initiatives and community projects with the funding approval processes as well as induction workshops for NGO practitioners alike. As CIIF accumulated experiences from working with time banking projects, social capital in the network of NGO social workers as well as other players in the field (to be elaborated in the next subsection of cross-sectional ecosystem), knowledge in how the design of time banking projects is related to building community, the CIIF therefore also plays an active and prominent role in shaping the prevalent objectives and designs of time banks over the last five years. CIIF groups approved projects by batches in a time frame of around or more than six months. On average, more than ten projects are funded in each batch. Each project lasts for around three years; and the CIIF secretariat regularly evaluates the projects if they could be categorized as Flagship, Potential Flagship, or others according to their intervention strategies and models, ability to motivate cross-sectoral collaboration and develop social support network, ability to achieve project objectives, and effectiveness in the assessment of social capital building.

A "template" of time banking becomes more and more commonly shared among approved time bank projects that aim at building communities. As a result, a substantial portion of the funded time bank projects of CIIF share these features:

-Multi-sectoral collaboration: "Community-Welfare-Housing" collaboration establishes a safe and friendly community, "Community-Business-Government" collaboration fosters social integration

-House Captain System "樓長制": Although an English version of the purpose and meaning of House Captain is not available yet, we understand the house captains as focal persons of a community. These focal points who usually represent floors of a public estate or sections in a village are main contact persons who bridge the time banks and the community members. They serve as information channels as well as central agents of social networks. They are active participants of the communities and key promotors of time banking related and other community initiatives. In a nested network, these focal points are highly embedded to form the critical components of the social organization. The House Captain system has been regarded as a best- practice developed over the decades by CIIF in view of organizing communities. The system itself was officially launched and promoted since 2012.

With the primary motivational frame to build communities, the Community Developmental time banks incorporate the above two features to organize communities and scale up participations by community members. The combination of Housing Captain system and time banking started to proliferate from between 2018 to 2019.

3.2.3 The Business-Friendly Time banks

The business-friendly time banks, as we label them, are perhaps the closest to the business or commercial sphere as their activities are readily incorporable to the needs of business corporations. From our categorization, two time banks fall into this form: one began its operations in 2019, and the other one is at its incubation stage. According to their founders,

the first one is a charity exempted from tax under Section 88 of the Inland Revenue Ordinance, while the second one is readily developing commercialized activities in the form of time banking. Both time banks organize participants' activities in the form of time banking.

More specifically, the first time bank of this form bridges business corporations to donations, volunteering opportunities for their employees, carbon emission quotas, as well as other initiatives that fall into ESG (environmental, social, governance) or CSR (corporate social responsibility). The time bank, in this form, serves as an exchange or transaction platforms between businesses and non-profits. For example, a corporate donates to certain NGOs and, in returns, employees of that corporate volunteer with those NGOs. Alternatively, members of a community (volunteers to) provide community services such that the hours are rewarded as necessities or materials needed by that community and donated by some corporates.

The second time bank of this form, on the other hand, aspires to actively engage the concept of shared economy by commercializing services provided by the participants. Referencing Uber or Food Panda, the founder challenged the assumption that time banks could only contain services considered necessities. Instead, as he acknowledged that time banks can match a companion to elderly who needs to visit a doctor, he further envisaged that a time bank is also capable of matching a companion to anyone who wants to visit a museum or a concert for example. While this concept is still in its infancy, it explores the relatively untapped nonmoney-labor quadrant of the sharing economy (Gerwe & Silva, 2020) as well as turns some "services" into "money-based" – i.e., with monetary reward for the service provider – after accumulating a solid base of participants in the transaction/exchange platform.

3.2.4 Hybrids

As mentioned above, we note that there are time banks that combine features from at least two forms. For example, a time bank catches our attention as it primarily aims to build community without advertising a goal related to local/community economy and is not funded by the CIIF. It also does not rely on selling (with local community currencies) collectively produced goods/ services as the Coop-like time banks have. However, like the Coop-like time banks, it is a core organization member of an alliance of time banks that further promote the concept of time banking in Hong Kong. Those time banks may or may not be funded by CIIF either. Yet, it has been awarded the SCB logo from CIIF given its contributions to developing time banks and social capital in Hong Kong[12].

Similarly, another time bank emerged as one of the pioneers in Hong Kong. Though not relying on the funding from CIIF, it has combined and kept both community building and empowerment of participants' time value as its primary goals. It began with the support from

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[12] CIIF. 14 Dec 2022. Social Capital Builder Awards 2022. https://www.ciif.gov.hk/download/en/scb-award/SCB_2022_Booklet.pdf. Retrieved in Oct 2023.

the Chow Tai Fook Charity Foundation and has recently been supported by Hong Kong Exchanges and Clearing Limited (HKEX) Foundation. HKEX is also an awardee of Social Capital and Sustainability Sectoral Award.[13]

Figure 3.1: Longitudinal mapping of landscape of time banks in Hong Kong

The diagram above shows when each form of time banks emerged over the last decade's time, according to the current categorization.

3.3 Cross-sectional Mapping of Time banks – Coalitions

The hybridity and dynamisms in terms of the time banks' goals did not, we suggest, evolve in a vacuum. As Bloom & Dees (2008) proposed, players cultivate their ecosystems across time, although effects may or may not be intended (Islam, 2020). So far, there has been a growth in the size of the coalition(s) advocating for time banks in Hong Kong. Most notably over the last decade, time banks have become more institutionalized, where practitioners in organizations of the field started to be aware of others' efforts in similar enterprises (Meyer & Rowan, 1977), as well as seen for instance from the participation of top government officials in a kick-off ceremony[14], as well as the promotion of normative standards (see DiMaggio & Powell, 1983) in time banks funded by CIIF, which routinizes if not moulds how time banks elaborate their objectives.

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[13] People's Talents Bank. https://www.facebook.com/PeoplesTalentsBank/. Retrieved in Oct 2023.
[14] HKSAR. 14 Jul 2016. 勞工及福利局局長出席「社區互惠銀行」計劃啟動禮暨社區互惠資源中心開幕典禮致辭. https://www.info.gov.hk/gia/general/201607/14/P2016071400600.htm. Retrieved in Oct 2023.

As such, we could map the various forms of time banks into Bloom & Dees' (2008) ecosystems. We note that the framework was meant for social enterprises, yet as time banks could represent a substantial defection from the conventional social welfare logic while most of them are not private enterprises, we still employ this parsimonious framework while we make necessary adaptations. These ecosystems capture how players with their resource providers interact with bystanders, beneficiaries/customers as well as opponents/problem makers under the (changing) environmental conditions. In Figure 2, the above three forms of time banks are the central players of the ecosystem.

3.3.1 Resource Providers

Coop-like time banks and Community developmental time banks often are parts of the service portfolios of NGOs in Hong Kong. Their financial resources come from The Community Chest, subvention by the Social Welfare Department of the Government of HKSAR, philanthropic foundations, other donations, as well as CIIF. Coop-like time banks often start with or are supported by philanthropic foundations such as DH Chen Foundation, Chow Tai Fook Charity Foundation, as well as HKEX Foundation. Given the size of the philanthropic supports, these time banks (and hybrids) often demonstrate longer-term commitments to the time banking initiatives. On the other hand, time banks funded by CIIF often operate with a designated time frame, given their specific community-building objectives. Business-friendly time banks often show close ties among their management and their major financial sponsors.

Most Coop-like time banks and Community developmental time banks share similar knowledge and human resources. Their organizations often are led by a senior social worker of their mother organization – the NGO, and actively managed by a social worker who is supported by junior personnels with social work training. These personnels embody normative standards of the field of social works in Hong Kong, as well as specific knowledge on time banks. As mentioned, social workers of the Coop-like time banks often possess knowledge on local/community economy and advocate related values, resonating with the broader social movement of benefiting grassroot communities beyond mainstream economies.

Pertinently, several leaders have risen in the field of time banking in Hong Kong over the last decade's time. These leaders have had shaped the development of time banks significantly. Most practitioners in the field – at least among Coop-like and Community developmental time banks – are aware of these leaders' contributions and thinking. Many up-and-coming social workers have attended training workshops organized or led by those leaders. These leaders have also held or have spoken in years of symposiums on time banking between 2020 to 2022. Practitioners, who largely have shared professional education, have socialized in those convening occasions; mental models of time banking organization have diffused accordingly. Normative standards for time banking thus developed and diffused (DiMaggio & Powell, 1983). Furthermore, as CIIF began to engage the concept of time banking in their funding schemes, officials, who also have shared professional training or working

experiences in NGOs, turned to prominent contributors in the field for inputs. In fact, practitioners are referred by government officials to consult those leaders when the former encounter problems in organizing and designing the time banks. More recently, the CIIF has developed more standardized evaluation practices on time banking organizations. As the projects are evaluated against a set of communicated tools for organizing, normative pressures also develop. We also note that many time banks in this form also organize community members, i.e., their service targets, to form core groups that participate actively in the decision making. These core members of the time bank further tap upon their personal networks in the community to scale up participations.

While membership with prominent associations in the third sector also grants legitimacy to organizations that run time banks, the presence of these associations such as the HKCSS Hong Kong Council of Social Service in symposiums further socializes mental representations and promoted frontstage and backstage convening or effective exchanges of thoughts on what or how time banking is acceptable or legitimate (Mair & Hehenberger, 2014). Interestingly but reasonably, meanwhile, some social workers of this field were students of the same professor, who spoken as a thought leader in the symposium.

The field's network also covers the technological aspect of time banks. Where the above mental model is commonly shared, time banks also have come to share the platform management tool named HINCare. This internet platform (and mobile phone application) was developed by a joint institute in the Hong Kong University. Thanks to the long-term collaborative relationship with the leaders of the time banking field, the HKU team has developed the time banking app for community members' and social workers' use in the field. Currently, the app is the recommended when practitioners demand technical support in the organization of a time bank. Since it was developed specially for time banks in Hong Kong, and time banks share similar organizational and communicative needs, mimetic pressures also develop for the adaption of the app as soon as the practitioners realize that there are not many alternatives other than the HINCare. Yet, alternatives may be found in other countries and shared software (Valet & Bures, 2018). The HINCare app allows recording of time credits, posting and exchanges of time credits for services or material products, announcements, updating of user statuses, consolidation of numbers and usage statistics, as well as tracking of preferences.

Noteworthy is how some Coop-like time banks and Business-friendly time banks have kept themselves away from adapting to the HINCare technological platform. While Coop-like time banks often also include material donations by individuals and other organizations in their self-organized exchange markets, there exists more primitive ways of recording and facilitating time credit transactions. Some organizations rely on books and pens and physical tools. On the other hand, business-friendly time banks have developed on their own in-house technological platforms for their time banking needs. Since time banks of this latter form more readily commercialize time credits and participations, their time banking technological platforms exhibit higher agility in terms of (setting up) types of transactions – such as exchanging number of steps or volunteering hours for carbon emission quota – but mostly lowered user involvements in terms of defining services and rates of exchange.

Thus far, the development of the field has shown strong resemblance to the institutionalization processes in DiMaggio & Powell (1983), demonstrating normative, mimetic, as well as coercive isomorphism among time banking organizations. Yet, we also emphasize the difference among the forms of time banks – most notably that separates the business-friendly time banks from the other two forms. We therefore turn to the environmental conditions that resonated with if not triggered the purpose of the respective forms (Zietsma, Groenewegen, Logue, & Hinings, 2017).

3.3.2 Environmental Conditions

Although time banking is a social movement per se[15] - more specifically as a response to severe inflation and high unemployment rates around 1980, its organizational adaptation may have various levels of fit (Ansari, Fiss, & Zajac, 2010): variability in terms of fidelity in remaining true to the spirit of the original practice as well as the level of extensiveness in terms of scale and coverage of the adaptation. Accordingly, in our categorization, Coop-like time banks and Community developmental time banks fall into a social movement exchange field, whilst the Business-friendly time banks' emphases on the now prevalent cultural trend to emphasize the social dimensions of corporate governance such as ESG, carbon emission, and CSR, shared economy, as well as the popular framework of creating shared value (Kramer & Porter, 2011) hint its membership in an interstitial issue field. Readers may disagree with this categorization, yet we suggest that distinguishing the two camps conceptually could help explicating the differentiated developmental paths of organizations in the respective fields. Fields of different natures also interact with (different) environmental conditions differently.

As a primer (Zietsma et al., 2017), social movement exchange fields exist to mobilize and coordinate actors and resources to further an agenda or extend an ideology. There are only one or few logics in the field. Organizations largely share their identities – based on shared ideology but with variations, such as between Coop-like and Community developmental time banks, we suggest. Isomorphic pressures are based on adherence to the ideology more than to the practices. Diffusion is likely to be spotty, with significant variation. On the other hand, an interstitial issue field purposes to negotiate coordination to respond to emerging issues or opportunities, such as the above-mentioned cultural trends, we argue. There could be multiple or fragmented logics, like the diverse opportunities for commercialization we introduced. Organizational identities are also emerging as we observe. Isomorphic pressures are weak, and diffusion is uncertain, as we observe among Business-friendly time banks. Interestingly and pertinently, boundaries are typically highly permeable in both types of fields; yet they are based on ideology in the former but on interest on the latter. Consequently, in the former type, social movement organizations collaborate in an egalitarian manner in clusters and networks. On the other hand, the interstitial issue field contains individual members from

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[15] Community Investment and Inclusion Fund. Mar 2022. 時間銀行：為你的社會資本開立戶口. https://www.ciif.gov.hk/download/tc/sc-resource/4_10.pdf. Retrieved Oct 2023.

multiple fields – such as business, philanthropic, entrepreneurial fields – who share an interest in a new opportunity. Disparate groups may form alliances.

In terms of politics and administrative structures, the Hong Kong government is the largest subvention sponsor as well as the prominent source of legitimacy for NGOs, given the government's efforts in regulating social organizations. Meanwhile, the Hong Kong government also encourages innovation and (social) entrepreneurship for a more diverse economy. We suggest that these two veins of regulatory and administrative efforts correspond respectively to the Coop-like and Community developmental time banks vis-à-vis the Business-friendly time banks. The two camps have different endorsers as well as sources of resources logically. Subsequently, time banks of the first two forms, given their mother organizations' membership in the institution of social work and public social services, proliferate upon CIIF's move to fund time banking projects, which was a result of series of experiments with the House Captain system and long-term funding relationship with the NGOs, the mother organizations of the time banking projects. As we observe, the more the mother organization is embedded in the formal social services institution, the more likely they would have time banking projects funded by the CIIF recently – whilst the new projects may or may not affect the original operations in the case of the Coop-like time banks. On the other hand, as the Business-friendly time banks recognize the limitations of the charity status for organizations, they actively reach out for legitimacy by inviting involvements from other prominent actors in as well as new available fundings and initiatives from the formal mainstream institution.

The dimension of economics and markets is thus closely related when we recognize Business-friendly time banks as constituents of a new market that potentially commercializes social opportunities. Although that may sound absurd to social workers or organizations that hold conventional logics of public social welfare dearly, the association between financial innovations – in a broad sense – and the transition of states' welfare policies has been a heated debate (e.g. Dore, 2008; King & Sznajder, 2006). Indeed, a new market cannot emerge without favourable political interests (Fligstein, 1996), as we noted above. And as we observed, as Business-friendly time banks attempt to establish a new currency of social participations with some favourability – such as turning volunteering hours into tradable credits for daily household supplies or carbon emission quotas, and make the currency liquid by bridging corporates and other social actors with shared political interests, such as those that are in need to satisfy both their shareholders from the contemporary capital market for ESG as well as stakeholders (Freeman, Harrison, Wicks, Parmar, & De Colle, 2010). Meanwhile, the time banks - Business-friendly time banks in particular - propose a market or at least market-like solution to the public welfare sector and its administrators. Interestingly, economic liberalism in an institution amplifies the financial/social trade-off for dual-purpose organizations (Battilana, Obloj, Pache, & Sengul, 2022). In this case, Business-friendly time banks are at the crossroad of staying purely social or further embracing commercialization opportunities. Before they make their choice, they could maintain their current broker status – though with some internal struggle between the social and market logics. We suggest that such inherent difficulty for some participants to make sense of their experiences originates from the observation that social exchanges are identity specific, or particularistic but

economic market transactions are liquid (Carruthers & Stinchcombe, 1999), as the time banks promote. More detailed discussion will come in our proposed theoretical model.

The economic sphere and markets cannot be understood in isolation from the cultural and social institution, as well. Following Bromley & Meyer (2017), we suggest that time banks are becoming more culturally approved despite the above-mentioned possible inherent difficulties thanks to the hybrid cultural trends of empowered rights and scientific rationality. While others have only argued for that the market logic has infiltrated into the social organizations, this view argues that organizations are constituted by these hybrid trends such that the boundaries among public, private, and third sectors seem to have become blurred. In the time banks, it would have been the case where volunteers or community members start to recognize their rights are to be empowered for instance by more technologically enabled record systems whilst administrators begin to build communities with more sophisticated volunteer management and data analytic platforms. Indeed, measures often take on a life of their own and are circulated and decoupled from where they were produced (Power, 2004); the corporate sphere where the market logic prevails has been governed by numbers (Miller & Power, 2013). In this sense, we do not dispute the view that social organizations are becoming more market-like (e.g., Eikenberry & Kluver, 2004).

The geography and infrastructure dimension is relatively straightforward, and surely not decoupled from the public administrative dimension. Indeed, CIIF fund many time banking projects to build communities in old and new housing estates. Such initiatives often invoke frames around promoting mutual help among community members who live in relatively isolated (residential) areas that lack infrastructure connecting to the urban areas. As the government continues to build new residential communities in new geographical areas in Hong Kong, these time banks likely will increase in their number (c.f. Lomi, 2000).

3.3.3 Beneficiaries and Bystanders

We group these two entities together because in both social movement exchange fields and interstitial issue fields, boundaries are highly permeable and coalitions form readily when actors realize valuable opportunities in furthering an agenda (Zietsma et al., 2017). The intended beneficiaries were the grassroot communities that are to be empowered against the harsh mainstream economic conditions for Coop-like time banks, or members of the communities that are to be built or developed in the case of the Community developmental time banks. Yet, we note the active role of the financial institution, which used to be a bystander traditionally in the realm of social services, plays, partly attributable to the ESG governance trend in the capital market mentioned above. Obviously, the partnership between HKEX foundation and a time bank is no coincidence.

In the contemporary financial institution, supported by the cultural trends of empowered agency and scientific management (Bromley & Meyer, 2017), social engineering initiatives such as SRI socially responsible investment funds, impact investing, and the quantification of non-profits' or social organizations' social impact, proliferate. In the current case, social development technology organisation such as Shanzhai City also supports social services

organizations in developing digital and decentralised solutions to time banks. Shanzhai City has conducted an ethnographic research of time bank for user experience and its digital transformation solution (Shanzhai City, 2021). These developers focus on the technical details of how digitalization can optimize the system design of time banks as well as on developing machine-driven or AI- Artificial Intelligence-driven matching of community needs. Accordingly, necessary data come from enhanced collaboration among time banks in Hong Kong, while such a scaled network likely promotes liquidity of the new proposed time currency (Carruthers & Stinchcombe, 1999). In these fields, a continued debate has been on how to reasonably measure social impact (see for example AVPN Asia Venture Philanthropy Network) over the last decades' time. Surely, it sounds like Business-friendly time banks are ready to form partnership with these new intermediaries; yet real social impacts and community building experiences needed by impact measuring enterprises such as IDCC Impact Data Consortium Chain also come from community oriented social organizations. Given these motivations, the influences brought by those new intermediaries are expected to go beyond Business-friendly time banks (Figure 3.2).
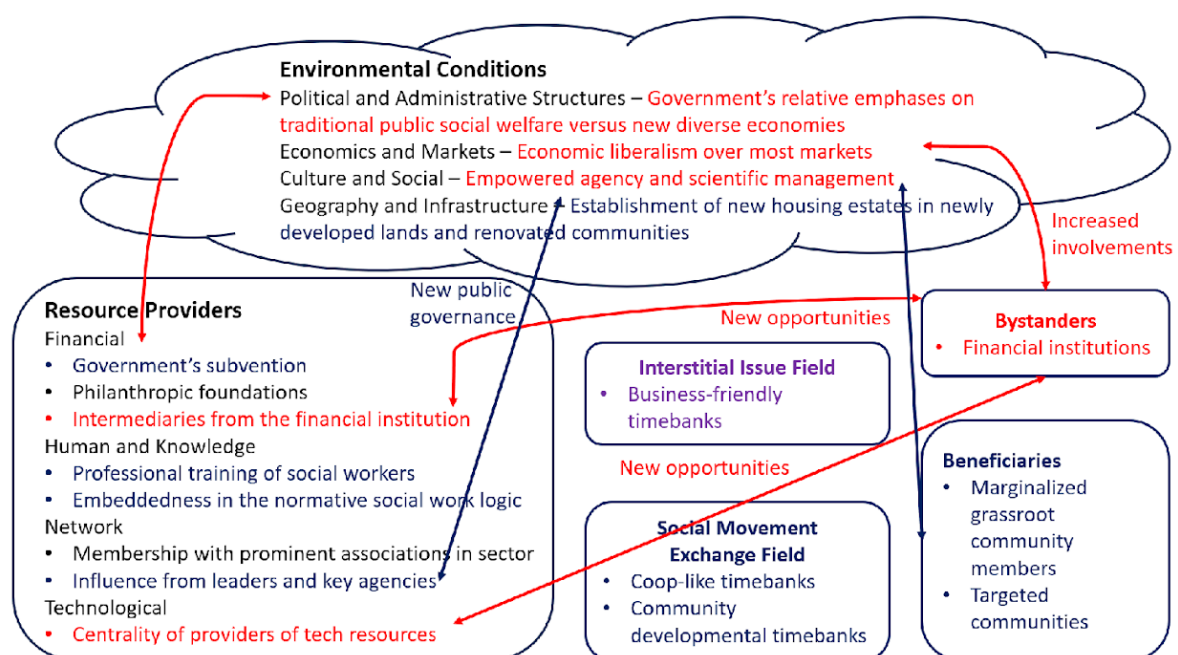
Figure 3.2. Cross-sectional mapping of time banks in Hong Kong (Adapted from Bloom & Dees (2008))

4.1 RE-SOCILIZING THE DE-SOCIALIZED: HOW TIME BANKS ORGANIZE RECIPROCATIONS

We aspired to uncover mechanisms of time banking that build communities, promote participations among community members of all ages, and enhance generalized social exchange. A clear understanding of the nature and the organizational blueprint of the time bank is essential before anyone could propose any practical (policy) recommendation. Because there has been insufficient theoretical work on time banking, a new type of social organization, we needed to build the theory inductively from the field. In this section, we explicate the findings we obtained from the field, where observed mechanisms converged to become our proposed theoretical model.

Based on the organizational purposes of the time banks in Hong Kong, we confined our primary target of investigation to include Community developmental time banks as well as any time bank that considers their community members – i.e. service beneficiaries – as their organizational members. We elaborate on the theoretical sampling in the next subsection.

4.2 Method

Qualitative case study is the predominant method of the current study to reveal theoretical mechanisms. Central to case studies is the "replication logic" (Eisenhardt, 1989). That is, "each case serves as a distinct experiment that stands on its own as an analytic unit. Like a series of related laboratory experiments, multiple cases are discrete experiments that serve as replications, contrasts, and extensions to the emerging theory (Yin, 1994) … case studies emphasize the rich, real-world context in which the phenomena occur. The theory-building process occurs via recursive cycling among the case data, emerging theory, and later, extant literature." (Eisenhardt & Graebner, 2007: 25; italicized)

We purposefully sampled time banks by choosing informants who would be most able to inform us on our main research question concerning how time banks work (Lincoln & Guba, 1985). Then we used a snowball technique, asking each informant for his or her recommendations as to who could best explicate the processes or mechanisms of interest. Given that the number of time banks in Hong Kong is limited, we extended our invitation to nearly all of them. And we started with our closer connections as well as others that agreed to participate in our study. With a theoretical sampling, we pursued data relevant to the themes and grounded theory emerging from the on-going analysis, and constant comparison of data across informants and over time (Glaser & Strauss, 1967) as integral parts of our grounded-research process. The entire procedure involved an iterative process of simultaneously collecting data, analysing the data, and seeking new informants based on information deemed important by prior informants. This approach resulted in an evolving sample of informants

and increasingly focused data relevant to the emerging theory, until further data collection and analysis yielded no further explication of a given category or theme. Therefore, not all the available time banks have been interviewed because we reached theoretical saturation (Eisenhardt, 2021; 1989; Glaser & Strauss, 1967).

4.2.1 Data Collection

We collected data using semi structured interviews, focus groups, and non-participant observation. We relied on the interviews as the main source of data on the de-socialization and re-socialization processes, with the observation and documentation data serving as essential triangulation and supplementary sources (Miles, Huberman, & Saldaña, 2014).

We developed an interview protocol for the semi structured interviews with the field experts and leaders. We also thank the field leaders for clarifying our research objectives and scopes with us before we put our protocol into use with other time banks and players in the field. We also maintained that case study protocol as we went through our first interviews that led to additions as well as modifications of the questions. Before the semi structured interviews, we shared sample questions (Appendix 1) with the interviewees and briefly explained to them our scope and targets of the meetings. Questions around demographics and experience or tenure with the time banking organizations were also asked. Interviews lasted 45-90 minutes. We adjusted our questions gradually such that the later interviews became more structured as themes emerged from the data. More confirmatory or clarification questions became the focus subsequently, revealing consistencies and inconsistencies across organizations, as well as tentative relations among concepts, as represented by categories and themes in our emerging data structure (Corley, Gioia, & Hamilton, 2013). To minimize the possibility that the interview questions in later interviews might bias members' responses toward our evolving interpretations, we refrain ourselves from introducing our terms to the informants until they gave their interpretations and descriptions.

We conducted 11 interviews with 21 practitioners in the field, as detailed in Table 4.1.[16] These informants occupied novice to leadership positions in the respective organizations. Given that time banks in our primary scope of investigation were relatively new, these informants have been with the time banking projects from the beginning. As we aspired to develop our understanding of time banking organization amid the institutionalization of the field in Hong Kong, we also interviewed informants from other forms of time banks as well as other players in the ecosystem.

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[16] The interview with the project manager from GCCY does not count towards our interviews with time banks because GCCY was not a time bank but a community developmental organizational project. With its community building objectives, we used it for triangulation with our analyses with community developmental time banks.

Table 4.1. Summary of Sources of Interview Data

Number of Informants	Positions in Organization	Organization (Disguised)	Corresponding form in Ecosystem
2	Decision makers	IDC	Intermediary
2	Managers of secretariate	SCI	Formal institution
2	CEO, Decision maker	HKIH	Business-friendly
1	Time bank project manager	SKHJ	Hybrid
1	CEO	SCA	Business-friendly
1	Project manager	GCCY	Community developmental (to be)
1	Time bank project manager	PC2	Community developmental
3	Time bank project manager, Time bank organizers	WBTC	Community developmental
2	Time bank project manager, Time bank organizer	DT50	Community developmental
2	Time bank project manager, Time bank organizer	YCCH	Community developmental
4	Field leaders, Network organizers	BComm	Coalition builder
1	Time bank project manager	SFTD	Coop-like
Total	21		

We also benefited a lot from the focus groups with community members of the corresponding time banks. All participants have participated in the time banking activities for more than one month. The majority of them were active if not core community members of the time banks. They have all participated in more than two types of time banking activities by the time of attending the focus groups. Most of them live in the corresponding local community areas while there were also participants who only used to live there or have not lived in those areas. Each focus groups lasted around 30 minutes. We asked questions mainly around the participants' experiences in and opinions regarding the time bank. We started with their positive experiences to understand their relationship with the other community members of the time bank; then we also covered their concerns from unexpected experiences or how the time bank was different from what they envisaged. We also asked the focus groups to share how they wanted the time bank to move forward and be organized in the future. Table 4.2.

Table 4.2. Summary of Focus Group Data

Number of Participants	Organization (Disguised)	Corresponding form in Ecosystem
3	PC2	Community developmental
4	WBTC	Community developmental
15	DT50	Community developmental
25	YCCH	Community developmental

Total: 47

As we visited the time banks, we also engaged in direct, non-participant observation of organizational settings, members' routines and activities, and social interactions (e.g. settling of technical issues around the use of time banking apps with staff and fellow community members, coordination for the next schedule of the next community activity, promotion of the time bank) for a real picture of the organization of time banks. We also gathered online and physical time banking materials from the organizations. These materials were very useful data because they carry symbolic meaning as well as official framing (e.g. Gioia, Thomas, Clark, & Chittipeddi, 1994; Glynn, 2000) for the time banks. Time bank organizers and community members construct and make sense of these materials constantly (Weick, 1995). We constructed the narrative of our findings from a combination of our interviews, focus groups, observational field notes, as well as available materials about the organization of time banks.

Hence, such a process of data collection has differed slightly from our proposal. For instance, some time banks were not able to invite 6 beneficiaries to join our focus group. There however was not an underrepresentation of a type of stakeholder. Since those focus groups all came from the same "Corresponding form in Ecosystem", i.e. they are all participants of the same type of time bank/organization; we do not differentiate the 3, 4, 15, 25 among those participants: they together represent the beneficiaries of the time banks. In this vein, we would like to clarify that we conducted focus groups mainly to understand the user experiences among beneficiaries. Upon our investigation in the field, we realized that the individual NGOs would have concerns should we asked them to share their organizational strategies and current situations with other entities or agencies.

We accordingly turned to separate interviews for their insights. We noted that the method of a multiple-case study resembles that of a series of experiments (Yin, 1994); however, we clarify that such "experiment" happens in the field (i.e. as the beneficiaries used the time bank) but not during the focus groups. The focus groups *per se* do not serve as the experiment but are there only to triangulate qualitatively with our findings from our interviews and observations regarding each corresponding organization.

4.2.2 Data Analysis

We aimed at distilling for clearly delineated themes and aggregated dimensions (Gioia et al., 2013) with our data analyses from the field. Inductive analysis using naturalistic inquiry (Lincoln & Guba, 1985) and constant comparison techniques (Glaser & Strauss, 1967) started as soon as we collected the data. These techniques contributed to our construct validity because we focused on comparing meaning as well as antecedents and consequences of constructs across different but comparable settings in a recursive and iterative manner. We did not stop until we reached clean meanings for the dimensions. In such case, we either compared among more sources or we went back to the field to seek more evidence to confirm or modify our understanding.

We began by identifying initial concepts in the data and grouping them into categories (open coding). These codes are in-vivo or "first order" (Van Maanen, 1979), i.e., we used language used by the informants or community members whenever possible, or simple descriptive phrase when an in-vivo code was not available. Next, we conducted axial coding, wherein we searched for relationships between and among those categories, to assemble them into higher-order themes. Finally, we group similar themes into several overarching dimensions that become the basis of the emergent theoretical framework. Those analytic procedures were "recursive, process-oriented" (Locke, 1996: 240).

Particularly, with reference to guidelines from Miles, Huberman, & Saldaña (2014: 75-77) about coding of qualitative data, Emotions, Subtexts, and Dramaturgical codes are especially relevant to community members' framing of their organizational, i.e. time banking experiences. As discursive framing and cognitive schemas "are separate concepts but are reciprocally and recursively interconnected in the construction of meaning in context" (Cornelissen & Werner, 2014: 183), framing should be observed in both individuals' conception and interactions between individuals. Individually, the knowledge structures (e.g. Benner & Tripsas, 2012, Labianca, Gray, & Brass, 2000), "once activated, frames impart organizing structure, and direct and guide interpretations." (Cornelissen & Werner, 2014: 187). For Weick (1995), "frame-based inferences have been singled out as the cognitive basis of sense-making" and "cognitive frames… to make default assumptions about unmentioned aspects" (Cornelissen & Werner, 2014: 188), Subtext codes are relevant. Furthermore, Weick (1995: 111) went on to assert that "Frames tend to be past moments of socialization and cues tend to be present moments of experience. If a person can construct a relation between the two moments, meaning is created. This means that the content of sensemaking is to be found in the frames and categories that summarize experience, the cues and labels that snare specifics of present experience, and the way these two settings of experience are connected."

This taps on Story codes, Metaphor codes, Contrast codes, Spin codes, and touches on Emotion codes as emotion is an integral part of an individual's experience. This stream also taps on Blind codes because a story blinds people to alternative options (Benner & Tripsas, 2012). While these all echo to Benner & Tripsas's analogical reasoning that points out how individuals may come up to think about their environment, Attitudes codes and Belief codes step in to guide how an individual look at the world. With a close relationship with symbolic interactionist tradition of sociology (Blumer, 1971; Goffman, 1974), the "plastic principles"

(Cornelissen & Werner, 2014: 197) again link people's interpretive principles with values (ethos) that support or criticize decisions to act (Hoefer and Green, 2016). "Symbolic framing" was derived as a separate code in the current study to capture meanings conveyed symbolically to achieve effects such as Bateson's (1955/1972) classic example, "a monkey needs to know whether a push from another monkey (as a symbolic gesture) is intended within the frame of play or the frame of fighting." (Cornelissen and Werner, 2014: 197)

Such a process of iterative coding and abductive reasoning led us to the emergent data structure in Figure 3. There are three dimensions for promoting active ageing and social participation with time voucher/bank: Atomization of Reciprocity, Non-calculated Crediting (計而不算), and Socialization of Experiences.

Figure 3. Data Structure
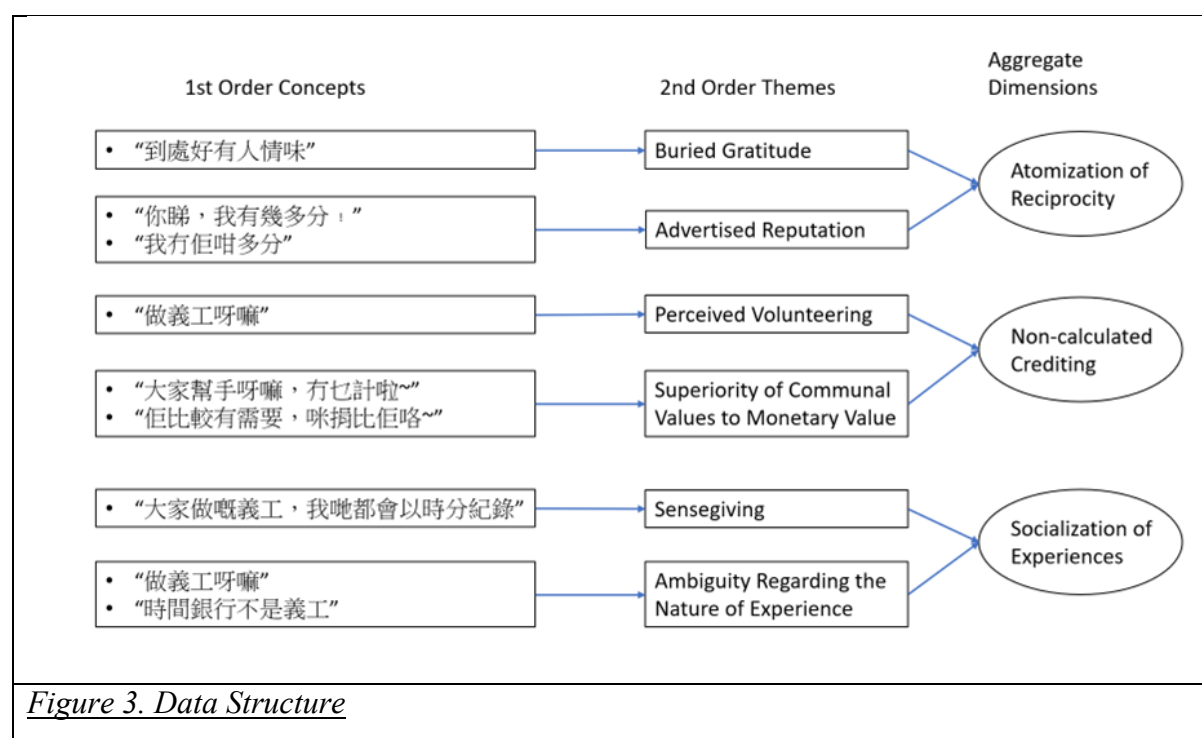
Yet, before we present our conclusive theoretical model for making recommendations, we first highlight several practical findings around the organizations of time banks.

4.3 Findings

4.3.1 Social Capital

4.3.1a Increasing number of participants

There is a consensus among all NGOs and time bank participants interviewed that time banking, in general, encourages more people to join the programme.

At organisational level, both types of NGOs that had volunteering programme (without time banking elements) and that had not, such as new centres or new communities, saw these benefits.

At individual level, especially for those who did not want to become volunteers or who did not want to receive services before, they are more willing to participate because there is an added incentive for service providers and service recipients (specific rationales to be explained in 4.3.1b). With their own capabilities and willingness, they contribute various types of activities which will be discussed in 4.3.1c. Rather than merely being isolated at home, it offers meaningful opportunities for them in connection with and contribution to society.

Likewise, active volunteers, characterised as the group of time bank participants who care about the well-being of neighbourhood and therefore actively participate in time banking programme, had additional incentive in time banking programme. Firstly, they actively promoted time banking programmes to other community members, identified people around them in need, understood their specific needs, and referred them to the NGO or specific service providers. It echoes above why some people who started to join time banking programme. In general, many of these people in need are elders who have, or perceive themselves as having, less capability and incentives in providing services, and are less willing to seek help and assistance proactively. Second, time banks require members to contribute their skills to the community. These active volunteers who have developed a long-term relationship with the NGOs and the community are more familiar with the social capital available, namely the skills and/or services needed. They can offer or arrange timely needs that mostly suit the needs of the participants of time banks. Otherwise, they can only seek help from social workers or purchase the service from external parties themselves, both are less efficient or even infeasible in some situations:

> Interviewee 3a: 我同 [another Centre staff] 識鬼整咩！通常就係有啲義工去提供呢啲服務，維修服務係提供得最多。喺[the location of the community]搵好難搵到 [repairing service]，因為佢好多係一啲比較鄉村嘅地方…佢嗰啲石屋鐵皮屋，有時裝啲水電都麻煩過人，你出面搵師傅去做都未必肯做。

With the time banking app, which we will discuss below, even if social workers still need to arrange matching service providers and recipients, all participants, particularly those active volunteers, can receive the service request immediately, and accept to offer the service with a few clicks. Time banks provides an information advantage in developing or capitalizing on social capital:

> Interviewee 3a: 以往亦都有可能係嗰個人本身有啲咁樣嘅才能，但係佢唔會參加我哋嘅義工服務，我又唔知道佢有呢個技能，可能錯過咗呢個服務機會。但係而家咁樣我哋就可以好啲去聚集社區嘅需要。其實好多嘅問題係社區資源嘅需要，或者資源發放嘅資訊係唔夠清晰比到啲社區人士。

Also, an information advantage did not only come from service providers:

> Interviewee 2a: 義工佢哋探緊啲長者，佢哋定期探一次就可以知道長者近排嘅情況，例如話有冇退化或者有冇咩問題，例如佢上個月仲好好地嘅今次好似有啲需求。

Overall, in line with the active ageing, the implementation of time banks facilitates the likelihood of volunteer work.

One interesting case worthy of highlighting is that a participant had a feeling of 'being forced' to join the time bank. In a nutshell, because of the demand of the service needed, this participant felt she had no way but to participate:

> Interviewee 4q: On day one, I have not thought of doing volunteering work here. If [the social worker] asked me to join, I did not have time…I participated in other volunteering elsewhere… I am here just because I enjoy the recreational activities here. However, since the launch of the time bank, things have changed.

When she was interested in joining the activities which she could join before the launch of time bank, these activities only accept exchange in time credits which she had none. Eventually, she had to participate.

> Interviewee 4q: By the way, I do not live in this district. I had to come back here deliberately [for providing services]. I'm like whatever. Eventually, I have enough time credits for these activities. But now, the problem is that the time banking initiative had changed me as a person…and shifted its purpose completely.

The participant believed she joined this time bank just to 'earn' time credits. She considered this as the distortion of time bank and volunteerism. She felt annoyed and exhausted by seeking opportunities to 'earn' time credits just to benefit herself.

> Interviewee 4q: I become I do not really like myself. It is not about I hate doing volunteer work…now I become more of a business-like mindset…time bank should not be like that.

When we investigated this case, we all found something was missing: apparently there is an addition of time bank participants, where she provided service and involved in time credit exchange. However, we asserted that there was little, if not none, social capital accumulated. Even though there was only one case in our study, it led to two questions: firstly, what are the measurements of social capital and effectiveness of time banks which we will be discussed in 4.3.2d; secondly, how to explain and reconcile the discrepancy of time bank participation and accumulation in social capital. We will discuss this in the recommendation section.

4.3.1b Why one is willing to join time bank

Except for the special case above, all the interviewees found that volunteerism offers them happiness and sense of accomplishment. Most of the time bank participants are retired elders. They can better utilize their spare time and make some new friends in the community.

Knowing each other in the community also builds a stronger network and a sense of community.

With time banks launch, the participants are more willing to provide service by proactively providing service or offering the social workers a helping hand in activities. Moreover, they felt happier because they got to know more neighbours in the community, where they could have more in-depth communication. Some of the interviewees found positive emotions, enthusiasm, and hospitality, developed among participants.

> Interviewee 3b: 平時最多喺條街度打下招呼就行啦，咁探訪就直頭係坐入屋度傾計…一去到坐低就係咁傾計，咁佢又會講下佢啲嘢。差好遠㗎呢個感覺…我哋去到佢哋度就好鬼死熱情。

More importantly, by joining the time bank, they have developed a state of psychological safety that when I needed some help in the future, I could get it in the community, or even specifically who could offer me a helping hand. In this sense, the accumulation of social capital is the objective as well as the motivators to join time banks.

The aforementioned participants who were less willing to join volunteer work started with developing a trusted relationship with the social workers. When trust was developed gradually, they started to communicate with other neighbours, including the active volunteers, and eventually joined time banks.

To further investigate the motivation of joining time banks, one of the unique features to time banks is the accumulation of time credits. Interestingly, many participants in almost all the time banks found time credit is encouraging. The meaning of time credit is more than a quasi-monetary income, which they perceive as self-interested, or a reflection of reciprocity or co-creation. Time credit itself is encouraging and rewarding. In other words, many participants simply want to save more time credits. When they knew some others have more time credits, they felt more motivated to gain more by joining more activities or providing more services, leading to 'virtuous competition' in time banks by seeking opportunities to offer help.

> Interviewee 4c: I need to put more effort to get more…Actually, I discovered that I am the type of person who really likes to collect things and save up something. I will save up to the point that I have a specific amount of saving, then start to consider spending some.

> Interviewee 4d: Even though I participate in these activities, I feel like I want to be "number one" … It is like a competition at school. If I got the highest score in an exam, I do not want to become number two next time.

These participants were generally aware of the intended meaning and exchange nature of time credits. They reckoned that seeing time credits this way was not distorting, because they did not really aim at saving up time credits or not see it as the ends of time bank programmes. Rather, they saw it as adding another meaning of encouragement to time credits. The discussion of findings between saving and consuming time credits at organisational level will be discussed in 4.3.2d.

Noted that the interviewees had different willingness between joining activities arranged and coordinated by NGOs and providing services individually (peer-to-peer hereafter). The difference will be discussed in 4.3.1d.

4.3.1c Types of activities

This section only focuses on the activities that facilitated interaction among time bank participants. Discussion on other mechanisms, such as exchange in goods, or purchasing or donating credits will be discussed in 4.3.2b.

The interviewees revealed that their time banks included different types of activities, catering to the specific needs of each community. What is common is that most of the activities were arranged and coordinated by NGOs, comprised of at least 70% of time-credit transactions.

For NGO-led activities, the NGOs offered a wide range of activities, including visits and meal delivery, interest classes, booths, guided tours and press interview, site-seeing and leisure activities. Daily, generic duties at the community centres such as preparing leaflets and being the concierge were also included. Some activities required participants to be mentors, tour guides, or helpers. They were considered as service providers to gain time credits. Still, they were all arranged through NGOs.

On some occasions, the line between service providers and service recipients are less clear. For example, there was a lecture on medicine management. It was useful to participants as attendees, as well as helpful as service providers to teach other service recipients how to manage their own medical intake. The interviewees who participated in this seminar showed high levels of satisfaction because they learn knowledge which is useful for themselves and that is helpful in volunteer work, and again, gained time credits.

For active volunteers, an additional type of activities involved is the organization and implementation of activities. Some time banks have the Organising Committee comprised of the social workers and some active volunteers. These active volunteers expressed their opinions in managing and running a time bank, shared any needs or issues raised by other time bank participants, discussed any potential new activities or external sources of social capital that would be beneficial to the community, and arrange the NGO- or time-bank-led activities. By doing so, opinions by time bank participants were also reflected in time bank design and management.

For peer-to-peer activities, the most common types of activities included home visits, repairing work, and escort services for outpatient visits. Some activities including grocery and medicine delivery, or babysitting were also included but less common. By comparison, the types and variety of peer-to-peer activities are less than NGO-led activities. One of the reasons is that most of the interviewees' NGOs focused on elderly services. Therefore, the talent and skill pool remain less diverse. Also, most interviewees preferred activities and time credit exchange were conducted at community centres (except visits), or public locations rather than their homes. This is related to the privacy issues to be discussed. Anyhow, it also limits the types of activities.

In theory, time banks value everybody's contribution equally. However, some interviewees shared their concerns in terms of the types of activities involved in time banks. Because of differences among participants' ability, some elders could only be involved in less demanding activities. The interviewee worried that some other time bank participants who provided more demanding services would compare the service provided:

> Interviewee 4a: 一個做義工坐喺度當值，另外一個義工帶住行山帶九個鐘，咁先有 9 個 [time credit]，佢坐喺度九個鐘又 9 個 [time credit]，咁又嘥㗎喇…點樣令一啲體弱長者可以參與到？踢走佢又好似好慘咁。

Even though there were no explicit discontents, it indicated some hesitation in the principle of same value of hourly contribution. Similarly, even if two service providers offered the same type of activities, it led to similar comparisons. Some interviewees expressed these challenges in implementing market-like mechanisms into communal mechanism.

Some interviewees do not make such comparisons. They tended to make an analogy with the nature of volunteerism that when one does volunteer work, one would not compare the nature or quality of work. It was more about what a person could do and is devoted to do. They contended that too much comparison would distort the nature of time bank.

4.3.1d Matching

A related discussion is the matching of service provider and service recipients. All interviewees were aware of the peer-to-peer service, but many of them have never tried it, either providing or receiving the service. Some interviewees admitted that some participants were less familiar with peer-to-peer services or did not understand how to use the app to request or accept to offer the service. More importantly, peer-to-peer services need more skills and commitment. It is therefore important to identify the right service providers with the right skills. However, unlike a pure market transaction, it involves trust issues:

> Interviewee 1a: 我哋發現最大問題唔係有冇時間，係個信任問題。佢點樣交個仔畀你，第一嗰個人佢識唔識呢？第二我湊我自己都好大責任㗎喎！一陣間撞穿咗個頭究竟係邊個負責呢？甚至話放隻狗隻狗唔見咗，咁個信任邊度嚟呢？

The lack of trust does not only result from the uncertainty in credibility of the service providers, but also from the indifference in time banking mechanism that are able to differentiate among suitable service providers. Without trust, it is difficult to proceed to providing and receiving services.

Currently, the app had a matching function but not many NGOs were using it (to be discussed in 4.3.3). Eventually, service recipients turned out seeking help from social workers directly, or the social workers manually sought help or connected to the service providers. Both alternatives reinforced the NGO-led activities, or an impression that social workers were the key to solutions instead.

In addition to concerns over service providers, some interviewees were also concerned over service recipients. They believed in a need-based approach that service recipients should need a service that they cannot afford through market means. There was no need assessment in time banking mechanisms:

> Interviewee 4a: 即係衰啲講一個 [service recipient]，因為懶就想搵人幫佢抹窗，咁搵咗個義工，而個義工又真係幫佢抹咗，就計一個[time credit]。我覺得唔太理想…亦都要考慮埋義工嘅感受，個義工入呢個 app，最主要原因都係想幫啲體弱長者或者係有需要嘅人士。如果上到去見到呢個咁嘅情況，可能會對成件事嘅聲譽都有影響。

> Interviewee 4m: I felt like helping someone to do the personal task is not so good. Let's say a person cannot go to buy groceries because of COVID-19. I will help that person and I find it quite meaningful. However, if someone felt "oh I am so tired and I don't want to buy groceries", I don't think it is quite good.

Overall, the interviewees who raised these concerns preferred all the time credit exchange and services should be done through the centre. They believed NGO-led activities can overcome the hassles related to interpersonal issues.

> Interviewee 4l: Basically, I am afraid of making new relations or networks with other people… Among the two people, there might be a lot of troubles… Some people are not easy to get along with. Some people might be very aggressive and may scold at me even if I do anything wrong.

> Interviewee 4m: Some people may use your kindness to take advantage of you... Let's say if we arrange [the activity] through the centre, the centre will give me a volunteering opportunity. I do not need to bother issues such as 'give me a [time credit], I help you'.

When they were asked under what conditions they would show more trust in matching, or peer-to-peer activities in general, they proposed (i) a person that they have known well for a long time; or (ii) a person they did not know but was introduced by the NGO or the social worker. They reckoned that if they knew the service provider or recipient well, it would not become a matching problem and the consideration went back to the capability or willingness of providing the service.

4.3.1e Privacy

Time banks involves much information of service providers and service recipients, especially when such activities are related to health or family issues. Whether privacy affect the exchange and accumulation of social capital becomes another question. Unlike other findings sections, the interviewees shared quite diverse comments on privacy. Even for social workers which we anticipated to be more risk-averse in privacy, some cared less about privacy issues. These advocates suggested that when the participants know most others well and when the

system only covers time-bank related data, privacy should not be a major hurdle for joining time banks or involving in peer-to-peer activities.

On the other hand, some social workers concerned the privacy issue, which was also a reason why they did not use the matching function:

> Interviewee 4a: 即係例如 A 用呢個 app 去搵義工，配對到 B 的話，會自動彈 B 個名、電話等等出嚟嘅…呢樣嘢我哋仲斟酌緊。

Likewise, some time bank participants worried less about the privacy issues while some others expressed their concerns, with similar reasons.

4.3.2 Time bank ecosystem

4.3.2a Time banking versus volunteerism

As mentioned, most interviewing NGOs had volunteering programmes before a time bank was launched. They had different views on volunteerism on time banking. Different perspectives on time banking are important here as it relates to who are the stakeholders and how these stakeholders are involved in the ecosystems.

a) Some time bank advocates insisted on a clear distinction between the two. While volunteerism, as it means literally, is purely free of charge; time banking involves exchange in activities with return.

To disentangle the relationship between volunteerism and time banking, some believed in a more conventional view on time banking. Volunteerism is a service model, either in a support role or co-worker way, which mainly involves one-way allocation of resources from government or private donation and support. The roles of stakeholders in service model are more stable. There is resource dependence on resource providers and bystanders in volunteerism. On the other hand, time banking is a co-production model which involves two-way, dyadic exchange in services. In this sense, the role of resource providers is not simply to maintain the survival of the programme, but rather to facilitate the growth. The role of NGOs is to coordinate and facilitate the exchange of social capital among participants. Moreover, actors in the time banking model have dual and dynamic roles of stakeholders. A beneficiary can be a resource (that is, service) provider at the same time, and even coalition builder if one can draw external resources into the time bank. The democratisation of social capital leads to a more sustainable model in the community.

b) Meanwhile, some proposed that volunteerism is above time banking:

> Interviewee 2a: 我哋認為義工嘅機制其實有兩個層面。第一層係有收穫嘅層面，即係我攞啲嘢出嚟，我又可以得到另外一啲嘢。但係你最終極其實係想賦權嘅居民去到第二個無償嘅層面… [Time bank] 係我哋視為義工階梯嘅第一步，第二步先係上到去我哋一啲叫做樓長嘅階段。

In other words, time banks were considered as one of the means to promote and encourage people to volunteer, and to become active volunteering ultimately. Following this model, it leads to two questions: first, how those active volunteers viewed the additional transactional or quasi-monetary exchange, which may lead to perceived mission drift of volunteerism. In response to this, they proposed there were no hierarchical distinctions between the two. From a long-term perspective, time banking is more sustainable in a sense that can attract more participants to volunteer, especially when they reach a state of growth or succession:

> Interviewee 2b: 佢已經係樓長，但係我哋需要多啲新血…好似我哋最近其實先做過一啲面談，樓長會覺得：「要有人頂我哋個位。」咁呢啲概念佢哋就會明嘅。佢哋要知道咁樣先可以吸引多啲人參與義工…佢就無償啫，我哋都會想多啲人參與嘛。

Therefore, when active volunteers, or volunteerism in general, were involved in time banking exchange, it was considered as an osmotic approach of volunteerism. More importantly, the key is that these active volunteers are well acknowledged of the principles of volunteerism and time banking, but not considered as an alternative means of quasi-monetary incomes, where the principle of generalised social exchange was discussed above.

Both views above shared the same point that time banking is more sustainable in the long run.

c) There were also some interviewees seeing time banking and volunteerism as the same thing. While they acknowledged the principles and mechanisms of time banks, they suggested a service model is more suitable for their communities. Basically, they perceived time credits resembling volunteer work hours. Conventionally, NGOs would record the volunteer hours and offer them rewards or recognition in their volunteer work. What they see uniquely in time banking is the exchange of activities. Typically, they paid less emphasis on the long-term perspective of time banks. Notably, even if participants have accumulated excess time credits, they have not considered much as a problem under the service model. Social capital, or resources in general, remained in the hand of resource providers. The key to success is that the resource providers, that is the NGO and donators, could offer adequate resources for participants with time credits. And they asserted that the participants which saw time credits as volunteer work hours would not bother spending all the time credits eventually.

We identified that the interviewees seeing time banking and volunteerism as one shared some similarities with b) above. The difference is that those proposed time banking as a means to facilitate volunteerism placed more emphasis on the exchange of activities. Therefore, time banks by b) had more peer-to-peer activities, and the participants had more delegation and participation in the development of time banks. On the other hand, time banks merging with volunteerism perspective has an ecosystem of a service model.

4.3.2b Understanding of time banking

We have to highlight that regardless of different views on time banking, the NGOs and social workers had a clear understanding of time bank principles and mechanisms. What is different is whether the time bank participants shared the same understanding.

All NGOs offered briefing and training sessions to their staffs and active volunteers on time banks, introducing what is time banks, the importance of time credits as social capital, the rationale, and objectives of time banks, etc. These training and orientation usually lasted for four to six months.

For participants, some of the interviewees did not fully understand, or did not agree with, the equal hourly contribution. They found that this fundamental assumption was contradictory to what they have seen and come up with in society.

Meanwhile, some of the NGOs, especially those seeing time banking and volunteerism differently, stressed the understanding of time banks. The interviewees were aware of that earning time credits, or exchange in activities were not the ends of time banks, as well as equal hourly contributions to the community. To tackle this, the interviewees disagreed with the assumption that the participants, mainly elders, were less educated to understand the concept:

> Interviewee 2a: 我哋係會有一啲文章，甚至乎係 [a professor advocating time bank] 寫嘅一啲 PPT 我哋都會分享比佢哋。你哋可能覺得好驚喜，居民會唔會睇得明，社區經濟個理念之類，但係我哋嘅前設係唔好假設佢哋睇唔明先，睇少佢哋，我哋照放落去。咁事後我都有問啲居民你睇唔睇得明喫？佢話明少少啦，下次又明多少少。

4.3.2c Saving versus consumption

Overall, we observed a general pattern of over-saving over consumption in almost all time banks. That is, time bank participants provided more than received services. As mentioned, it is because most of the activities are NGO-led activities, where the NGO would give time credits unilaterally. Also, when some participants were those in need without time credits, most NGOs would shift to the service model by offering services without spending or deducting their time credits. Technically, there should be peer-to-peer activities, which is less prevalent thus far; or there should be activities that consume the participants' time credit. Eventually, the rapid accumulation of time credits is imbalanced.

Some NGOs attempted to offer activities that participants needed to spend their time credits. From a practical standpoint, the NGOs preferred a high enrolment of activities, so it allowed the participants to use either money or time credits. Interestingly, as mentioned the participants were inclined to save up their time credits, which was discussed above, and less participants joined those activities with time credits. They reckoned that because of difference among background and preferences, leading to differing consumption patterns and behaviours.

Interviewee 4a: 咁我哋就好似銀行放好多錢出去，依家就想收返嚟咁依家就收唔返啦…佢哋視 [time credit] 如一個無上之寶嘅…好鍾意儲義工時數，我都拗曬頭。

When there were activities exclusive to time bank participants, it motivated participants to join their volunteering work but also led to discussion of 'being forced' to volunteer discussed above.

Some NGOs did not see this as a problem. They asserted that the imbalance of consumption and saving would lead to problems, resembled to such financial crises as inflation, bank run, or bankruptcy, only when there were insufficient social capital and resources. When a time bank of a community had abundant social capital available, it means community members could receive services or resources whenever in need. Participants would not see over-saving as a problem. Furthermore, they were even not aware of the situation of over-saving:

Interviewee 3b: 儲咁多分其實我根本冇諗過。

Interviewee 3d: 我哋都唔知有分加，有陣時嗌我哋去做義工我地得閒咪去囉。

To achieve this, the interviewee suggested additional time bank mechanisms such as time credit donations:

Interviewee 3a: 有啲就算佢冇裝到 app，根據呢個時間銀行嘅概念都係要照同佢計，就算扣到負分都要同佢繼續扣落去，因為要公平㗎嘛。不過就唔影響我哋繼續提供服務畀佢…有啲長者佢本身就好有需要嘅…唔行得唔走得…好少出到嚟做到義工。

For time bank participants who have accumulated many time credits, they were typically active volunteers who were more capable of providing service and required less services or resources. By donating their time credits to others in need, these active volunteers first provided services, and further contributed to the community by offering opportunities to receive the service:

Interviewee 2b: 咁佢哋覺得呢樣嘢好有意思…佢哋有種「雖然我賺唔到錢但係我賺咗啲嘢」嘅心態，咁呢個係一個價值。

Interviewee 3a: 佢哋本身就係捐嘢嘅人，佢哋唔會想用返啲分換返自己捐嘅嘢，所以就會想將啲分捐畀人。

When we asked those active volunteers whether they concerned they would need time credits one day, all of them believed they could receive help or time credit donations somehow, which eventually was not a problem to them.

Yet still, not all interviewees agreed with the arrangement of time credit donation. First, some service recipients who also received donations of time credits felt pressures of having negative time credits.

Interviewee 2a: 其實遊戲嚟嘅啫，但係佢可能自己覺得唔舒服…我諗係個居民自己心態上唔想欠人哋野。

Some participants believed service recipients should gain time credits only by providing services:

Interviewee 4m: It is like whose who do not have enough money, they should save up more money in advance… A person should do more volunteer work to get enough [time credit] to join the activities. I would say, [time credit donation] is not fair.

Noted that the NGOs of these interviewees mainly offered leisure activities to spend time credits. When they were asked how about when they needed time credits for services in needed, such as escort service, they believed these people in need should receive services without consuming any time credits instead.

4.3.2d Socialisation

In developing ecosystems, socialisation is a process that help members learn and understand the way of doing things, that is, how time bank works.

The very first step was to recognise the participants' hourly output. What the interviewees' NGOs typically did was paper-based coupons or stamp cards. By doing so, it could attract more participants, as well as gather datasets related to the participants. Here, it referred to a more general, descriptive information such as frequency of participation or types of activities, but not skill- or need-based assessment.

After that, they could use these coupons in exchange for some goods or activities. By doing so, the participants had a better understanding that their input in the community were called time credits, which could be used in exchange for something:

Interviewee 2a: 佢哋儲滿印仔就可以換券，啲券係會有唔同嘅幣值嘅。咁佢哋就可以喺我哋每個月都會有一次嘅 [booth]，用啲券去買嘢…啲居民嗰陣時大概已經知道錢唔係唯一嘅貨幣，知道唔係淨係可以用錢嚟買嘢。

Experiential learning would be effective in educating the participants. Also, some NGOs used analogy of existing products in the market:

Interviewee 4a: 同佢講呢樣就係 Yuu 啦，或者街市儲分嗰啲啦，咁佢哋又明嘅…所以對於佢哋理解呢件事情係簡單明白嘅。

As mentioned, the NGOs also offered some seminars and training to the participants, introducing the objective of the time bank, the instruction of using the apps, expected outcomes and forthcoming activities. They usually also provided free time credits to let newcomers try out in the app.

Interviewee 2a: 通常我哋就係靠啲比較大型少少或者吸引人嘅活動去吸引啲新嘅參加者…即場登記比佢哋嗰 100 個時分就會喺果次簡介會嘅尾聲攞啲嘢出嚟，俾佢即場用俾佢試，俾佢感受到即係實在嘅嘢。

This socialisation process usually lasted for four to six months (typically once every month). When they realised there were less participants in each of these events and seminars, they turned to promoting time banks through other activities and programmes directly. When social workers connected with participants in other activities, they were also invited to join time banks at the same time. Also, some active volunteers could seek new participants in the community to socialise themselves.

All the interviewees could not tell the exact number of participants as a critical mass, more like an impression that they did not actively promote time banks but there was still a steady growth of participants:

Interviewee 2a: 好多時候點樣吸引啲居民落嚟，就係我哋有啲活動或者有啲物品想換…可能係同一層或者同一座嘅鄰居…佢哋就會好有興趣；見到張宣傳單張「咦，原來要用 10 時分換㗎。咩嚟嘅呢？」

佢哋就可能會打電話落嚟問我哋，或者問佢哋認識嘅朋友；或者係啲樓長覺得呢樣嘢都幾實用㗎，幾啱佢哋用㗎，咁就會叫埋佢哋落嚟…都係建立一啲鄰里關係，佢哋呢班樓長去不斷識人，擴大我哋嘅義工會員人數。

We found that the socialisation process was effective in delivering the new idea of time bank or social credit exchange, as well as teaching the elder participants to use the app. However, the socialisation process was less effective in delivering other time bank concepts such as equal hourly contributions, or peer-to-peer activities.

4.3.2e Monetary value and business merchants

Even though time credits were considered as a quasi-monetary exchange, many NGOs did not assign a monetary value to time credits, even if their time banks allowed time credits in exchange for goods, or services or activities with monetary values.

Only one NGO explicitly specified one time credit (in minutes) costs around $1. They believed it was an important consideration when they wanted to include other business merchants or partnering organisations in the time bank. These business merchants have usually been involved in the community centres through donations of various goods. However, if business merchants were included in the time banks, which means they accepts time credits in purchasing goods, the social workers believed a consensus of monetary value is necessary.

Another NGO did not specify the monetary value of time credits, but they conducted a similar statistic on the monetary value of the goods donated by these business merchants:

Interviewee 3a: 我哋亦都有估計啲義工同埋夥伴佢哋捐嘅嘢或者提供嘅服務大概值幾多錢，即係維修服務如果街邊叫一次，幫手整電視架要幾多錢呢，我哋有啲咁嘅估計嘅…今年都應該值咗幾十萬喺入面，即係捐贈嘅嘢呀又或者服務呀。

They conducted these statistics for the similar purpose of including business merchants in the time banks.

Interviewee 3a: 我哋依家就同嗰啲商戶開始傾緊，商戶會不斷捐嘢出嚟，捐嘅嘢收唔收時分呢…好似整緊一個細嘅社區經濟咁，可以大家一齊玩。

但係呢樣嘢就好複雜，每個商戶要對時分嘅定義好一致，究竟一分等於幾多嘢，要有一個咁嘅共識先，要遲啲同佢哋逐個逐個傾。

We found that the monetary values of time credits were overlooked by many time banks, but it could be important when the time bank connected to business merchant as another groups of participants, both resource providers and beneficiaries. To be explained in the next section, it could also be important in connection with other external stakeholders.

4.3.2f Connections to external parties

The NGOs interviewed had different degrees of connections with and support by partnering organisations, including business merchants discussed above, religious groups, other NGOs, etc.

a) Some NGOs enjoyed the geographic proximity that their partnering organisations could contribute many goods and resources to the time banks or offer volunteering opportunities to time bank participants to provide services. These external parties are important as an additional sources of resource providers to the ecosystem.

Interestingly, these time banks proximate to external parties could be in rural, inconvenient areas. In fact, when the community in such locations with low mobility, the cohesion among participants were generally higher, and the importance of social capital were generally higher:

Interviewee 2a: 你嚟到你哋會發現呢度乜都冇，即係如果佢要去啲最近嘅社會服務設施…都要行 20 分鐘，變咗居民嘅流動性或者參加社會服務嘅意欲係大啲。

Therefore, the connection to external resource providers depended more on the efforts and connections of the NGOs or active volunteers, whether they could bridge external social capital with the time bank.

b) Another potential external party was other time banks, either from the same or different NGOs. However, all the interviewees hesitated in the collaboration among time banks. What came to their mind right away were complicated administrative hassles that prevented them

collaborating with other time banks. Among time bank programmes, they had various time credit values in exchange for goods, different views on the types of services:

> Interviewee 3a: 大家對分嘅概念唔同…本身冇咁樣分[the types of activities]佢哋就唔嬲嘅，都係嚟幫手啫；突然間話 [some types of activities in another time bank] 唔係義工，咁反而係有反效果。

A more feasible way was to arrange inter-time-bank visits or activities and consider them as newcomers in the time banks. However, they also admitted that very few of these one-time participants would continue participating in their time banks.

There was one exception that two time banks were arranging collaboration and exchange of time credits because they were managed by the same group of social workers, under the supervision and guidance of time bank consultation, which will be explained below.

c) We identified an external party which was not a direct participant or resource provider, but an important facilitator. As mentioned above, the two time banks received training and supervision by a time bank consulting organisation. These are former or current time bank organisers and participants which accumulated experience and knowledge in running a time bank. They offered a readily available template of managing a time bank, and more importantly, some important principles and philosophies in time banks, and some frequently asked questions to come across when running time banks. The interviewees who received the training and orientation found it helpful to overcome many hurdles and lower uncertainties. The interviewees who heard of this were interested in having training or consulting if time and resources were available.

Some interviewees believed if there were a successful example or template, it should be able to be replicable in other communities, or new time bank programmes. Here it relates to two questions: what success or effectiveness is defined; and how to measure it.

4.3.2g Measurement

When asking about time bank effectiveness, all the interviewers agreed there were output, namely generalised social exchange in social capital, but did not come up with effective measurement of the outcomes. As mentioned, the intuitive measures of the number of participants or the frequency of participation of the activities may have different meanings and did not capture the exchange nature of social capital. At individual level, the interviewers suggested some were more inclined with providing but not receiving services because they either did not need any services or did not find any suitable services available.

Ideally, there should be ongoing exchange in social capital at an ecosystem- or a programme-level, but it was difficult to observe and illustrate the diffusion of social capital. For example, except for those active volunteers, many participants only participated once a month, or only participated in one type of activity. Currently, we have not identified measures that demonstrate the effectiveness of time banking.

Interviewee 6a: 好簡單問一個問題：Is time bank very effective? 點答呢個問題？我哋都唔識答，就唔係好識講到出嚟，亦都可能真係未講到出嚟。

One interviewee believed that social capital is difficult to measure by nature, at least quantitatively. It is because exchange of social capital means development of interpersonal relationships within the community. It was difficult to develop but at the same time, it was unlikely to fade once developed as long as the persons stayed in the community.

Interviewee 3a: 我哋要建立社會資本…係講緊啲義工攞住啲嘢上門探訪嗰下先建立到鄰里關係…剩係係咁派禮物係唔會建立到任何關係喎。

We were inspired from above that if time banks were considered as distinct from volunteerism, the measurement of time bank effectiveness should be different from conventional measures on volunteerism. We proposed insights from Molm (2003; 2010) could be a direction to develop scales of measurement.

4.3.3 An Enabler: The Time Bank App HINCare

All the interviewing time banks used the same app: HINCare. The HINCare team first helped two time banks which used manually-written paper ledgers documentation. They invented an app tailored to elderly users, in particular connecting elders in need and service providers providing services.

The HINCare team were aware of the differences between two programmes, and provided customised functions and design that suited the specific needs of the two time banks. Later, the team identified some common functions which would be useful to any NGOs that carry out time bank. Unlike the previous approach that had substantial, iteration of optimisation, they came up with the app HINCare, which provided some common functions while offered some rooms for customisation. Moreover, the NGO could assess to and manage the back-end data efficiently. With the support of CIIF, the interviewing time banks subscribed to the usage and support of HINCare. Still, the HINCare would fulfil the requests by the NGOs occasionally. For example, they added the function for time banks to share graphics and information and goods need in exchange for time credits. Currently, they concurred that it was not cost effective to cater for the needs of each time banks, unless they found a substantial need in fundamental change.

They provided user guide and on-site and online enquiry to the social workers. They were aware the main users were the social workers and elderly people who generally did not have the advanced technical knowledge.

Both the interviewing social workers and time bank participants appreciated the efficient and user-friendly app, which also facilitated information sharing between NGOs and participants. The function the participants liked the app most was that their time credits were clearly shown in the app. What many social workers agreed with was easy use and back-end data management. Basically, they found less challenging than expected to teach and mobilise the time bank participants to use the app. Yet still, there were some participants less motivated to

join time banks, but because of using smartphones in general. The social workers would still manage these exchanges manually in the back end.

One point to note is that almost all social workers believed they would not use the app if they did not receive financial support to subscribe to the app. They believed the app is good to use, but not a must to use.

4.3.3a Matching

As mentioned above, there were less peer-to-peer services. One of the reasons was that they found the matching functions may not be able to match the service providers and service recipients. Currently, the AI system matched them based on the composite scores, of each service providers, comprised of gender, age, skills, acceptance rates, and sent request to the ones with highest scores. The social workers suggested that the AI matching function was powerful and effective in matching some services. However, when it came across with services that required more advanced skills or longer duration of services, the app may not be able fully utilised:

> Interviewee 2c: 例如我要識扶抱，或者佢時間嗰個 duration 係更加長嘅，但係喺個 apps 度就完全體現到…維修嘅，但係都有分，整電器，定係就咁搬櫃或者拆嘢，有好多類別，樣樣嘢都有啲唔同…佢唔似叫車咁簡單，淨係睇佢嘅評分同距離，但係依啲服務就唔可以淨係睇呢啲嘢。

Also, the app did not verify whether the service providers were capable of certain activities. Eventually many time banks performed matching manually or using the AI function in more common activities only.

Both the social workers and time bank participants understood the limitation, and they believed the matching functions would improve when there were more data available.

4.4 Atomization of Reciprocity

The first dimension we observed and abstracted from the time banking systems is *atomization of reciprocity*, a term we coined. It sounds contradictory to building social solidarity; yet we must acknowledge such a tension in organizing time banks – the use of market calculative devices to build community.

We begin by recognizing that time banks highlight the market nature of the community[17]. The literature has explicated that economic goods, economic agents, and economic exchanges are the three constitutive elements of markets. "i[I]n order to be calculated, goods must be calculable" (Callon & Muniesa, 2005: 1229) As many time bank practitioners and

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[17] We note that this is perhaps the more prudent way to say that "time banks impose a market to a community", which the later does not recognize the fact that economic opportunities are embedded in the social spheres (Granovetter, 1985; Powell, 1990; Putnam, 1993) or more precisely, the elusiveness of markets (Krippner, 2001) in the sense that markets and communities are difficult to delineate, as well as the existence of social mechanisms in markets from the economic sociological tradition (Fourcade, 2007; Smelser & Swedberg, 2010).

community members noted, time banks make good deeds and favours countable (Muniesa, Millo, & Callon, 2007), accountable (Carruthers & Espeland, 1991), exchangeable such that time bank participants could act like economic agents. With the "banking" system and facilitating information system or data technologies, such as a mobile phone application or the market maintaining back-stage management interface for time bank organizers, time banks record books, and their participants can keep track of their "earnings" and "spendings". As participants "own" their time credits, perhaps a natural tendency is to "rationally" keep, earn, calculate with arithmetic operations, invest, appropriate, transact, and spend the wealth (Veblen, 1898). The rationality here is an economic one, as the transactions take the form of a purely economic one.

That said, we keenly note that the key to performing a market (as a theory prescribes) is whether (market) participants think that others also think in the same logic (MacKenzie & Millo, 2003; c.f. Callon, 1998). Indeed, as Beckert (2009: 245) note, essential to a market is a "stable reciprocal expectations on the part of market actors, which have their basis in the socio-structural, institutional and cultural embedding of markets" – i.e. a social order that is imperative for a market. We argue that the direct and important implication here is: should the "reciprocal expectations" that base the social order is an economic one – like in the stock markets – and participants think that fellow participants follow that logic, participants of the time banks would likely be behaving as if they were in the capital market. In other words, the significance of the current study lies in discovering the social order of the time banks – one that keeps the time banks from becoming a money market but remaining a community or social organization where people age actively, and social participations are promoted regardless of what they could have earned in the neoliberal markets.

That leads us back to draw upon the literature of generalized social exchange, or that of building a social system that tackles collective good challenges – an aim of the time banking social movement is to build communities of mutual help and tap on underutilized labour values beyond the "fiscal monoculture" (Cahn & Gray, 2015: 42-44). The time banks are supposed to "draw strength from their rejection of market price as the exclusive measure of value… reflect an understanding that communities can create their own medium of exchange."

Sociologists have established (generalized) reciprocity as a structure of the *social order* that responds to collective goods challenges (Thye, Vincent, Lawler, & Yoon, 2014; Nee, Holm, & Opper, 2018; Takahashi, 2000; Whitham, 2021; Weick, 1979). In a system of generalized exchange – given the structural conditions, social responses (Axelrod & Hamilton, 1981) such as reputation, status (Willer 2009), trust (Adler, 2001; Kollock 1994), emotional attachments (Lawler, Thye, & Yoon, 2000), identity (Whitham, 2018), commitment (Thye, Vincent, Lawler, & Yoon, 2014), norms (Nee & Ingram, 1998), their enforcements (Anthony, 2005; Horne, 2001), and social capital (Adler & Kwon, 2002), as well as evolutionary biological responses such as gratitude (Nowak & Roch, 2007), develop to channel both self-interested and altruistic motivations to create collective goods (Baker & Bulkley, 2014); paralleling the discussion on the necessary conditions that lead to social cohesion (Krishnan, Cook, Kozhikode, & Schilke, 2021), among which reciprocity – or more precisely, the more

effective forms of exchange (Molm, 2003; 2010), is emphasized (e.g. Molm, Collett, & Schaefer, 2007; Molm, Schaefer, & Collett, 2007).

(Recent) works acknowledged that both self-interestedness and altruism are roots of reciprocity and have revealed that – for the system to function – both motivations are necessary and play complementary roles (Simpson, Harrel, Melamed, Heiserman, & Negraia, 2018; Baker & Bulkley, 2014; Whitham, 2018) in building and sustaining the system, both adaptive and forward-looking participants learn to tacitly collude (Macy, 1991), and those who contribute to the collective good are awarded with privileges and resources (Willer, 2009; Gould, 2002; Magee & Galinsky, 2008). To advance this front, we seek to elaborate *how* self-interestedness and altruism *are structured* for the collective goods (c.f. Simpson et al., 2018; Baker & Bulkley, 2014).

Most notably from the field, all "Pay forward"/"Get it later"/"Pay it back"/"Get it back" (c.f. upward-/downward- tit-for-tat, chain versus pure generalized exchange, gratitude-based versus reputation-based reciprocation, etc.) prevail in the time banks (See Baker & Bulkley, 2014; c.f. Alexander, 1987; Nowak & Roch, 2007; Boyd & Richerson, 1989; Nowak & Sigmund, 2005), a container of generalized exchanges (Yamagishi & Kiyonari, 2000) where a stable reciprocal expectation prevails (c.f. Beckert, 2009). From the ambiguity between self-interestedness and altruism – as they intertwine to sustain the system of collective good production, we observed a subtle boundary between a community, a market, and an organization (Lamont & Molnár, 2002).

We began from generalized reciprocity, among the various forms, which is "the touchstone of social capital" (Putnam, 2000: 134) and is commonly known also as "paying it forward" (Hyde, 2000), because reciprocity is one of the "principal components" of moral codes (Gouldner, 1960: 161) and resides "at the core of the exchange concept" (Blau, 1963: 140). In generalized reciprocity, as reviewed, "I help you, and you help someone else" or "I help you because someone helped me" such that the help provider and the help receiver may not reciprocate directly. A generalized exchange system usually contains both generalized reciprocity as well as direct reciprocity. A time bank, similarly, needs to contain both to build the community and its social capital.

The difference between paying it forward and rewarding reputation lies in the grammars of organizing (Weick, 1979). As Baker & Bulkley (2014: 1493) explicated, "Paying it forward means that helping others is driven by positive affect: "You help me, and I feel grateful, so I pay it forward by helping a third party." This third party is then more likely to pay it forward and help a fourth party, who is more likely to help a fifth, and so on. Rewarding reputation works in an entirely different way. Helping others is driven by strategic action and intentional reputation building: "I help you because I know that a third person is watching and is more likely help me if I help you." This third person is more likely to get help from a fourth person as a reward for helping me, this fourth person is more likely to get help from a fifth, and so on." Later works recognize that group-based social identity that stems from interactive, interdependent relationships promotes giving from prosociality (e.g. Whitham, 2018), and further specify that generalized reciprocity involves a person who receives help from someone pays it forward by helping a third person while indirect reciprocity means that a

person who helps another establishes a prosocial reputation and, as a consequence, later receives help from a third person (Simpson et al., 2018).

We observe that such "payments" are performed in a monetized and materialized manner in time banks. "光幣", "時分", etc. hint the monetary value of the time. We of course also note there are exceptions such as "掌" (indicating clap or high five) whose meaning came from contextualized understanding or the consensus among community members. Time credits in time banks, following Zelizer (1996) and Carruthers & Espeland (1998: 1392), ideally are like local monetary tokens: "A[a]cceptance of such currency symbolizes confidence in the community and support for one's neighbors" or "near monies", "special monies", or "quasi-monies". Yet, "M[m]onetization quantifies social activities and introduces new equivalences and comparisons" (Carruthers & Espeland, 1998). While Zelizer (1979, 1985, 1994, 2000) famously argued, (monetary) payments fall into three categories: gift (one person's voluntary bestowal on another), entitlement (rightful claim to a share), and compensation (direct exchange). "Money as compensation implies an equal exchange of values, and a certain distance, contingency, bargaining, and accountability between the parties. Money as entitlement implies rights not contingent on the recipient's current performance. Money as gift implies intimacy and/or inequality plus a certain arbitrariness." (Zelizer, 2000: 819) Specifically, "a gift invokes an obligation… the meaning of the gift must be appropriate to the relationship." (Carruthers & Espeland, 1998: 1394) Ideally, for the gift to be appropriate, community members should share identity with each other (e.g. Willer, Flynn, & Zak, 2012; Whitham, 2018; Krishnan et al., 2021). Indeed, both traditions of sociology (Durkheim) and anthropology (Malinowski's Kula Ring) recognized that ceremonial gifting were crucial to promoting collective effervescence and relational cohesion (see also Molm et al., 2007). It follows that gratitude, the evolutionarily developed (Nowak & Roch, 2007), sustains the system of generalized generosity.

Such payments in the time banking systems, we observed however, have been altered such that gratitude becomes "buried" in one's own heart because in the time bank, services or assistances are materialized, i.e. objectified and singularized (Callon & Muniesa, 2005), with an expected pay-off, unlike the gift. We do not deny there are participants who are grateful to their community or those who have helped. Pertinently, "thank you" was not the word we heard from all our interviews. Instead, participants relied on substitutes to express their gratitude such as "人情味" – SCI "社區入面你好我好"[18] – Participants of YCCH. Social approval thus still exists in time banks. Figure 4. Nonetheless, social exchanges such as a help are rationalized as payments according to the time credit accrual or expenditure: they become either an entitlement or a compensation. Figure 5.

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[18] In this section of qualitative analysis that leads to our proposed theoretical model, most quotes were heard or observed multiple times in the field across organizations – and thus their appropriateness to be included in the theoretical analysis. Therefore, we came from a frame analytical approach to analyze how the participants framed their experiences in the time banks. Since those frames were invoked by many participants of Community developmental time banks or relevant organizers, we randomly reference them to the organizational context where we heard them the most frequently.
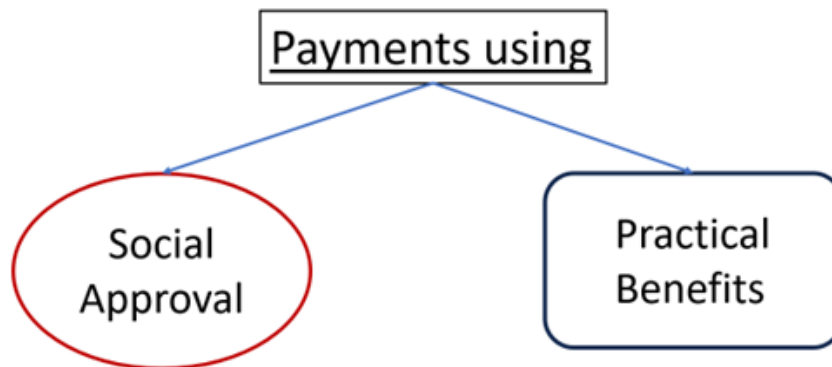
Figure 4. Salient Types of Payments in Time banks

Simultaneously, time banking has also changed how the reputation rewarding system works. In the literature, such a system rewards the contributor or those with a good reputation of kindness or helpfulness by *conferring* rewards, mediated by social approvals. Interestingly, we observed that reputation becomes *advertised*:

"你睇，我有好多分！" – Participants of WBTC

"我只係得少少，佢有好多分！" – Participants of WBTC

The accumulation of time credits, like one's wealth, becomes the focus of the approval or pride. And those time credits are entitlements to be compensated – as much as the holder of the time credits *wants and may*, as all participants are aware. To sum, we note that favours and services are to a lesser extent considered "gifts" as far as *the time banking systems per se* is concerned. The difference between a gift and a commodity is (Gregory, 1982: 12): "Commodity exchange is an exchange of alienable things between transactors who are in a state of reciprocal independence… Non-commodity (gift) exchange is an exchange of inalienable things between transactors who are in a state of reciprocal dependence". For a time bank to build community, following Appadurai (1986), by establishing or maintaining a social relationship between givers and recipients, gifts are to be exchanged.

Reputation / Self-Interestedness
[Get Back / Get Later]
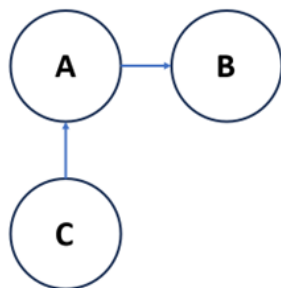
	General System	**Timebank**
	A: ENTitlement to be COMpensated	A: ENTitlement to be COMpensated
	B: COMpensation awaits	B: ENTitlement
	C: Conformity to pay the ENTitled / for ENTitlement	C: ENTitlement to be COMpensated

Gratitude / Altruism [Pay Back / Pay Forward]
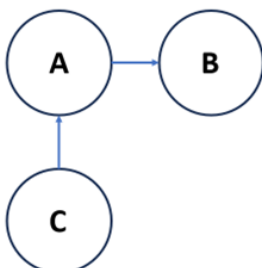
	General System	**Timebank**
	A: GIFT	A: ENTitlement to be COMpensated
	B: GIFT / COMpensation awaits	B: ENTitlement
	C: GIFT / Conformity to pay the ENTitled	C: ENTitlement to be COMpensated

Figure 5. Analysis of the Changes in Forms of Payments in Time banks

We thus now turn to how time banks achieve that despite how a time banking system tends to atomize reciprocity, (and in this sense, de-socialize the community), i.e. how the time bank organizations control the effects of atomization of reciprocity.

4.5 Non-Calculated Crediting 計而不算

Again, we coined the term *non-calculated crediting* 計而不算. Before we explain how the time banks build communities, we highlight this interesting and important phenomenon we observed from the field. We realize that this state of non-calculated crediting is crucial for

generalized social exchange to enhance social solidarity and participations, at least in our cases.

We found that community members perceived that they were volunteering for the community or organization even though they earn and spend their time credits for materialized services or material benefits or products. We also found that they emphasized the superiority of communal values to the monetary value of time credits and their participations. We believe these two findings are important because, as reviewed in the last section, a market is performed largely when (market) participants think, with a stable reciprocal expectation (Beckert, 2009), that others also think in the same logic (MacKenzie & Millo, 2003) – the market logic. These two findings, therefore, should be key because they directly deny that market logic, despite the use of market calculative devices and material exchanges in time banks.

As reviewed above, a market is performed when its abstract calculative features are made explicit; that conceptualizes its participants as the economic agents – collectively (Callon & Muniesa, 2005). We argue that such an abstract aggregated picture resembles the time banking system's set up for economic exchanges. Hence, in this current dimension of non-calculated crediting, we turn to the microstructure of the "economic exchanges" in time bank organizations.

First, community members perceived that they were *volunteering* although they were only considered "quasi-volunteers" (Smith, 1982) *in fact*. "Volunteering means any activity in which time is *given freely* to benefit another person, group, or organization" (Wilson, 2000: 215 emphases added). In some strict sense, for an action to be qualified as "volunteering", it must not be prompted in any manner by desire for gain. Exchange of services in a time banking system is then arguably not volunteering because participants' provision of services comes with an explicit and well-communicated expectation of a return or even material rewards, mediated by the time credits.

Our observations confirmed that the desire or at least an expectation of a return is present in the time banking system:

"哎呀，死啦，我唔夠分參加果個活動 (an interest class) … 要努力參加多啲活動 (provision of services)幫多啲手先得。" (Followed by a chuckle) – Participants of DT50

"有冇得參加邊啲可以攞多啲分嘅活動,," – Participants of DT50

Our Subtext and Dramaturgical codes in our qualitative analysis revealed that the embarrassed (Goffman, 1963) chuckle that followed the first quote points to multiple identities experienced by the participants (Lizardo & Collett, 2013): one identity as a calculative "player" in the game-like time banking system, another identity as a community member who is supposed to benefit his/her community *for free*, i.e. volunteer. And the second identity was unfulfilled to fulfil the first. We however reserve this discussion for our next dimension of Socialization of Experiences.

Yet, the relevance here is that participants are aware of what it takes to be considered volunteering as a community member, whilst they themselves uniformly and unequivocally described their participation in the time bank as "volunteering".

"做義工呀嘛" – Participants of WBTC

Second, we simultaneously found that participants of time banks allocated more superior values to their community participation than to the time credits they earn.

"大家幫手呀嘛，冇乜計啦~" – Participants of PC2

"佢比較有需要，咪捐(時分)比佢咯~" – Participants of DT50

In this sense, participants are also clear that their participations in the time banks are social. If the communal logic and the market logic are two sets of rationality (Thévenot, & Boltanski, 1991; Friedland & Alford, 1991), the participants insisted – at least publicly – that the communal value of their participation matters more and justified their decisions and actions accordingly.

We therefore coined the term non-calculated crediting 計而不算 to highlight the fact that services and spendings are accounted, nonetheless community members did not calculate against each other to valorise their credits in an endless manner (Heinrich, 2012). That is one meaning of the term; we revisit this dimension after the next subsection.

4.6 Socialization of Experiences

Given the structural tendency of the time banking system to induce economic calculations, we believe that non-calculated crediting did not come "naturally". We therefore paid close attention to the social workers' efforts, behaviours, and social interventions.

First, as the last subsection hinted, there was an ambiguity regarding the nature of experience in the time banks:

"做義工呀嘛" – Participants of WBTC

"時間銀行不是義工" – Field leader

When asked whether participations in the time banks are volunteering or not, social workers or time bank organizers generally did not give an assertive answer. We only got a confident answer when we approached a leader of the time banking field, who has led one of the oldest time banks in Hong Kong as well has organized a new coalition for time banking as a respected referee in the field. The answer was that time banking is not volunteering. The field leader went on to explain that time banking is a dignified way to realize potentials among the aged as well as other community members, *like* in volunteering.

The picture instantly became clear: time banking is like volunteering as both are rewarding, and are socially granted opportunities (Meier & Stutzer, 2008). Were time banking

volunteering, it would have been most directly comparable to the collective efforts paid to maintain a system of generalized social exchange (see Whitham, 2021). The transactions inside a time banking system are not for free (being paid by time credits), as we observed in the last subsection, but the participation – which is the ultimate objective of the time banks – is for free.

Since the nature of time bank experience is ambiguous, this creates a situation for "sensegiving" - helping others to make sense of their experience (Maitlis & Lawrence, 2007). In the current context, practitioners are in the position of explaining the social meaning in the participation of time bank activities: to build community and empower community members. Practitioners must also demonstrate consistently general generosity and non-calculative care towards all co-workers and fellow participants. In contrast, they should not emphasize too much on counting time credits, number of transactions/volunteers, or the exchanging price of time credits to goods and other services.

Therefore, "volunteering" is a given *label* of the time banking experience. For sure, a sensegiving effort only attains resonance when it is: 1. in line with a frame with the dominant narratives of a domain – the social services domain in this case; 2. consistency between a frame and the social movement organization's activities, and 3. empirical credibility (Benford & Snow, 2000; Lee, Ramus, & Vaccaro, 2018). As we observed in the field, the social workers and time bank organizers actively gave sense of the time banking experiences to the community members, while fellow participants also joined force to socialize their social experiences:

"時間銀行在於時間一齊分享，不在於銀行，不是投資。" – Participants of SKHJ

"又有嘢玩，又識到多啲街坊，我咪跟住佢(樓長)嚟做義工咯" – SCI

In this vein, the participants accept the label of "volunteering" because 1. they comprehend that their participation is voluntary, like when they join a volunteering service; 2. they recognize that time banking activities seem to be in line with the NGO's or time bank organizer's mission to build community and empower fellow community members; and 3. they are really experiencing more social interactions with fellow community members in the time bank and gaining more knowledge of and help from the community, as advertised.

As such, the "euvoluntary" (literally, "truly" voluntary; Munger, 2011) nature of participation also contributed to the empirical credibility, apparent fit between the framings and the events in the world: on top of being voluntary since in the time banking exchanges neither party is coerced or forced to exchange by threat; time banking is euvoluntary since neither party is harmed by *failing* to exchange. The relevance here is that although, as we found, time bank participants are not really "volunteering" given expected material returns, the frame of "volunteering" is nonetheless established and recognized by participants because it serves to reflect the non-calculative nature of the transactions in the time bank.

Overall, we propose that the non-calculated crediting in the last subsection origins from the time bank organizers' sensegiving, which is an opportunity that arises from the ambiguity

regarding the nature of the time banking experience. Figure 6 summarizes our overall ideas and observations.

4.7 Non-Calculated Crediting Revisited (甚麼) 計而(甚麼) 不算

Given those socialization efforts and sensegiving, we are led to a refined understanding of the proposed non-calculated crediting. Upon reflections, three dimensions have been recognized in the literature to symbolize important social values: relational, moral, and normative.

The relational approach (Fiske, 1991, 1992, 2004, 2012; Haslam, 2004; Bridoux, & Stoelhorst, 2016) explicates that the subscription to a Communal Sharing relational model could be better upkept when it is shared among exchange partners and when people do not transgress to other relational models, the Market Pricing model particularly. In the Communal Sharing model, participants hold representation of self and others as community members. They fulfil their need to belong to a community from the relationship. They pitch in whenever their fellow members needed. We observed that this relational model correlated with non-calculated crediting:

"大家幫手呀嘛，冇乜計啦~" – Participants of PC2

"佢比較有需要，咪捐比佢咯~" – Participants of DT50

The moral approach symbolizes the social values by defining social exchanges as intrinsically valuable as incommensurates (e.g. Carruthers & Espeland, 1998; Espeland & Stevens, 1998). We however observed that some participants commensurated different services:

"有啲人話如果喺中心當值都計時分，摺小冊子又計，咁做啲難啲果啲咪唔抵" – Participants of DT50

In that vein, we asked how the time bank organizers would do in those situations. The organizers told us that they tend to allocate the "easier" services to those community members with more limitations. In this sense, the time bank organizers are like a central planner of an institution who upkeeps an institutional order.

Finally, the normative approach decouples the (monetary) amount from the value (Carruthers & Espeland, 1998). We argue that such a decoupling leads us to better define what are valued and what are exchanged. More specifically, we assert that what is really valued in the social exchanges – and what defines an exchange as "social" is not the services "bought" with time credits at all. Instead, it is the care and thoughts that are not valued by the amount of time credit that really define a social exchange. Time credits can buy visits but not care (Mennicken & Espeland, 2019).

Figure 6: The Conclusive Theoretical Model --Re-socialization of the De-socialized
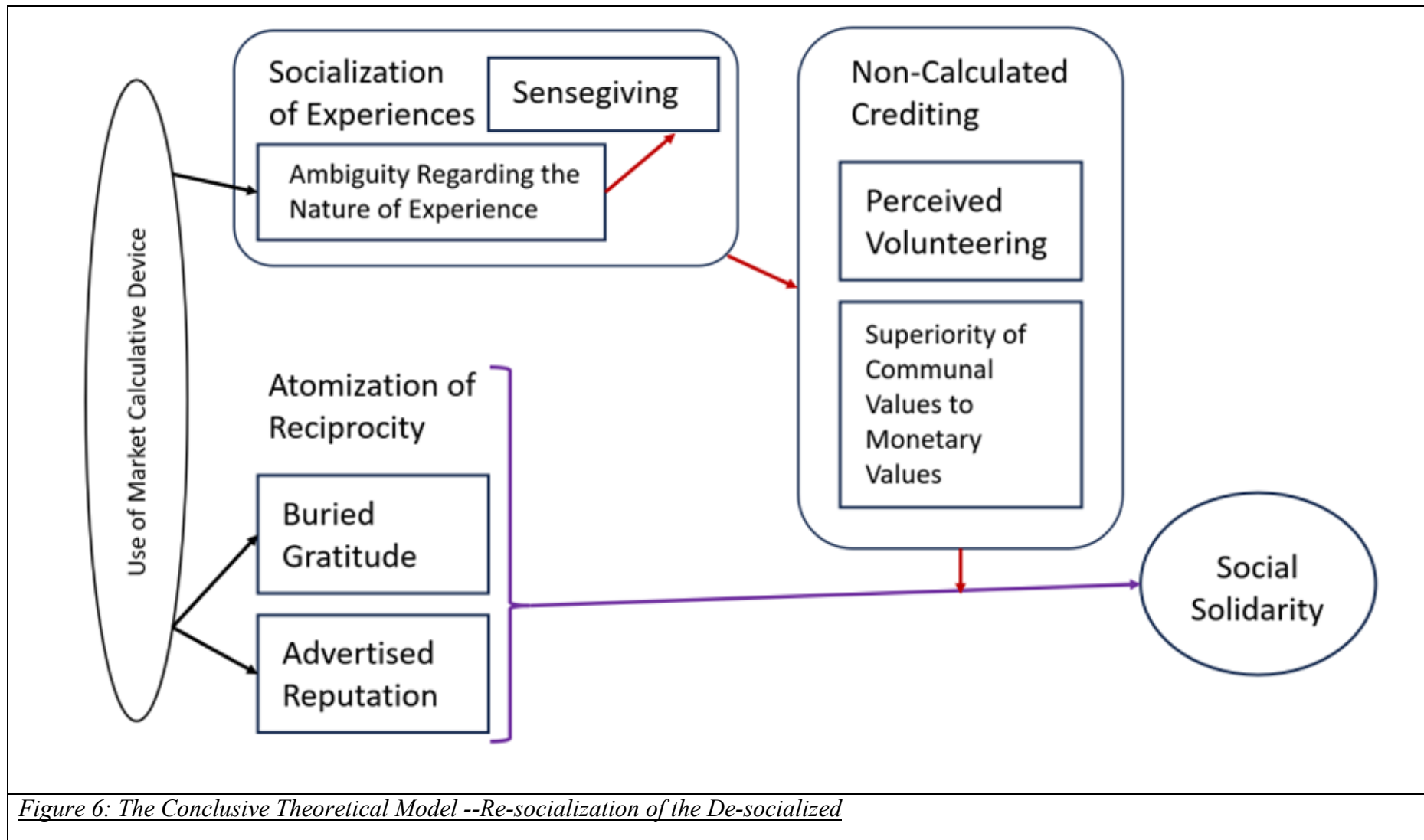
Following Radin (1996: xiii; cited in Nelson, 1998), "particular interactions simultaneously can have both commodified and noncommodified understandings." Indeed, the moral approach now makes sense too since the care and thoughts are alienable, i.e. the identity of the giver remains in the gift.

Accordingly, we could now explain the emergence of the norm of generalized reciprocity (c.f. Gouldner, 1960; Takahashi, 2000). We begin by recognizing that what is really valued could be difficult to calculate, despite the use of calculative devices (Callon & Muniesa, 2005) in time banks. As Posner (1992: 131; emphases added; cited in Zelizer, 2000) famously wrote: "In a long-term relationship such as marriage, the participants can compensate each other for services performed by performing reciprocal services, so they *need not bother* with pricing each service, keeping books of account, and so forth. But in a spot-market relationship such as a transaction with a prostitute, *arranging for reciprocal services is difficult*. It is more efficient for the customer to pay in a medium that the prostitute can use to purchase services from others", we note that although a calculation for a single transaction is possible; in the domain of a long-term (social) relationship, like one that the time banks aspire to promote, calculations are thus not needed at all:

"冇乜計啦~" – Participants of PC2

Within the guidelines that the time banking social movement provides, time credits should retain an extent of arbitrariness (Cahn & Gray, 2015). We concur, and as our analyses reveal, that un-substantiveness of the credits represents a boundary between a market and a community. With an "expectation to be paid back" – but not in absolute monetary terms for specific materialized services (c.f. Macy, 1991), community members tacitly collude to collective build and maintain that system of generalized reciprocity and social participation.

"我都冇特別留意架,不過望住個時數一直上升,都好開心。做義工大家開心參與嘛。" – Participants of WBTC

To conclude, we quote from Note 1 of Nelson (1998): "A closer look at the rationale for a common medium of exchange reveals a more satisfying starting point: exchange is a relation among individuals (Ostroy & Starr, p.8)". Lest one get the wrong idea about this research, however, one should be warned that the "individuals" these economists refer to possess the usual extremely limited psychological and social dimensions of "economic man." An effective organization maintains that fine balance between the two processes of de-socialization and re-socialization, and preserves the integrity of the boundary between a community and a market (c.f. Stryker, 2008; Schilke & Rossman, 2018).

5.1 THEORETICAL RECOMMENDATION: GENERALIZED SOCIAL EXCHANGE

From our proposed theoretical model, we derive our first recommendation around how time voucher/bank as social participative means could promote active and healthy aging and volunteering. As we explicated, the use of market devices does not preclude social solidarity. To us, that is a question of how to re-socialize the potentially de-socialized community – market devices are everywhere in the contemporary world.

5.1.1 Seize every chance within and outside of the time banking context to help community members make sense of the generalized generosity.

Following Fligstein (2001), we keenly acknowledge the "social skills" of the time bank practitioners to persuade people around to cooperate for joint value creation as well as the practitioners' perseverance in making sense of and giving sense of a communal logic (Tung & Au, 2017). We recognize that paradoxes and contradictions are not uncommon within the time banking context, such as around the nature of the time banking experience and why community members seem to care about their earnings in the time banks; yet we hope that the authorities, agencies, and practitioners alike reflect constantly upon what is really exchanged. What would the communal logic value while everything – visits, company, fix of the home appliances – now come with a price tag, even if a time bank does not put it on. "Volunteering" may be a practical label to make sense of the much-needed non-calculated crediting state. But any label must be substantiated to make such exchanges truly "euvoluntary" (Munger, 2011): the absence of regret, for both parties, after the exchange, in the sense that both receive value at least as great as was anticipated at the time when they agreed to the exchange (c.f. Keeley's 1978 social justice approach that identifies an effective and just organization as one that minimizes regrets among its participants). Again, the real value comes not from the material services transacted, but from the inalienable care and thoughts that render the community members' experience meaningful (Friedland & Alford, 1991).

In more common terms, time banking organizations and practicing social workers need to preserve the sociality in the participants' understanding, or more precisely, perception of their participation. Volunteering seems to have been an effective label for this purpose. The use of market calculative and accounting devices does not necessarily preclude such sociality as far as the numbers are not substantive when participants readily, consistently, and fully make sense of their experiences as "volunteering" to serve fellow community members instead of originating from a desire for personal gain. In this sense, quantified transactions are merely nothing more than a gamified or legitimized trigger for more communal exchanges. One – including policy makers and funding organizations – must not mistake the numbers as substantive transactions of anything evaluable along the pricing logic. Personal care,

thoughts, and generosity among community members cannot be priced and thus should not be. In this vein, the establishment of an infrastructure of a time bank does not guarantee the success of it. From our analysis, when NGOs attempt to promote social capital and facilitate volunteering with a time bank, the NGO need to actively and consistently supply and maintain the social meaning of time bank participation in order to bring success in the implementation (c.f. Lu et al., 2023, 2024).

Importantly, NGOs are in a great position to give the social imprint. To make the participants' experience necessarily fuller, practitioners should make good use of their organizational missions and values to give sense. The practitioners should always be prepared to answer questions around why a time bank is organized according to the values of the NGO. And everyone – including the participants, policy makers, and funders – can tell if a time bank has been organized as such. Critically, when the communal sense is not strong enough to maintain the aforementioned generosity, self-interestedness and calculations will emerge to defeat the purpose of the time bank.

5.1.2 Design and Technology of the Time banking Interfaces

There have been new intermediaries and coalitions, as we explicated in our ecosystem mapping, advocating for more tightly connected and technologically empowered field-wide time banking solutions. So far, two benefits stand out beyond the efficiency narrative[19]: 1. A more transparent and fairer and impactful time banking institution; and 2. Better allocation of resources and matching of needs and supplies in the communities. To do that, information technologies such as blockchain, AI, and big data will connect wider data communities and streamline time banking operations (Zhang et al., 2021). Here is a caveat, however: while data technologies enable matching and reveal insights regarding community needs, these "insights", like economic theories, emerge only from where data is available, assuming that the data *is* the reality.

5.1.3 Do not assume that data speaks for the reality of the excluded/marginalized needy.

For those users who do not find it costly to use technologically empowered interfaces, the user data may largely reflect their needs. What about the cost of usage for our elderly? What about the cost for frontline social workers to drag the elderly to a minimal level of digital literacy? How possibly could social workers "focus on improving service quality" when they are forced to spend most of their days coaching their beneficiaries how to use a basic mobile phone application? How could social workers be confident to let remote or automated data technologies do the matching for the people these social workers have spent years knowing and understanding in real person? True, data technologies are no longer "good to haves" but

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"essentials"; yet, human knowledge, inalienable care, and non-singularizable thoughts are what community care *is*. We warn policymakers of a decoupling of the means and ends, and hopefully not one of the policy and practice (Kern, Laguecir, & Leca, 2017; Bromley & Powell, 2012).

6.1 PRACTICAL/POLICY RECOMMENDATION

6.1.1 Groundwork for social capital

The objective of time bank is to facilitate exchange in social capital, and eventually accumulate social capital. Interestingly, one of our insights is that a time bank needs some social capital at the very beginning to lay the foundation of the time bank. We observed that a time bank, or a community in general, regardless of the types of time banks, can overcome many hiccups in the socialisation process and implementation at the early stage. For example, the issues discussed above include 'being forced' to volunteer, comparison among types and quality of service provided, lacking trust in peer-to-peer services and even privacy issues among participants were all resulted from inadequate social capital and trust among participants.

We need further study on the fundamental rationale of lacking trust, whether it was due to low generalised trust among people in Hong Kong; or due to specific demographic or communal factors that hinder developing trust. Yet still, we identified two implications: first, the participants in general had a high level of trust and legitimacy toward NGOs and social workers. They seldom questioned or criticised the decisions made by the social workers or the design of time banks. Second, without social capital in foundation, these participants saw time bank as an alternative market mechanism, which was not yet well-developed, or with which they were at least less familiar. The paradox is that time bank should not be viewed or considered as a market mechanism, but lacking social capital led participants thought so. Consequently, they felt more certain and safer to stay in a conventional service, volunteerism model.

We took the leaf out of other programmes that also aim at facilitating social capital: New Public Estate In-take Support Schemes ("新屋村入伙支援計劃", the Scheme hereafter in this section). We found the Scheme shared several similarities with time bank programmes. First, they supported NGOs in new communities that usually have not much social capital or connections in advance. The Scheme has a period of around three to four years and expects the supporting NGO would leave after developing social capital and connections within communities. Secondly, especially for public housing estates newly developed to cater the urgent housing needs in recent years, there were less readily available infrastructure and social support to these communities. The Scheme is of importance to community members.

The objectives of these schemes include (i) providing information; (ii) connecting communities with external resources; (iii) identifying active volunteers ("樓長"); and (iv) improving livelihood in the community.

We believed the Scheme could offer insights to time banks in order to develop social capital in the early stage because it emphasises "樓長" to take the lead in arranging visits and identifying the needs of residents. Unless there are urgent cases which require intervention by

social workers, "樓長" will arrange regular visits to a few residents to understand their needs. They will refer to social workers or other parties when necessary. By doing so, the major roles of the NGO become offering legitimacy and enabler: (i) assigning residents to "樓長", (ii) keeping tracking of the interactions; and (iii) arranging and coordinating activities among "樓長", or among groups of "樓長" and residents.

We believe the challenging parts are to match "樓長" with residents. It requires trust and matches some needs between both parties. Here, a unique role of NGOs is that it offers legitimacy to liaise with residents. If the NGO has some basic information on demographics or case-based needs, it can arrange visits at the very beginning and some theme-based focus groups. These forming and norming stages could rightly identify people with similar needs, and also develop trust among participants. Within these participants, the NGO can observe and select appropriate "樓長" whenever appropriate. After these stages, the NGO can arrange less focus groups and turn into socialisation of time banks. Certainly, the matching criteria between "樓長" and residents vary, but the fundamental principle is a need-based matching.

Overall, the NGO offers legitimacy and lays the seed for "樓長" to develop the social capital within the community. In the long run, the NGO should strive to achieve a stage where time bank participants are aware of the needs and services available in the community, or they would seek help from "樓長", but not to the NGO directly. NGO and social workers can focus more on planning and development of the time banking ecosystem, which will be discussed below.

As we explicated and re-iterated, the use of the market calculative device must be decoupled from the pure market logic of calculation for a time bank to be effective in building communities. However, the imprint of the sociality must not remain empty words. The non-substantiveness of the numbers must be based on rich knowledge of the community and its needs and high levels of engagement with the community members. Home visits and individualized counselling are two essential illustrations of the accumulation of community knowledge and social capital. "樓長" therefore could be a great feature for time banks, at least at the early stages of organizing.

6.1.2 A facilitator in the ecosystem

The way to implement time banks heavily depends on its specific context. We believe the interviewing NGO identified the right mode to run the time bank in accordance with their situations and the needs and preference of participants. However, we observed that some NGOs had a longer-term orientation toward the growth and operation of time banks. Therefore, they came up with mechanisms such as Organising Committee, time credit donations, monetary values, and external party involvement, many of which require planning on the very first day.

Currently, the interviewing time banks receive fundings of subscribing the app and hiring staffs to run the time bank. These are important enablers in the ecosystem, but we suggest

there should be a facilitator in planning and development of the time banking ecosystem. Inspired by an interviewing NGO which arranged training to social workers before launching time banks, we suggest the funding organisation, namely CIIF, change the funding model from subscribing app directly to receiving training and consulting from time bank consulting organisations. A time bank consulting organisation can be time bank practitioners, such as Blessing Community or Shanzhai City, or NGOs or any organisations that have experience in running time banks. It would be these facilitators subscribing the use of apps and offering training to NGOs, not only how to use the app but also how to design and run a time bank. Ideally, if these consulting organisation can have representatives in Organising Committee of time banks, they can give more concrete advices and suggestions on time banks. It would also benefit developers because they can deal with facilitators which have higher commitment and better domain knowledge of time banks.

Certainly, we are aware of the opportunities as well as the challenges of the proposed change, given the limited number of time bank facilitators in Hong Kong. Yet still, we advocate the importance of facilitators in the time bank ecosystem.

6.1.3 Future Study for Time Bank Outcomes

As we identified in this study, stakeholders in the time bank ecosystem all agreed the importance to measure time bank outcomes, yet a measurement scale is not available. Measuring the effectiveness of time banks offers theoretical and practical implications. First, it indicates how social capital are exchanged among participants and are accumulated at system-level. It provides a critical link to time bank planning and coordination, as well as provides feedback to time bank participants which facilitates empowering active volunteers. Second, a time bank demands a unique time bank outcome measurement tool that is different from that for a volunteering program. Especially when the NGO acknowledges the nuances between time banking and volunteerism, time bank outcomes can offer insights on how well the programme is running as a time bank. Finally, if our recommendations are considered, a sets of time bank outcome will be of useful in identifying effective time banks, so as reputable facilitators. It would be also useful in facilitating the effectiveness of adopting new technology, such as the enhanced AI matching algorithm and blockchain technology. Appendix II is a questionnaire that we designed for our next investigation in the future. Essentially, it attempts to establish or test more quantified relationships between practical dimensions of the time bank organizations with the desired outcomes such as generalized generosity, maintenance of the communal logic, as well as volunteering.

Time banking could work. It allows legitimate exchanges among community members and thus growth – not in the absolute number of time credit exchanged but in diversity of needs and contributions. An evaluation of effectiveness should therefore not focus on an increase or decrease of the numbers, precisely because numbers in an effective time bank are non-substantial: the numbers can never truly reflect values exchanged because an instance of community participation *per se is the* value created – for the community as well as for the exchanging participants. Such value, as we re-iterate, originates from the participants' belief

in their communal participation. And such belief and willingness to participate are the true engine that drives the building of the community.

7.1 PUBLIC DISSEMINATION

We are engaging in on-going discussion with panel participants in our symposium in the 10th Biennial IACMR International Association for Chinese Management Research Conference 2023, whose theme was Globalization in flux: China and the World. In the IACMR conference in June, we presented an interim model of our findings – in both theoretical and practical aspects. As a panelist of the symposium, we explored the possibility of the coexistence of a system of generalized social exchange and a market that uses technologically empowered calculative devices. We also presented a preliminary version of the current ecosystem map and led to an observation that resonated with a broad understanding from the literature: a market and a cohesive community are not mutually exclusive; instead, the latter paradoxically precedes the former. There were about 30 participants in that symposium.

A mini-conference will be held to discuss the results of this study. It is targeted to happen in April 2024. Several articles will also be published in local newspapers. A pamphlet and a report will be written to report the findings. On behalf of the CUHK for Entrepreneurship we thank the staff, interviewees of the projects, and supporting organizations as well as Prof Wong Hung and Shanzhai City who make these events and publications possible.

8.1 CONCLUSION

Time banking in Hong Kong has accumulated momentum in all three forms in the ecosystem. As the macro trends are pushing players to find way outs and/or experiment new ways of organizing, we caution the (emerging) leader(s) who take the stage in the field to treat time banking as a means to an end, and to resist the temptation to popularize the use of market devices as an end unto itself. Time banking may help build communities and promote social solidarity only when its social dimension – non-calculated crediting, which is also the precondition for unleashing economic opportunities and underutilized labour values in the embedded communities, is preserved. Active sensegiving is imperative. Concerned parties and agencies thus must not miss this chance to shape the development of the field and steer it in the sustainable direction.

We note that paradoxes and contradictions are not uncommon as players come from different logics and interact with the macro trends. Time banking as an organizational practice could be and is being adapted in diverse fashions. Players with different organizational objectives may not agree with each other at all. At this crossroad, an agency with wisdom will build consensus for a widely agreeable organizational model that will build social capital and solidarity as well as unleash values of the elderly labour, promote participations of all, and realize untapped economic opportunities in the communities.

Several key takeaways for practices, including NGOs and front-line social workers, are as below:

- For time banking to effectively build communities, organizers and practitioners must be able to socialize the participants with social meanings for their participations. Organizational missions and values are readily available sources for such sense-giving, such as time credits not considered as an alternative monetary 'currency', and time bank exchange considered as reciprocity in the community but not the same as market transactions. Time bank participants should understand these concepts and objectives at the very beginning.
- Organizing training workshops are essential for helping practitioners understand the mechanisms of an effective time bank, the ability to share the social meaning of participating in communal exchange remains the key quality for the practitioners. Therefore, in addition to funding support and app development, the policymaker can develop a systematic way to train practitioners how to manage and operate time banks. For example, the Institute of Social Captial by CIIF can be a good venue for this initiative, having experienced time bank practitioners to teach frontline social workers before the launch of time banks.
- For the measurement and evaluation of development of time banks, time credits serve to promote social interactions, but the time credits and number of participants per se cannot reflect the value of the communal exchange and the created social capital. Therefore, we suggest the policymaker and funders must obtain measures that reflect true care, thoughts, and compassionate adjustments, and resist the temptation to pursue numbers as an end unto itself. We propose alternative measures, such as trust

among community members, participation in community, willingness to pay forward, and readiness to provide personal help to community members, capture social exchanges and therefore should be used to judge the effectiveness of a time bank.

APPENDICES

Appendix I: Our sample questions sent to our interviewees as we turned to more confirmatory analyses.

Appendix II: A comprehensive questionnaire designed for quantitative research to assess outcomes of time bank.

香港中文大學 創業研究中心

研究以時分券/時間銀行推動積極樂頤年和社會參與

簡短版提議書

[Funded by Policy Innovation and Co-ordination Office

Public Policy Research Funding Scheme

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摘要

鑑於人口急劇老化，時分券/時間銀行在現有社會福利、傳統勞動市場和義工服務之外，為另一個鼓勵社會參與、積極樂頤年和非正式就業的政策。時間銀行作為一種社區經濟交換制度，讓參與者以付出的時間作為交易單位的「貨幣」，交換大家所需的貨品和服務。

本港的時間銀行仍處於起步階段，面臨一些挑戰，如參與群體過於單一，服務無差異令交易癱瘓; 以及社區銀行之間或與組織缺乏足夠協作。為此本研究旨在了解本港時間銀行生態系統，並探討相關推動政策擴大本港時間銀行的規模。

我們會採用創業生態系統為理論基礎，結合社會交換 理論和商業模式的研究，分析本港時間銀行的生態系統。憑藉我們的專業知識，以及本自學術界和業界顧問的支持，我們將與時間銀行的持份者深入訪談，然後進行焦點小組討論。具體而言，本研究希望可以貢獻有益的政策，以提高老年人的社會參與和就業，賦予他們有意義的生活，減少福利費用，並提升老年人和年輕人在志願服務的貢獻和體驗。

計劃背景

香港創業研究中心素與香港 NGO 及社會企業有緊密連繫。較早前林達博士分享他籌組以區塊鏈和數據科技扶助草根階層，創辦「山寨城市」的經過及目標。與此同時，香港組織時間銀行的機構 亦有聚首一堂召開研討會，分享推行成果和展望未來。在新科技的應用下，大家似乎對香港時間銀行有了新的理解。因此，本中心對應本港情況，探討時間銀行的組織本質、其「商業模式」、及如何如學科的認知般促進廣義社會交換， 希望以相關學術研究為基礎對推動時間銀行，作出政策討論及提議。本中心亦邀得黃洪教授擔任研究項目顧問。

組織適應結合科技、科技承載社會交換

雖然此研究項目如上文啟發自新科技在時間銀行領域的應用，但研究團隊深明科技應用發展並非獨立於社會建構。相反，科技應用例如時間銀行應用程式設計和其受接納

程度等只是表徵；當我們結合開發者和時間銀行機構等持分者的理解，才有機會窺探背後的理念和原委。

傳統認知中，社會交換 源於足夠嚴密的社群結構。當中社群成員既互相了解，且信賴社群的保障作用。雙方及多方信任使成員不會斤斤計較，而樂於為同屬社群邊界內的 所有人付出。

同時此社群結構亦因而產生在社群以外或一般競爭市場中，不可能出現的經濟機會。社會學家普遍認同市場經濟只為社會發展以下的一個進程或產物；而廣義來說交換（市場上的或社會上的種種交換）的型式受制於科技、制度及其他因素。

對於此中的複雜性，研究團隊感到舊有的理解，似乎不足以準確詮釋時間銀行所組織的社會交換，所以希望透過釐清推行機構的組織原理，從而提出設計時間銀行和推行相關公共政策的建議。

時間銀行機構的參與角色

學者的工作是為現實定義，而長期在相關行業領域中工作的人員才是實質主要創造現實的人。包括推行時間銀行的機構、設計者、參加者、相鄰領域的推動者等等。因此有關機構的參與對定義現實至關重要。

有趣地，人們往往將所想所認為的變成現實。本研究的重點正是要了解上述人員如何一起從信念、構思藍圖、設計、推行、檢討、監管而將所想的變成現實中的時間銀行。舉例說，A 機構以一個 A 藍圖為本，設計出來的時間銀行令參加者有怎樣的參與情況；B 機構以另一個藍圖出發，而由於參加者的特徵不同，而出現和 A 相類似或不同的參與情況。研究團隊與 NGO 有緊密連繫，深明此類機構之間的成效互相排行實在無益而無用。然而設計者和當局者因長期在其思想環境中工作或許不以為所想的有什麼特別；但以知識層面來說，了解以上過程則可重建出一條以至多條以個別時間銀行演化為單位的邏輯鏈，了解當中的模式和奧妙，足以描述、解釋、預知、以至能為管理者給出管控類似的現象的實用建議或經驗心得。研究團隊以中肯及客觀原則撰寫報告，而我們相信時間銀行機構必會本着服務社會的初心，慷慨分享當中的心路歷程、參加者的參與狀況的變化、以至困難及應對。

起始問題

下列是研究團隊現階段覺得時間銀行機構可以直接分享的問題：

一. 以您理解何謂社區經濟？

二. 您們如何為服務（和換領的禮品）定價？

三. 您們時間銀行的供應及需求是從何而來的？穩定嗎？重要嗎？

四. 您的機構的組織原則是什麼？

五. 科技應用在您的機構的時間銀行來說，扮演怎麼樣的角色？

六. 參加者在時間銀行中的體驗是怎麼樣的？

七. 您們如何設計時間銀行？

八. 市場、架構、社群是三種基本常見的組織，而其協調機制分別是價錢、權限、和信任。您的時間銀行的協調機制又是什麼？

九. 將時間銀行數碼化是怎樣發生的？誰是主要推動者？

十. 您有多了解 app development、CMS、區塊鏈？和科技 developers 溝通的過程中有沒有什麼困難？

十一. 和科技 developers 之間是怎麼樣妥協的?

十二. 在 app 推出前和後的時間銀行分別是怎麼樣的?

十三. 推出 app 當中的轉變如何適應?

十四. 您們是如何向參加者推廣使用 app?

十五. 數碼化後,你如何評論時間銀行的方便程度?使用率?可信度?可供選擇的服務種類?

十六. 您如何評論時間銀行 app?

下列是研究團隊現階段感到有興趣而重要的一部分理論問題:

一. 怎麼樣的時間銀行藍圖會有怎麼樣的科技應用?

二. 時間銀行中的社會交換的組織方法和傳統中認知的有沒有什麼同異?

三. 科技應用和社群融和有什麼關係?

四. 社區經濟的本質是什麼?

五. 參加者在不同社區經濟的藍圖中的體驗是怎麼樣的?

六. 怎麼樣的科技應用會在怎麼樣的藍圖帶出怎麼樣的成效/效果?

此外,還有一系列對應各持分者的問題:

參加者(圍繞效能和挑戰):

-在 app 推出前,你參與時間銀行的體驗怎麼樣?

-你如何適應使用時間銀行 app?

-數碼化後,你如何評論時間銀行的

--方便程度

--你的使用率

--可信度

--可供選擇的服務種類

App developers(圍繞計劃): -將時間銀行數碼化是怎樣發生的?誰是主要推動者? -在這個合作項目之前,你有多了解時間銀行? -和時間銀行機構溝通的過程中有沒有什麼困難? -和時間銀行機構溝之間是怎麼樣妥協的?

App developers(圍繞效能和挑戰): -在處理和管控數據方面有沒有什麼困難? -您如何評論時間銀行 app?有沒有什麼意見或建議?

研究團隊的工作是 整合您的分享,配合學術觀點,反覆思考時間銀行的運作, 提出 對相關問題的解釋, 並且提出建議。

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2023 年 **2** 月

APPENDIX II

香港中文大學
The Chinese University of Hong Kong

Timebank Questionnaire

We are researchers of the Centre for Entrepreneurship at The Chinese University of Hong Kong. We invite you to take part in this survey.

- The whole survey needs about 15-20 minutes to complete
- Your participation is anonymous; data collected will be used solely for research purpose
- When you return a completed questionnaire, we will regard having your consent to participate, and provide you a $20 coupon as a compensation for your time
- If you want to obtain further information about this study,* please contact Prof Kevin AU or Dr Frank NG, CUHK Centre for Entrepreneurship (entrepreneurship@cuhk.edu.hk; 3943-7542)

Please consider the timebank project, your service Centre, and the community it serves and answer the following in your best knowledge:

A. Timebank

1. Year of completion of the housing estate project / year in which the community was established, e.g. 2000: _____
2a. Year in which the Centre was founded, e.g. 2018: _____
2b. Is your main service centre located in the same local/residential area? (Y/N) _____
2c. Date when the timebank started: Year _____ Month _____
3. Number of clients/registered timebank participants: _____
4a. Number of active participants among the registrants: _____
4b. If applicable, number of volunteer cluster focal points (e.g. Some timebanks have core volunteer participants as key contact points): _____
5a. Total number of time credits accumulated: _____
5b. Unit of time credit: (minutes/hour/others) _____

In the past 12 months:	Provided by Centre	Provided by Individuals
6. Activities participants offered to help, e.g. to accompany one for medical checkup:		

7. Activities participants requested, e.g. Small repair services at home:		
8. Activities that participants spent time credits for (e.g., interest classes, day trips) : (Please recall up to 5)		
9. Material rewards that participants spent time credits for (e.g., food): (Please recall up to 5)		

10a. To what extent do activities provided by the Centre match with what are needed by the community?

1	2	3	4	5
Not at all				Largely

10b. To what extent do activities supplied by the community members match with what are needed by the community?

1	2	3	4	5
Not at all				Largely

11a. To what extent do you agree there is a commonly recognized set of principles for timebank organizing?

1	2	3	4	5
Not at all				Very much

11b. To what extent do your timebank participants agree with the principles of timebank?

1	2	3	4	5
Not at all				very much

12a. To what extent do you think active management and maintenance are necessary for a timebank to be effective?

1	2	3	4	5
Not at all				Highly necessary

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12b. To what extent does the timebank contribute to the continuous development of your community?

1	2	3	4	5
Not likely				Highly likely

12c. To what extent should a timebank connect with external resources and parties to the community?

1	2	3	4	5
Not at all				Largely

12d. To what extent does the timebank motivate your community members to participate in volunteering?

1	2	3	4	5
Not at all				Largely

12e. Whether timebank organizers and members help to discover the strength or asset of those usually regarded as services recipients and encourage them to help?

1	2	3	4	5
Not at all				Largely

12f. To what extent does the participants assign and relate monetary values to services in timebank?

1	2	3	4	5
Not at all				Largely

12g. To what extent do community members participate in decision-making in the timebank?

1	2	3	4	5
Not at all				Largely

Consider the features of the timebank and answer the following:

13a. Timebank organising committee (including volunteers/participants)? (Y/N) _____
13b. Donation of time credits allowed? _____
13c. Time credit-money conversion allowed? _____
13d. Time credit debt allowed, i.e. negative account? _____
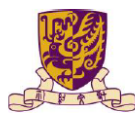14a. Individual to individual services allowed; i.e. a service provided by an individual (not the Centre) to another individual (not the Centre)? _____
14b. If yes, who performs the matching? (Social worker / App / Self-organized groups / other) _____
14c. What are the criteria of matching?
_____
15. Did you have any knowledge about timebanking before launching this project? (Y/N) _____

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16. Had you received any time-bank-related training or consulting before launching this project? (Y/N) _____

Does this timebank involve the following stakeholders? (Y/N)
17a. Another NGO? _____
17b. Religious groups? _____
17c. Another local organization? _____
17d. Businesses? _____
17e. Local shops/stores? _____
17f. Another timebank? _____
18. Comparing to other timebanks in HK, how well do you think your timebank performs?

1	2	3	4	5
Not as good		About the same		Much better

19. To what extent do you think the timebank participants are familiar with using mobile apps?

1	2	3	4	5
Not at all				Very much

20a. To what extent do you think the timebank participants are familiar with using HINCare or another application?

1	2	3	4	5
Not at all				Very much

20b. To what extent do you think you and your colleagues are familiar with using HINCare or another application?

1	2	3	4	5
Not at all				Very much

Have you used any of the following functions of HINCare or another application? (Y/N)
21a. Notification of activities/information: _____
21b. Participants signing up for activities: _____
21c. Redemption of material rewards: _____
21d. Automatic matching of individual-to-individual services: _____
21e. Volunteer recommendation parameters: _____
21f. Data analysis: _____

22. Do you have any recommendations on any added or modified functions?
_____
_____
_____

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B. Community served by your Service Centre

1. Do community members feel concerned about the living conditions of their fellow members?

1	2	3	4	5
Not at all				Very much

2. How do you rate the bonding among community members?

1	2	3	4	5
Weak		Neutral		Strong

3. How do you rate the extent to which community members are sympathetic to each other who are in need?

1	2	3	4	5
Not at all				Very much

4. How do you rate the level of commitment of fellow community members to help each other?

1	2	3	4	5
Weak				Strong

5. Would you say that most the time community members only concern about themselves, or they are trying to be helpful?

1	2	3	4	5
Are just caring about themselves				Trying to be helpful

6. How well do people in your community get along?

1	2	3	4	5
Poorly				Well

7. How would you rate the feeling of belonging in your community?

1	2	3	4	5
Weak				Strong

8. The people who do not volunteer or participate in community activities are likely to be criticized.

1	2	3	4	5
Disagree		Neutral		Agree

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9. In the community, it is generally expected that people will volunteer or help in community activities.

1	2	3	4	5
Disagree		Neutral		Agree

10. People in your community believe that participating in the timebank is volunteering.

1	2	3	4	5
Not at all				To a great extent

11. Do your community members think that they have to participate in the transaction of time credits and services without alternative options?

1	2	3	4	5
Not at all				To a great extent

12. Do your community members think that it is voluntary for them to participate in the transactions of time credits and services?

1	2	3	4	5
Not at all				To a great extent

13. Do your community members feel that the design of the timebank limits them from meaningfully participate in the communal exchange?

1	2	3	4	5
Not at all				To a great extent

14. Rate the following statements for the timebank:

a. Are services becoming more customized and catering to the individual needs of the community members; or becoming more standardized like those available/tradable in the commercial market?

1	2	3	4	5
Unique				Standardized

b. Community members, based on their local experiences, think timebank is just.

1	2	3	4	5
False		Neutral		True

c. Community members regret from participating in the exchange.

1	2	3	4	5
False		Neutral		True

15. How do people in your community trust other members?

1	2	3	4	5
Not at all				To a great extent

16. How do people in your community trust their family?

1	2	3	4	5
Not at all				To a great extent

17. How do people in your community trust the business owners in your community?

1	2	3	4	5
Not at all				To a great extent

18. How do people in your community trust the tech/IT application that facilitates their exchanges?

1	2	3	4	5
Not at all				To a great extent

19. When someone in the community makes extra efforts for another member, the member often starts thinking he/she can do for other members.

1	2	3	4	5
Not at all				To a great extent

20. When a member receives support from another member, the member tends to provide support to other members in the community.

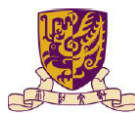| 1	2	3	4	5
Not at all				To a great extent

21. Receiving kindness from members in the community makes a member feel that he/she can do something for others.

1	2	3	4	5
Not at all				To a great extent

C. Centre and Personal Information

1. Number of employees of your Centre: _____

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2. Duration of your Centre participated in timebank project: _____ months

3. Gender: Male / Female
4. Age: _____
5. Working experience: _____ Years
6. Number of years you have worked in this Centre: _____ years
7. Position: _____
8. What is your primary education/ training ?   Social Work   / Other: _____

Please check if you have completed all the questions. Your responses are very important!

Thank you!

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