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How alternative consumer markets can build community resiliency

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Abstract

Purpose – Time banking is a form of alternative consumer market where members trade services, non-reciprocally creating a local marketplace for services. Time Banks facilitate dyadic exchanges, meeting members' practical needs and building diverse skills. The purpose of this research was to determine the broad capabilities developed in the Time Bank economy, and to demonstrate how these capabilities were mobilised following a series of earthquakes, contributing to the larger community's resiliency.

Design/methodology/approach – Taking an ethnographic approach, data were collected using a variety of methods including interviews, focus groups, participant observation and secondary research.

Findings – Over time, this alternative consumer market developed a significant communication and social network that members activated to solve diverse practical problems facing the community. Similar to other exchange communities, the Time Bank also fostered a strong sense of community based on reciprocity and egalitarian values. Although the Time Bank was created as a marketplace to exchange local services, during a series of devastating earthquakes, it galvanised adaptive capacities, increasing the resiliency of the local community during disaster relief and reconstruction.

Research limitations/implications – The data were drawn from one alternative exchange system in New Zealand.

Practical implications – The study shows how grassroots alternative consumer markets like Time Banks build community capacities alongside the formal economy. During normal times, this system meets consumer needs, but in extraordinary times, this system provides community shock absorbers, thereby enhancing community resiliency.

Social implications – The Time Bank was particularly adept at leveraging local knowledge to provide social support to those residents who were most vulnerable.

Originality/value – Data were collected before, during, and after the earthquakes, providing a rare opportunity to explore the process of community resiliency in action. This research extends existing



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theories of community resiliency explaining the development and activation of capacities by a local alternative consumer market.

Keywords Community capacity, Disaster, Community resilience, Community currency, Sharing, Time bank

Paper type Research paper

There is no feasible alternative to the market system (Etzioni 2009, p. 159).

Criticisms of capitalism abound – including the unsustainability of contemporary consumption practices (Pentina and Amos, 2011), the devastating impact on the environment (Follows and Jobber, 2000), and a general lack of restraint are driving such woes as large income disparities and the global financial crisis (Etzioni, 2009). As such, marketing researchers frequently examine consumers' resistance to the market (see the special issue of *EJM*, Lee *et al.*, 2011; Kozinets, 2002). Fewer researchers seek to understand alternatives that can coexist alongside the dominant market system offering different benefits (Belk, 2010; Freathy and Hare, 2004; Giesler, 2006; Thompson and Coskuner-Balli, 2007).

In their provocative book, *The End of Capitalism*, Gibson-Graham (2006, p. 10) challenge the apparent hegemony of capitalism.

[...] we step aside from the familiar structural vision of capitalism with its already identified and interested subjects, developing a vision of the "community economy" as an ethical and political space of becoming. In this communal space, individual and collective subjects negotiate questions of livelihood and interdependence and (re)construct themselves in the process.

Their goal is to open discursive spaces of possibility where citizens can imagine alternative local community economies that are more just and environmentally sustainable. Drawing on feminists' economic analyses, Gibson-Graham (2006, p. 12) seek to "disarm and dislocate the naturalised dominance of the capitalist economy." First, they highlight how the formal wage economy rests on the foundations of unpaid labour. Cooking, cleaning and caring for the family are invisible, marginalised and often represent unaccounted labour (DeVault, 1991). Next, Gibson-Graham show that these labours are far from peripheral by mapping and documenting the diversity of the economy, such as unpaid labour supporting family and home care, neighbourhood work and volunteering. As well, significant nonwage markets exist, such as local trading systems, barter, informal markets, self-provisioning, hunting and gathering and gifting, to name but a few. In point of fact, unpaid labour represents about one-third to one-half of key economic activity not accounted for by measures such as gross domestic product; results from time-use surveys suggest that this caring economy is still primarily women's work across 29 countries (Miranda, 2011).

Supported by the internet and new mobile technologies, experiments in alternative markets are growing as promoted in recent books on collaborative economies (Botsman and Rogers, 2010; Gansky, 2010). Empirical and critical work is needed to see if these new experiments in sharing live up to the initial fanfare. On the one hand, research on some alternative markets finds that they ground consumers in the local community, supporting prosocial values (Albinsson and Perera, 2012; Ozanne and Ozanne, 2011; Weinberger and Wallendorf, 2012). On the other hand, the so-called "sharing economy" may be nothing more than renting corporate-owned or

private belongings (Bardhi and Eckhardt, 2012; Philip *et al.*, 2015). These trading systems may be centralised and the surplus value is not reinvested in the local economy. Some critics argue that services like Uber and Taskrabbit promote a new underclass of low-income wage earners who have little security (Guerrini, 2015).

This paper examines an alternative local market that uses community currencies – time banking (Cahn, 2004). A community currency serves as another form of money to replace or supplement conventional currencies (Seyfang, 2004). These local currency markets are interesting theoretically and practically. First, they track and quantify labour in the caring economy that is often unexamined in the analysis of capitalist wage markets. Second, unlike wage markets, power is not concentrated because all labour is equal in value and stays in the hands of the individual trader. Third, services are traded, expanding the pool of local skills and expertise. Finally, the value created stays within the local economy. Local communities creatively use community currencies to meet needs unmet by either the market or government, such as building social networks in the informal economy, providing post-hospital care, improving childhood literacy, increasing belongingness among refugees and reducing juvenile offenders' recidivism (Slay, 2011).

Alternative community currencies are gaining in popularity throughout Europe (Gowling, 2014). In Spain alone, 325 alternative community currencies arose in response to unemployment and the euro's uncertain fate (Cha, 2012). Japan has a long tradition of using alternative currencies, such as the fureai kippu currency capturing hours earned in elder care (Lietaer, 2004). Time Bank (TB) trading also uses hours of service as the common currency (Cahn, 2004). People trade services that help maintain homes and gardens, as well as leisure, educational and business services. In a TB, exchange is computer-mediated using a broker who matches members' requests for help with offers of services (Seyfang, 2003). Unlike a barter, exchange is non-reciprocal; Person A can "provide" one hour of service to Person B (earning 1 h of currency), and then Person A can "spend" this hour buying services volunteered by a third person.

Despite recent growth, TBs are under-researched. Past research relies on perceptions of TB coordinators, uses surveys and only examines TBs in impoverished neighbourhoods (Collom, 2005, 2007; Seyfang, 2003, 2004). Using ethnographic fieldwork, our focal research question asked what are the broad capabilities developed in the TB alternative economy? But 18 months into our fieldwork, the local community was hit by an earthquake. This unfortunate tragedy afforded the unusual opportunity to reveal both how the TB built and then mobilised capabilities. The pre-disaster analysis explores the construction of an alternative economy and the emerging capabilities. The post-disaster analysis shows how the capabilities were effectively deployed in the immediate aftermath and recovery period. We highlight that this caring economy met crucial needs unmet by either the traditional economy or government sector.

But first, we turn to the community health literature for a broad initial conceptualisation of the range of capabilities needed for healthy communities. Although the TB economy exchanges services that have an economic value, we needed a more inclusive framework to capture other aspect of well-being that might be fostered in this caring economy (Mick *et al.*, 2012).

Community capacity and resiliency

Community capacity is a concept used to capture how communities mobilise resources to solve problems by building community assets (Norton *et al.*, 2002). Most researchers would agree with the definition of community capacity offered by Goodman *et al.* (1998, p. 259): “the characteristics of communities that affect their ability to identify, mobilise, and address social and public health problems.” Less agreement exists, however, on the key community characteristics and their relative importance for building capacity. For instance, the Aspen Institute (1996) emphasises civic capacity, such as leadership development and collaborative decision making. Many researchers stress social capital within communities in terms of social networks, mutual trust and shared expectations (Putnam, 2000). Sampson *et al.* (1997) examine collective efficacy as a capacity for prevention of neighbourhood crime.

Recently, attention has shifted from community capacity to resiliency – or the ability of a community to bounce back following a disaster (Baker, 2009; Baker and Mason, 2012; Longstaff, 2005). The concept of resiliency is pertinent given we seek to understand how resources are deployed effectively following an earthquake. The focus on resiliency also signals a move away from researching single-event disasters towards developing a long-term perspective on how communities can organise capacities in the face of ongoing disasters.

Norris *et al.* (2008, p. 130) define community resiliency as “a process linking a set of adaptive capacities to a positive trajectory of functioning and adaptation after a disturbance”. Borrowing from the material sciences, they stress the adaptive nature of resources, which includes the extent to which they are robust (i.e. work under a wide range of circumstances), redundant (i.e. substitutable) and rapid (i.e. deployed quickly). Resiliency involves an ongoing and complex process of adaptation occurring across time (Martin *et al.*, 2015).

Norris *et al.* (2008) theorise that community resiliency involves four sets of adaptive capacities – economic, communication, social and community competency. Economic capacities include the level of economic development, diversity of resources and equity of their distribution. Communication capacities span the existence of a responsible media, skills and infrastructure, trust and narratives. Social capacities include formal and informal social ties, social support and place attachment. Community competency involves problem solving, creativity and flexibility, community action, collective efficacy and political partnerships.

This general resiliency framework of interlocking capacities provides an initial starting point for our analysis. Specifically, central to our analysis, is the alternative economy created by the TB exchange system and the capacities it supported. In addition, we expand the framework to include cultural capacities that emerged as important to recovery, such as values, rituals and a sense of community. We should note that our findings are more relevant to communities of higher economic development where significant resources exist and we treat this as the background context. New Zealand rates high on economic capacity, as it is an economically developed country with a long history of strict building codes. Consistent with ethnographic research, discussion of the conceptual framework is integrated with the findings, which are discussed following the methods.

Methodology

The site and context

Lyttelton is a township on the south island of New Zealand situated 7 miles southeast of Christchurch. Because the Lyttelton TB was new and growing, it was an appropriate

site to study how an alternative economy built capacities. Our fieldwork started in April 2009 and ended in December 2012. A year and a half into data collection, a 7.1 magnitude earthquake hit the region causing extensive damage. A second major quake struck in Lyttelton in February 2011 (GNS Science, 2011).

Research participants and data collection methods

The lead author collected data using a variety of methods (Goulding, 2005). Prior to the earthquake, data collection focused on interviews with members with different levels of participation (see Table I). Members were asked about their history with the TB, benefits and challenges of trading, narratives of their best and worst trades, the existence of a TB community, shared values, and so forth. We encouraged elaboration

Type of Data Source	Details
Focus group interview (early 2009)	Two focus groups of people with different levels of experience (ten TB ^a members); explored such broad topics as what attracted participants to join the time bank and how TB participation has affected them; these data were collected by the TB and shared with the researchers as they entered the field
Interviews of TB members (mid-2009 to mid-2010)	13 interviews with individual time bank members varying levels of trading activity (one interview was with a couple); Five interviews with low (<100 h traded) Five interviews with moderate (<200 h traded) Three interviews with high (>200 h traded) 1 interview with organisational member (primary school)
Interviews of TB advisory members and coordinators	Five separate post-earthquake interviews (one member was key informant who was consulted throughout the fieldwork)
Post-earthquake interviews of organisational members	Five interviews with high ranking organisational representatives (Medical Centre, Civil Defence [2], Lyttelton Police and Information Centre)
Post-earthquake interviews of TB members	Two interviews with representatives (Christchurch City Council) Eight interviews focused on earthquake response, these informants had either participated in the response or were the recipient of aid (one interview was with a couple and another was a follow-up on someone interviewed earlier)
Participant observations and fieldwork	Field notes from organisational meetings, interviews, group activities from April 2009 until December 2012; correspondence among advisory members; minutes of Advisory Group meetings; correspondence to TB; photos
Email broadcasts	All of the bi-weekly email broadcasts from 2009-2012
Trading data	Quantitative counts of TB trading data from 2005-2012
Citizen scholar reports and organisational reports	Jefferies and Everingham (2006); Hall (2009); Evans (2011); Everingham (2012); Jefferies (2012); Suren (2012)
Local newspaper articles	All of the archived Lyttelton News since 2004 26 other news stories from regional press

Table I.
Informants and data sources

Note: ^a TB: Time Bank

by providing a list of each participant's trades. Early interviews suggested members joined during important life transitions so later informants were selected to examine this pattern. Most interviews were conducted in the informants' homes lasting from 45 to 75 minutes and were audiotaped and transcribed.

The interviews were complemented with fieldwork. The lead author became a member of the TB trading and attending meetings and group activities. The TB organisation shared trading and focus group data, emails, minutes of meetings, correspondence and formal reports. Secondary data provided a more complete understanding of the evolution of the TB. A second wave of interviews focused on the response of the TB to the earthquakes; seven interviews were conducted with key organisational, government and emergency players. An additional eight interviews were conducted with TB members (Table I). These interviews were conducted weeks after the earthquake (EQ) with members identified by the TB coordinator as receiving aid but out of crisis. The research protocol was approved by the university's Institutional Review Board before and after the earthquakes.

Analysis

The analysis was divided into two stages. First, the period before the earthquake was examined through an analysis of all textual data including coded interviews, field notes, news stories, trades and relevant secondary data. Our focus was on the emerging capacities being developed in this alternative market. Second, we examined the period after the two major earthquakes to understand how the TB mobilised capacities. The analysis was iterative moving back and forth between textual data and theoretical concepts until an interpretation emerged (Thompson, 1997). This analysis changed over time as the pre-earthquake theoretical framework focused narrowly on capacity building and only later did the theorisation expand to resiliency. Next, we explore the local context and the evolution of the TB economy.

Building capacities within the Time Bank economy (pre-disaster)

The origin of the Lyttelton Time Bank economy

The TB emerged with the support of Project Lyttelton – the local parent organisation. In early 2005, the first TB in New Zealand was established. During 2005-2006, a small group of 30 people traded only 59 h. Collom *et al.* (2012) cite over 100 TBs that failed often due to practical problems (e.g. need for a coordinator). This TB faltered because the idea was unfamiliar, and people were unsure about what services were tradable. But momentum shifted during 2007-2008 when a part-time coordinator was hired. The TB grew when the trading system was promoted through educational events, a website and stories in the *Lyttelton News*. By 2008, 110 members traded over 11,000 h.

Next, we document the period prior to the earthquakes, from 2009-2010, when the TB shifted from building momentum to building capacities in communication, social networks, culture and solving problems. This capacity development is dynamic and interactive, but we provide a snap shot of the capacities developed before the disaster.

Building communication capacities

Communication capacities include the information infrastructure, responsible media, communication skills and media narratives (Norris *et al.*, 2008). The TB had direct contact information (i.e. emails, addresses and phone numbers) for their 330 individual and 18 organisational members and sent bi-weekly email updates. A local radio station,

“Volcano Radio”, was launched in 2008 and became a member doing on-air interviews with TB members promoting the service. The TBs direct email and phone channels, as well as their relationships with the Volcano Radio and *Lyttelton News*, provided a local system for communicating with redundancies (see communication capacities in Figure 1).

TB coordinators were well-known and trusted sources. In focus groups, members reported looking forward to the regular “friendly emails” that are informal and informative. As one informant states, “they give me a sort of warm buzz, really”. Email broadcasts presented an optimistic tone, regularly acknowledging members’ efforts as this quote demonstrates:

Has been an inspiring week here at the Time Bank. Two of our members were involved in an accident in the tunnel and it was great to be in a position to be able to contact members and provide assistance following the accident, in the form of some home cooking. Thanks again team.

TB members mirrored this informal style when posting requests and offers. Many of the posts were short and descriptive: “I am an experienced seamstress and would love to support/advise/teach/share the love of creativity with fabric”. Yet, other posts were more creative:

Do you shudder at the thought of planning a party for your child? – I love doing it!! Give me a date, a venue and a budget and a theme if you have one and I’ll do the rest. Home-made invitations, decorations, games, food, prizes, even the dreaded party bags.

Thus, this was a supportive forum to explore new ideas where everyone was assumed to have tradable talents. Across the radio, newspaper and email broadcasts, a consistent narrative was communicated that the TB community has diverse skills where offering and receiving help is encouraged.

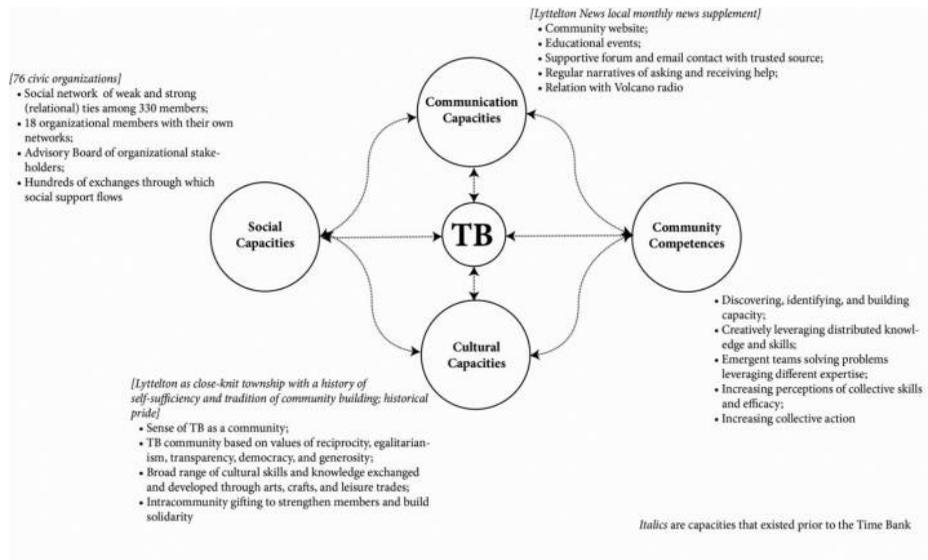


Figure 1. Conceptual framework for capacities developed in the TB economy

Building social capacities

Social capacities are investments in social networks of ties and support. Social capacities include the care and nurturance community members receive not only from their family and friends but also from the broader community and its formal organisations. This support is captured through social embeddedness (i.e. informal social ties), organisational ties and cooperation and citizen participation and leadership (i.e. formal social ties in grass roots organisations).

The TB provides an easy way to build and access a social network through individual exchanges. Before the earthquake, 330 members and 18 organisational members comprised the TB social network, which had traded over 30,000 h (see social capacities in [Figure 1](#)). As informant Samantha says of this network, “It’s that feeling of having that safety net”. The organisational members were mainly social and economic organisations but links were also made with communication, government, educational and health organisations.

Some new members raised concerns that TBing would take business from local organisations, but these concerns were resolved when they understood New Zealand law bars members from trading in their primary occupation. In fact, the TB facilitated one member developing skills in computer consultation and he opened a business. Some organisations struggled to offer services. A school administrator described his feelings: “I would like us to be giving back in some significant way before we constantly have our hand out asking for support”. Similarly, medical personnel also expressed initial confusion:

It was also explaining to the managers that people would not be able to trade hours and trading free appointment times. So they had to understand that it wouldn’t impact upon them or their business plan.

However, these tensions were resolved as the TB coordinator and organisations determined ways each organisation could earn TB hours.

Reciprocity is the core value within the TB alternative economy and the basis upon which it weaved a web of social ties. In a traditional market exchange, exchanges range from discrete to relational ([Dwyer et al., 1987](#)). The TB trades are often relational; more than labour is exchanged for time. Here, Julie comments on giving a massage to a TBer:

But then they would go as a client and I wouldn’t necessarily be thinking about them or reflecting on the relationship whereas if it was a Time Bank thing, it’s much more well here I am in Lyttelton, we’re a family, this is someone I might care about and get to know and being aware of all those links that might happen and how I might help them and the pleasure it gives them. It actually gives quite a different flavour (Julie).

Data from in-depth interviews support that people trade services they enjoy doing often viewing the trades as leisure rather than work. As one TB member explains sharing her knowledge of edible weeds, “Yes, it’s a passion of mine too and I like to share it so it’s not a task to share it by any means”.

Members’ most memorable trades involved unexpectedly meeting new people while engaging in pleasurable activities that they share in common. New mothers met at community projects and built strong friendships, for example. TB members reported regularly meeting novel people who were outside their circle of friends. As Vanessa says, “Everyone I’ve interacted with is a new person. But they possibly wouldn’t be people I would normally interact with”. Other relationships were short and only endured

during the exchange. But, as new resident Randy states, they increased feelings of community, “There are a lot of familiar faces now that I say hi to on the street or at the market and its great”.

Members often join the TB during important life transitions when they felt the need to build or expand their social network, such as moving into town, having a new baby, divorcing, losing a job, retiring or being widowed. TB members also use the TB economy as a neighbourhood wellness watch strengthening social ties. For example, Tracy activated the TB to clean the house of a mother who was suffering from depression, even though the mother was not a member. Most of these neighbourhood wellness watches are coordinated through the central TB brokers, but other times, members take initiative. For example, Amy explicitly used her TB hours to hire a neighbour to walk her dog because she feared he was becoming socially isolated. All services are offered voluntarily so unpleasant tasks, like requests for washing windows, might go unanswered unless the TB member had extenuating circumstances (e.g. illness).

Hundreds and thousands of small trades form an invisible social web connecting people, making them feel safer. Thus, it is unsurprising that TB members uniformly spoke about the TB social network helped to build a sense of community, which is discussed next.

Building cultural capacities

Cultural capacities include a sense of community, values, rituals and narratives. Community is defined as a geographical region – such as the town of Lyttelton. But TB members’ share a sense of community in terms of feelings of belonging, shared beliefs that people and community matter, fulfilment of needs and emotional connections based on a shared set of experiences (McMillan and Chavis, 1986):

Yes. It made me feel as if I wasn’t alone. It sort of gave me a bigger family to call on really especially after my husband died [...] and then with the Time Bank, especially meeting [she lists six people], I could go and visit them. I could go and have a coffee with them and we could just sit and chat. It sort of extended my family and I just needed that at the time and it was just awesome (Amy).

In the following quote, Louise describes doing a personal favour for a friend who asked that it be logged as a TB trade. Rather than be offended, the friends share a common understanding that documenting trades, even those considered as more relational exchanges, builds the strength of the TB community:

I wanted to support her before she was having surgery. Then about half way through, she said this is a Time Bank trade. I said, “Yes, okay.” When you’re with another Time Banker, it’s not weird like, “Oh, no, don’t worry.” Of course this is a Time Bank trade because it is good for the Time Bank (Louise).

The TB community shares common values, such as being egalitarian, as all labour is equally valued. As David states, “So it is very nice to feel, even though I am not living in a collective environment, that there are other people that are similar to me, share similar values”. TB operational procedures are guided by the values of openness, transparency and democracy. New initiatives arise within the TB community, public forums are held for interested parties to give feedback, and then different subgroups volunteer to operationalize the idea. For example, this process was used to expand childcare services

and solve the problem of how to conduct criminal background checks. Once a system was implemented, ongoing feedback was sought. Thus, members are part of a community where they have influence (McMillan and Chavis, 1986).

The TB community generates more hours than are used. A community chest was developed and the coordinators and advisory board use these excess hours to invest in individuals or organisations. The largest investments were to organisations, including the Primary School, Volcano Radio and Information Centre. The goal of these investments was to strengthen members and integrate them into the community. They are intracommunity gifts aimed at building solidarity rather than marking social distinctions (Weinberger and Wallendorf, 2012).

Hours are donated anonymously into members' account, allowing them to use other members' services. The TB gave Jane hours during a period of difficulty. Rather than feeling a lingering indebtedness, she started participating in working bees to meet people. The TB exchange system minimises the dependencies and stigma often associated with direct charity (Enarson, 2012). Little direct obligation exists because any "taking" of an hour of service leaves the service provider with an hour credit and affirms that the services are valued. As Jane explains, "Maia looks after my chooks. Now I can offer her Time Bank hours for that as well". So labour that is often unpaid is captured and valued. Responding to the potential problem of free riders, a TB coordinator states, "We don't. People who are Time Bank members are community-minded and come at it from a position of trust". Although rare, occasionally conflicts arose when local business owners tried to use the TB to generate commerce, in the case of a masseuse, or get TB services to assist running their venture. These acts violated a guiding principle that kept separate monetary and community currency. In the former case, the person was asked to leave the TB; in the latter case, the boundaries were explained.

Building community competencies

Community competency is the extent to which the community can solve its problems, including working together to identify collective needs, building consensus and taking action (Norris *et al.*, 2008). Within the TB, the ability to identify and build capacity has a direct impact on perceptions of community efficacy and the actual community actions taken (Sampson *et al.*, 1997).

Identifying and building skills of the TB. Members must list their tradable skills to join the TB. Often people struggled to identify skills because they did not consider that their skills were marketable. But as Amy states: "it made me feel quite worthy because I had skills [...]". However, sometimes, the services proffered are not used; Ophelia complains, for example, that her skills were not being fully utilised, "[...] but I haven't been asked for any of the skills that I've put up". Members do learn about the TB community's capacities: "there were skills out there that I didn't have. I wanted to tap into other people's resourcefulness (focus group)".

The TB creates a local marketplace of services valuing skills sometimes not counted in the traditional labour market. Many services focused on solving everyday problems (e.g. caring for the home and the family, transportation, home repairs and gardening services). Services are offered to enhance personal and social well-being, ranging from exercise, nutrition and meditation to education, arts and crafts, recreation and companionship. Business services increased economic well-being including computing,

financial, marketing and legal services. Outreach services enhanced community well-being (e.g. fundraising).

Many services traded build capacity by developing practical and embodied knowledge and skills. These trades leave behind skills, such as preserving fruit, repairing a bicycle, knitting, composting waste, raising funds or organising for social change. As a recent widower explains:

I pruned my own grapevine this year. Steve taught me last year. Last year, he put down lawn seed, something I have never done. I'm going to do it myself. This spring, I'm putting down more lawn seed, but I won't need to say to Steve come and show me how to do it because I know how to do it now (Amy).

The TB also builds skills through the educational classes that it holds and supports with members' time and expertise. Although not all 30,000 hours traded involved building new skills, many of these trades increased individual skills and feelings of personal efficacy (Figure 1).

Community efficacy and action. During the early years, trading was mostly among individual members. When our fieldwork began in 2009, the TB membership growth was accelerating. It took four years to reach 100 members. Only 1.5 years later, membership tripled to over 300 traders. By 2009, more collective tasks occurred, like organising community-wide celebrations and doing projects with the local school and medical centre that were members. Just prior to the earthquakes, the TB was tackling larger projects that required more people, other local organisations, greater time investments and more coordination.

At the primary school, for example, members supported a school play by offering services including choreography, costume design and construction and film production. Another large-scale project invested over 120 TB h organising and running a fundraiser. Members also invested over 100 hours running a conference on food politics, offering organisational skills, as well as providing food, rooms and transportation. One more ambitious project was a large swapping event where TB members invested almost 200 h of labour. Increasingly, members were realising the potential of the TB for mobilising labour and expertise to solve local collective problems.

TB members were regularly engaging in teamwork to reflect on practical problems, tap into relevant expertise within the team and work together to get the job done. Members were practicing as self-organising work teams. Group projects were announced – such as helping in the nature reserve or organising fund raising – then interested members volunteered. Different leaders emerged based on the relevant expertise needed and then the work was structured and specific roles were assigned. TB members were building trust that these impromptu teams could work well together. Jackie commented positively on a working bee: “Stacking firewood is a tricky thing because you need to have enough people or else it just becomes a big job”. Similarly, Phillip commented on another group activity: “[...] it's that nice idea that many hands, just makes the job really easy and before you know it it's done. And no one really had to work real hard”.

In summary, over a six-year period, the Lyttelton TB had developed significant capacities that were robust and redundant. Extensive communication and social capacities provided the backbone of the organisation. Initially, these capacities were activated to encourage trades meeting individual needs. Progressively, the TB

community was effectively executing larger projects meeting community needs. In turn, the TB was creating a culture of caring where TB members worked for the well-being of its members and town.

Community resiliency during the disaster

The earthquakes created a collective action problem requiring residents to solve myriad problems. Across the economic and built environments, the township suffered significant loss and is considered as an area “most vulnerable to permanent loss of commercial function” (Christchurch City Council, 2012, p. 10). Three historic stone churches were destroyed. Important spaces were lost for leisure (i.e. 9 of 10 walking trails), recreation (i.e. 3 of 9 recreation sites), gathering (i.e. 11 of 18 halls and meeting spaces) and public life (i.e. 8 of 14 public buildings). Many businesses were underinsured and are unable to rebuild. Others have left or relocated to temporary locations – 46 of 61 businesses survived. The local grocery store closed (Christchurch Council, 2012).

We separate the four key capacities mobilised, but clearly these capacities work in conjunction. First, we explore the important activation of communication and social capacities, followed by the cultural and competency capacities (Table II).

Activating communication capacities

During emergencies, accurate information can save lives, but people often have little time to verify facts (Guion *et al.*, 2007). Media narratives provide helpful information but can also perpetuate myths and sensationalise crises (Tierney *et al.*, 2006). As such, information is an important shared asset and people rely on trusted sources (Longstaff, 2005; Litt, 2008). The TB was the civil organisation with the best intact communication system for organising local relief efforts (Everingham, 2012). Because the TB had recently moved into the building where the information centre was located, these two organisations worked together sharing resources. TB members manned the information centre, which became a key source for information and assistance. In effect, these two organisations fulfilled the civil defence function during the first earthquake (Akaroa Mail, 2010):

[...] it (the TB) was really supportive. It was great that there was a hub down at the Lyttelton Information Centre that anyone could go to at any time if they were feeling upset or needed some support and that there were continual email call-outs for help to help take chimneys down. Really everyone was pulling out the stops to help everybody (Vanessa).

The TB/information centre became a trusted source for accurate information: “the [phone] number has been given out left, right, and centre as the place to call (TB coordinator)”. Following the first earthquake, the TB’s important emergent role was acknowledged by emergency response workers, and its role in the community was further legitimised, as is well demonstrated in this letter sent to the TB:

[...] the way that you and your TEAM kicked in and started to get things sorted has been very much appreciated by our ambulance staff [...]. I visited the Lyttelton CD [civil defence] HQ every hour from 05:00am through until midday on Sunday and to my knowledge it never opened. This worried me considerably as we were receiving families at the ambulance and fire stations seeking comfort, shelter and advice. These are CD roles and not those of ambulance and fire who have other priorities [...]. On behalf of St. John Ambulance, thank you for your excellent work (Correspondence 9/14/2010).

Service	Needs/Problems	Spaces of possibility	Service providers
<i>Activating communicative capacities</i>			
Liaison between emergency workers and residents	Emergency workers lacked knowledge of local town or its needs and resources	Coordinated local resources and labour so town actively participated in their own relief and recovery efforts	TB coordinator worked with the Navy, ambulance service, Civil defence and City Council
Emergency alerts	Residents needed timely and reliable information	Turned the information centre into a civil defence post	Information centre, radio station and TB coordinators and members
Tracking evacuees	Extended families unable to locate town residents	Created system for tracking evacuees	TB coordinator and Community House
Housing services	Demand outstripped supply given damage to homes	Matched displaced residents to residents with extra space	TB coordinator, members and town residents
Community organising	Brothels from Christchurch needed to relocate	Organised to block brothels from locating near schools and on main street	TB members and town residents
<i>Activating social capacities</i>			
Social services	Well-being checks needed for TB members living alone	Activated neighbourhood well-being watch	Initiated by TB members
Social services	Well-being checks needed for 150 elderly residents	Activated neighbourhood well-being watch	Initiated by Medical Centre, teams of TB members
Damage triage services	Homes damaged with dangerous masonry	Created system of matching degree of damage to appropriate team	Teams of TB members, Fire brigade, trades people
Damage services	Organisations damaged	Cleaned up Trinity church and timeball	Teams of TB members
Emergency services	Civil defence post abandoned	Organised backup team agreed to perform civil defence function	Initiated by ambulance service, TB members
Emotional triage services	Some families were in emotional crisis	Created system for prioritizing at-risk families in need of help	Teams of TB members
Transport service	Local grocer closed	Created weekly shuttle to other grocers	Initiated by Community House, TB members
Meal service	Residents unable to come for emergency food	Created a meal delivery service that continues today	Initiated by Community House, TB members
Support services	New organisations emerged after EQ	Assisted harbour arts collective, lift library and plenty to share	TB coordinator and TB members

(continued)

Table II.
Capacities activated using labour and skills of TB after EQ

Service	Needs/Problems	Spaces of possibility	Service providers
<i>Activating cultural capacities</i>			
Party planning	Need to gather for social support	Held the annual street party four days after the February EQ	Navy, local musicians, the radio station, TB members
Party planning	Celebration and solidarity	Planned 5 community celebrations	TB coordinators and members
Therapeutic services	Need to manage trauma among children	Supported eARTquake therapy non-profit emerging from Lyttel Stitches	Two TB members took initiative into schools
Swapping services	Town residents stressed and lacking local activities	Organised series of monthly and annual swapping event(s) to engage residents	TB coordinators and members
Educational services	Damaged recreation centre	Organised series of gardening and educational classes	TB coordinators and TB members
<i>Activating community competency</i>			
Office location services	Demand outstripped supply given damaged buildings	Located office space for displaced organisations	TB coordinators, TB organisational members and City Council
Fundraising	New and old civic organisations were struggling	Ran weekly garage sale to generate funds for 20 local organisations	TB members ran and residents donated goods
Business services	Organic grocer forced to close	Converted organic grocery store to community-owned cooperative	TB members
Food	Need resources to support the meal delivery service	Created "Grow a little extra" to feed at-risk town residents	Local gardeners, Community House, TB members
Athletic services	Damaged tennis club	Organised working bees to repair	Initiated by TB member, labour of tennis club and TB members; tennis club became member
Community organising	Need for greater local control of emergency planning	Organised harbour resiliency plan to prepare for community wide disasters	Civil defence and ambulance service became members, TB organised multi-organisational effort
Food	Need for greater food security in the harbour region	Supported three local organisations (Grow harbour kids, community food forest, harbour harvest festival)	TB members

*(continued)***Table II.**

Service	Needs/Problems	Spaces of possibility	Service providers
Delivery services	Need for affordable produce, among at-risk residents	Delivered produce weekly town residents	Initiated by TB member, TB members
Transportation services	Need for sustainable transportation	Created community ride share	Initiated by TB member, TB members
Community organising	Growing interest nationally on how to build community TBs	Organised and ran first national timebanking conference	Initiated by TB coordinators, TB members, venue provided by organisational member
Leisure services	Damaged or destroyed churches and recreation centre	Built Petanque Club	Four organisations and TB members

Table II.

In the section on social capacities, the vital services provided by the TB are explored in-depth.

Following the second quake, TB personnel were initially excluded from daily briefings for emergency responders because they were unfamiliar with the local organisation. A City Council manager, who as a regular TB member knew its' potential, insisted including the TB coordinator. The TB coordinator discusses how these outside emergency personnel did not know the local players and their skills and resources:

[...] whereas with the Time Bank, we did have it, and once they saw that and then Kyle from the Navy, he gave me his mobile number. So suddenly I had everyone's emergency numbers in here and we were able to open all these doors to make things happen [...].

With access to the daily briefings, the TB worked to fill the informational needs of the community, which expanded considerably following the second more destructive earthquake. The TB daily updated a notice board with pertinent information. TB email communications asked members to identify neighbours who needed assistance. Emails also provided timely information initially on the need to boil water, evacuations and closures of roads, schools and businesses, and then later on the return of basic utilities, openings and services – such as financial and counselling aid. The TB's database of individual skills meant that social and material resources were easily identifiable and coordinated. For example, large food donations arrived and the TB located refrigerators and generators and also distributed food. The TB coordinated volunteers to distribute emergency water supplies. The TB provided Volcano Radio with updates and urgent requests for assistance, as well as on Facebook and the Project Lyttelton website. Redundancy in communication vehicles is vital to reach different segments of the community (Guion *et al.*, 2007; Martin *et al.*, 2015).

During a disaster, communications help alleviate stress, increase connectivity and decrease feelings of isolation (Shklovski *et al.*, 2010). For instance, the TB tracked residents who had evacuated so distant family members could locate them. Usually communication focused on matching needs – people displaced from their home, with resources – neighbours who had extra space. But conflicts also arose following the dogged stress of the disaster. For example, the TB also activated its membership to

block the contentious relocation of brothels into Lyttelton, which had lost their premises in the central city.

Activating social capacities

Disaster researchers suggest that “hub” organisations, which lie at the centre of social networks of individuals and organisations, can play an important role in emergencies given their connectivity (Longstaff, 2005). Hub organisations are more effective when their networks are large, members regularly associate and reciprocal benefits are exchanged (Goodman *et al.*, 1998). The “strength of weak ties” thesis may operate here as well where a greater diversity of information flows through weak links of acquaintances rather than the strong ties of friends who often share similar information (Granovetter, 1973).

The TB acted as a hub organisation leveraging its extensive network of weak and strong social ties through which problems were identified and social support could flow. The TB checked on its own members who lived alone. The medical centre, which was an active member engaged in projects with the TB, asked for help (see Figure 2). The TB agreed and their volunteers called over 150 elderly residents checking on basic needs – water, electricity and damage – as well as emotional needs – companionship and comfort. Thus, this link expanded TB assistance to residents who were not members of

Communication Organisations

- Information Center
- Volcano Radio
- Lyttelton News
- Lyttelton Review

Educational Organisations

- Kindergarten
- Primary School (1)
- Diamond Harbour Playcenter
- Primary School (2)
- Preschool

Social & Economic Organisations

- Farmer's Market
- Community Garden
- Grow Local
- Harbour Cooperative
- Lyttelton Business Association
- Lyttelton Community House
- Lyttelton Tag Busters
- Lyttelton Tennis Club
- Lyttelton Parks Committee
- Local Marae
- Project Lyttelton
- Holy Trinity Church
- Timeball Museum
- Torpedo Boat Museum
- Hibiscus Group
- Diamond Harbour and other TBs
- Eco Show

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Government

- Christchurch City Council
- Fire Brigade
- Lyttelton Library
- Lyttelton Police
- Civil Defence
- Coast Guard
- Fletcher's Building Hub/EQC
- Red Cross

New Civic Organisations

- Plenty to Share
- Gap Filler
- eARTHquake Therapy
- Harbour Arts Collective
- Harbour Resilience Project
- Community Food Forest
- Grow Harbour Kids
- Lift Library

Health Care Organisations

- Medical Center
- Lyttelton well-being services for children, including toy library and play group
- Healthy Christchurch
- St John's Ambulance
- Canterbury District Health Board

Bolded Name represents TB Member.
Black Coloured Name represent in place Before Earthquakes.
Red Coloured Name represent After September.
Blue Coloured Name represent After February.

Figure 2.
 Organisational relationships before and after earthquake

the TB. As a medical centre personnel states, “it made such a difference knowing that TB were contacting all the elderly who needed time [...] you need somebody personal, somebody who lives in Lyttelton”. A significant aftershock hit four days later, and TB members were asked again to phone everyone.

Although not a member, the Fire Brigade was besieged with emergency requests and contacted the TB coordinator for possible help. A triage system was created to prioritise needs. Residents coming to the emergency centre were greeted by a TB member who probed the severity of damage. Immediate assistance was provided for emergencies by the Fire Brigade (e.g. a chimney in danger of collapse) and less dangerous needs might be serviced by TB members or placed on a list to be done by tradespersons (e.g. a broken window). The TB identified active members with specific skills and materials to help those in need (e.g. contractors with building skills or residents with trailers). Organisations also got help clearing rubble, including the Timeball Historical Station and Trinity Church. The ambulance service also asked for TB volunteers to man the Emergency Centre if another major aftershock hit – eight members volunteered (see Table II – activating social capacities).

Emotional triage represented much of the social support provided to people who were afraid or experiencing crisis. TB emails reassured members that being fearful was normal and offered support: “if you’re on your own and frightened come to the Information Centre [...]. There will always be someone there”. After the more damaging February earthquake, the social support needed was greater and extended for months and years. TB members responded recording 860 h of labour (many of which were only recorded when the TB coordinator requested members help documenting the role of the TB). Most of this labour was servicing non-TB members (correspondence TB coordinator, 4/12/2011). For example, Deacon and Edith were identified by a member as in crisis. They were an elderly couple who had no family nearby. A TB family housed the couple in their home for six weeks. When the elderly couple’s house was deemed as uninhabitable by the government, TB members helped them negotiate with the rental and insurance companies and secured and cleaned their new house. The TB coordinator activated the Fire Brigade and TB members to form a human chain moving a lifetime of possessions from their condemned home into their new home. The couple continued to experience emotional stress, and TB members continued offering support.

The TB’s direct knowledge of the community proved important. It is common that survivors must endure not only the crisis but also poorly implemented relief efforts (Baker *et al.*, 2007; Klein and Huang, 2007). In this crisis, emergency workers like the Navy offered valuable services including housing and feeding displaced residents and removing rubble. Still, top-down bureaucratic policies often lack the responsiveness needed as people struggle to adapt to new realities (Longstaff, 2005). As an information centre volunteer noted, “The Time Bank helped put a local face on the emergency effort”. TB volunteers manned the reception desk, providing friendly and empathetic social interactions. TB members had better knowledge of the community (than did outside emergency personnel) and finessed the distribution of resources. For example, they were knowledgeable of the appropriate cultural protocol when providing resources to a local Māori marae – which avoided potential conflict. The TB became “a local support agency” for the emergency (police personnel).

The TB created new social support scaffolding to help vulnerable residents with their chronic needs. For example, an email broadcast (3/1/2011) sought volunteers to check on

at-risk residents daily: “REALLY IMPORTANT. We need people that are willing to go the extra mile to look after individuals that have come to our attention that need looking after”. When the only local grocery store closed due to damage, TB members organised a transportation service to take people without cars to a nearby store. Some elderly and vulnerable residents were unable to come to the Emergency Centre for meals. Working with the Community House (an organisational TB member), TB members delivered meals and this service continues today.

The TB used its labour to support six new organisations that arose to meet new needs emerging from the disaster, who all then became members (see Figure 2). As Chamlee-Wright (2008) explains the type of mutual assistance provided by TB members plays a critical role in signalling to town residents that their neighbours are committed to recovery efforts.

Activating cultural capacities

Sense of community within the TB and Lyttelton. A shift occurred in Lyttelton following the earthquakes. In the past, residents were confused over which activities were conducted by parent organisation – Project Lyttelton and the TB. Outside the TB, it was common for Project Lyttelton to receive credit for TB activities. But discussions at a public meeting document the emergence of the TB as a distinct entity for the town at large:

At this meeting, residents talked about the TB specifically. For example, the TB was an organisation that could be used to help manage a drop off point for materials salvaged from homes and businesses. TB members could man this drop off point. Also, when a new resident asked about how to get more involved in the community, someone else said the TB was a place that new residents could volunteer their skills (field notes 4/11/2011).

Similarly, the Lyttelton Master Plan, written 15 months after the February earthquake, as well as a report by the Health Research Council, acknowledged the role of the TB in creating a strong culture of community volunteering and resilience (Christchurch Council, 2012; Thornley *et al.*, 2013). Despite 7 per cent of residents leaving the area (Stuff, 2013), the TB thrived. The TB grew from 330 to 464 members and from 18 to 34 organisations by the end of 2012.

The sense of a TB community continued to grow. Disasters highlight the need to belong to a community where reciprocal needs are met (Weinberger and Wallendorf, 2012). The following quote is from a woman who became an active TB member following the earthquakes:

Heaps of positive things came out [of the earthquake], finding out there is this whole wee organisation of people who help each other and do things and so accepting and that was really good [...] I thought, “Oh I’ve got friends in Southbridge, I might move there.” [...] But then I thought, “Why? Things can happen out there, and this community has come together” (Evans, 2011, pp. 54-55).

Lyttelton residents, in general, expressed both a new and renewed sense of community solidarity. In the *Lyttelton News* (3/11/2011, pp. 4-5), 38 people were interviewed a week following the February earthquake about what was great about their town. The resounding message was the sense of community and community spirit that brought people together to help one another; as a resident poetically states, “The earthquake might have pulled the land apart but we are together”. Another resident states:

I'm from an old Lyttelton family. With this earthquake Lyttelton has started anew. There is no longer old Lyttelton and new Lyttelton; we've come together through this. This is what I'm proud of. It's like our community has started from this point.

Rituals and storytelling played an important role strengthening this sense of community.

Community rituals and narratives. Although the media can disseminate narratives, community members also give meaning to events through their shared collective narratives and rituals. In contrast to the tensions around holding Mardi Gras after hurricane Katrina (Weinberger and Wallendorf, 2012), the Lyttelton residents enthusiastically celebrated their survival. The TB played a key role organising rituals of celebration – picnics, children's days, swapping events and parties. The *Lyttelton News* ran narratives of these community affirming events that stood in sharp contrast to most media stories focusing on the devastation.

Immediately following the September earthquake, the TB organised a family-friendly party for Lyttelton. Similarly, the annual street party was scheduled four days following the February quake. Rather than cancel it, the community held a very large party supported with labour of TB members (www.youtube.com/watch?v=jZ2LjBxBDUo). With the tunnel closed to outsiders, this was a private town party; the Navy served hot food and entertainment was provided by local musicians, bands, the radio station, clowns and belly dancers. The community took great pride that they stood undefeated. "So just seeing that community spirit [...] was incredibly positive, and people were so supportive and encouraging" (Evans, 2011, p. 76).

The idea for the "Lyttel Stitches" emerged at the street party and was organised by two TBers to provide a therapeutic space (Tierney *et al.*, 2006). People gathered for solace and kept busy by stitching hearts. They distributed hearts to anyone who walked by inviting people to join them. Residents donated stitching supplies and sustenance. The Lyttel Stitches created hundreds of hearts, as a symbol of resilience, during the six weeks that they gathered (Jefferies, 2012):

People were keen to support us – often baking arrived, one day even a tin of heart-shaped biscuits [...]. Stitching was a healing outlet, we were able to create some beauty in the midst of chaos. When our hands were busy, it became possible to forget for a while the frightening, disorderly, terrifying reality around us. [...] so it was really empowering to be able to give a gift of love (Evans, 2011, pp. 88-89).

The hearts adorned local businesses, stalls at the Farmers Market, and the chain link fences cordoning off damaged buildings. These hearts embellished the chests' of government officials and celebrities. Te Papa, The National Museum of New Zealand, placed hearts in its permanent collection. The eARTtherapy organisation emerged from this effort to help local school children who were experiencing trauma.

Other celebrations were supported by TB labour, including the Pirates of Corsair Bay party, Farmer's Market and TB birthday parties. Also, the TB ran a series of free exchanges (e.g. swapping events to trade DVDs, seeds and toys) because "we also felt very strongly after the earthquake the mood of people was really depressed and there wasn't really that much for lots of people to look forward to" (TB coordinator). The TB also created a winter series of educational classes using the skills of TB members.

Abramowitz (2005) found that when comparing several war-torn communities facing similar stressors, communities were more successful at alleviating stress when they told

stories of resiliency and maintained traditional customs and cultural practices. Throughout these rituals and events, community members told stories of resiliency both to themselves and others. The TB emails continued to stress community resiliency:

This community of ours has always been strong and resilient. We have always worked hard to create a togetherness in our community. The community spirit remains solid and sound. So take that earthquakes! You will not beat us (Email broadcast, 3/6/2011).

Local publications, like the *Shaken Heart* and *The Brigade*, documented individual and community resiliency in the aftermath of the quakes, such as being “a community that ‘rose up’ and conquered a dire situation (Suren, 2012, p. 26)”.

Activating community competencies

Because TB members grew to represent about 20 per cent of the community, many reconstruction projects involved TB members. However, we focus on projects supported with their leadership or by large investments of hours; in total, 3,733 and 2,970 h were invested in community projects in 2011 and 2012, respectively. Children’s services lost their facilities, including a toy library, health services and playgroup. The TB coordinators worked with local organisations finding and establishing new facilities for these services (field notes 3/29/2011). The TB financially supported organisations that were struggling through the development of a weekly garage sale system. They assisted the organic grocer converting to a community-owned cooperative (see Table II – community competencies).

Perhaps TB’s most impactful efforts were organising inter-organisational initiatives. Grow a Little Extra, a new programme that promotes sharing as a lifestyle, works with local gardeners and TB members to grow extra food for the Community House. The TB also worked with the tennis club to restore their facilities given the pressing need for gathering spaces (Browne and Martin, 2007 on the importance of gathering sites). The TB is also part of a multi-stakeholder group developing a disaster emergency plan. TB members interviewed community members mapping vulnerabilities and assets (e.g. doctors, generators, water storage) and 64 h were invested in civil defence training to train volunteers. Also, the TB worked on a number of projects to facilitate food security in the harbour area, especially among at-risk residents.

Two examples of these projects highlight representative features of these TB projects – they promote the value of sharing, continue to build weak and strong social ties and demonstrate the creative use of existing resources. For instance, the TB hosted the first national TBing conference. As a TB coordinator explained, “[...] this is the biggest thing we have ever asked from the members of our Timebank but if we can get through an earthquake we can organise a conference” (email broadcast 10/4/2011). A venue was secured through a trade with the primary school and other TB members, provided lodging, food, entertainment, transportation, organisation and a keynote address; in total, 280 h were provided by 24 members.

Another project, the Petanque Club, was a multi-organisational effort organised by Gap Filler, Volcano Radio and Project Lyttelton; the work was completed by an army of volunteers including many TB members. The closing of the heavily used recreation centre and pool meant few gathering and leisure sites existed. Across a series of working bees, a lot was cleared; a Petanque Court was built and a garden was planted; and tables, benches and a performance stage were constructed. This area is now an important

community gathering site regularly used and maintained by TB members. Investing in visible community resources signals to residents that the community is rebounding and worthy of their commitment (Chamlee-Wright, 2008).

Discussion

We examined an alternative local economy where members traded services. Through thousands of exchanges, the TB built a social and communication network of individual and organisational members. The TB evolved as an effective hub organisation because its network was large and members regularly associated receiving important benefits. The TB also built a sense of community based on shared values of reciprocity and generosity where individuals matter and their practical needs are met. Surplus resources were invested back into the community solving local problems and expanding the capacities of local organisations. During normal times, this TB developed significant communication, social and cultural capacities, as well as community competencies. During extraordinary times, the TB community mobilised capacities during the disaster and recovery strengthening the resiliency of residents and the local town.

We expand upon the conceptual resiliency framework developed by Norris *et al.* (2008). We provide empirical support on the adaptive capacities of an alternative exchange system following a crisis and explore the development of important cultural capacities not fully captured in this framework. Following a crisis, the TB activated its communication capacity to send and receive critical information and resources through its social network of weak and strong ties. Moreover, the flat organisation demonstrated that it was nimble, creative and flexible at problem-solving by leveraging the distributed knowledge and resources of its social network.

The TB was particularly sensitive, identifying and responding to vulnerable individuals (e.g. families in crisis) and groups with special needs (e.g. the elderly and children). The TB facilitated building post-earthquake capacities to support these groups and buffer them from the resulting hardships of the disaster. Relying on an intimate understanding of the local community, it was responsive to local vulnerabilities during the long process of recovery given their deep reservoirs of emotional labour and problem solving competencies. The TB facilitated old and new rituals and narratives of resiliency as the larger community bolstered itself for the hard work of reconstruction.

The TB is an attractive alternative for building community capacities for three primary reasons. First, the TB's marketplace of services is in effect a map of members' and community assets, which is an important part of any community development or emergency programme (Enarson, 2012). Second, the TB identifies and develops a wide range of individual and group capacities that are practiced, which is advantageous given the inherent uncertainty of a crisis and the need for robust and redundant emergency systems (Norris *et al.*, 2008). Third, the TB provides a space of possibility with its radical assumption that everyone's labour is equally valued. This grassroots system provides support for the possibility of spaces "liberated from the traditional top-down conceptions of a dominating marketplace" where people are citizens and neighbours first turning to one another to meet key needs (Shankar *et al.*, 2006, p. 1026).

Ideally, community capacities need to be developed before disasters strike (see Table III for a list of potential capacities to be developed). As Martin *et al.* (2015) explain, it is during the mitigation phase that long-term investments to build community resilience for future disasters are made. Alternative currency markets, like the TB, offer

Capacity	Examples
Communication	Gather contact details for residents, kept in various formats and in multiple locations (e.g. electronic, paper) Engage in regular communication with residents (e.g. emails, newsletter, SMS texts) Foster links to multiple media outlets (e.g. local radio station, local newspaper, Facebook groups) Create central gathering hub for meeting, posting information and distributing supplies Develop community website and use social media to quickly communicate with residents
Social	Train residents on the use of communication devices (e.g. radios) Gather contact details of vulnerable residents and groups (e.g. elderly, people who are socially isolated, people with special medical needs, such as mobility issues or requiring electricity) Create hub organisation with links to both individuals and organisations (e.g. time bank) Identify group of individuals willing to assist at short notice Foster relationships with organisations with at-risk members (e.g. schools, nursing homes)
Cultural	Build relationships with emergency personnel (e.g. medical, fire, police services) Organise regular community events and celebrations to create social bonds, shared history and rituals
Community competency	Map emergency skills (e.g. medical, first aide, building) Map emergency resources (e.g. generators, refrigerators, water storage, mobile defibrillator, medical kits) Organise regular community working bees to practice skills Create system to vet spontaneous volunteers Create community education classes to enable residents to practice and learn skills Train residents in key skills (e.g. logistics, first aid, running a welfare centre) Enlist residents and organisations to create emergency and evacuation plans

Table III.
Potential capacities
to be developed prior
to disaster

a potentially attractive model for ongoing capacity development particularly for small communities or urban neighbourhoods. Cities like San Francisco and Portland are also broadening their emergency preparedness resources to partner with consumer exchange systems (e.g. Bay Share, Airbnb, City Car Share and Yerdle) to build social networks and community capacity (Rich, 2013). Disaster researchers long stress the need for community participation and planning in disaster preparations (UNISDR, 2007).

These findings demonstrate how service trades within this alternative economy built and mobilised vital capacities for the health and well-being of a community. Of particular theoretical importance, dyadic and group service trades built the hundreds of weak and strong ties of which the social network was composed. Putnam (2000) proclaims the demise of community as evidence by declining participation in civic, political, workplace and religious spheres. But rather than regularly participating in a bowling league with the same people, alternative markets like the TB suggest not the collapse of community but its emergence in new and different forms. Aided by technology, community emerges as more fluid and dynamic, assembling and

disassembling, yet still providing solidarity and solace. Thus, as researchers, we need to attune to the new ways that people “do” community. Moreover, as evidenced by our findings, these new ways are not necessarily pale substitutes but may produce the seeds for a more resilient form of community.

One intriguing finding is how this alternative market provided community resources to individuals and organisations in need without creating a culture of charity or a stigma of indebtedness (Henry and Caldwell, 2006). The TB minimises social disparities by valuing all members’ labour, making it more inclusive than many civil organisations that are often based on faith or organised around specific social issues. Instead, the TB assumes an ongoing relationship with its members and that debits and credits balance over time. Future research might drill down to examine the specific processes at play. For example, does this aid integrate at-risk members because of its relative anonymity, its nonmonetary form or the weak and generalized sense of obligation?

Another area of theoretical promise is the clear demonstrated ability of the TB market to innovate; the TB improvised engaging in “thinking in the midst of action” (Irby, 1992, p. 630 as quoted by Moorman and Miner, 1998). This improvisation ranged from creating on-the-fly emotional and damage triage systems to fostering new organisations and community-wide initiatives that endure today. Although it is difficult to untangle all the processes at play within the chaos and disruption of a disaster, these different capacities interact synergistically. The communication system brought together people with diverse views and resources around shared interests such as helping local school children, building a more sustainable food infrastructure or organising emergency plans. In turn, opportunities to celebrate and share narratives of survival increased social ties, increased collective efficacy and the willingness to engage in collective action. These dynamics might be easier to untangle when studying alternative economies during more normal times. Nevertheless, the emergency revealed the potential of the TB market to mobilise across these capacities in the heat of the fire.

Conclusions

The TB consumer exchange system offers a provocative alternative economy. As citizens grow wary of business and distrustful of their government, we are likely to see a continued growth of alternative systems of collaborative consumption (Belk, 2014). Citizens and communities seek greater sustainability and resiliency in the face of increasing global uncertainty. Unlike past social upheavals, the TB model can work well alongside for-profit businesses, as many of the needs being met, such as companionship, caring and community organising, are not met in the private economy. Similarly, the TB can work well alongside civil endeavours filling in where government is unable to meet the needs of its citizens. The TB is an interesting experiment in developing human capacity and its potential is still unfolding.

References

- Abramowitz, S.A. (2005), “The poor have become rich, and the rich have become poor: collective trauma in the Guinean Langouette”, *Social Science and Medicine*, Vol. 61 No. 10, pp. 2106-2118.
- Akaroa Mail (2010), “What we’ve learned, way forward”, *The Lyttelton News*, 8 October.

- Albinsson, P.A. and Y.B. Perera (2012), "Alternative marketplaces in the 21st century: building community through sharing events", *Journal of Consumer Behaviour*, Vol. 11 No. 4, pp. 303-315.
- Aspen Institute (1996), *Measuring Community Capacity: A Workbook-in-progress for Rural Communities*, Aspen Institute Rural Economic Development, Washington, DC.
- Baker, S.M. (2009), "Vulnerability and resilience in natural disasters: a marketing and public policy perspective", *Journal of Public Policy & Marketing*, Vol. 28, pp. 114-123.
- Baker, S.M., Hunt, D.M. and Rittenburg, T.L. (2007), "Consumer vulnerability as a shared experience: tornado recovery process in Wright, WY", *Journal of Public Policy & Marketing*, Vol. 26, pp. 6-19.
- Baker, S.M. and Mason, M. (2012), "Toward a process theory of consumer vulnerability and resilience: illuminating its transformative potential", in Mick, D.G., Pettigrew, S., Pechmann, C. and Ozanne, J.L. (Eds), *Transformative Consumer Research for Personal and Collective Well-being*, Routledge, New York, NY, pp. 543-563.
- Bardhi, F. and Eckhardt, G.M. (2012), "Access-based consumption: the case of car sharing", *Journal of Consumer Research*, Vol. 39 No. 4, pp. 881-898.
- Belk, R.W. (2010), "Sharing", *Journal of Consumer Research*, Vol. 36 (February), pp. 715-734.
- Belk, R.W. (2014), "You are what you can access: sharing and collaborative consumption online", *Journal of Business Research*, Vol. 67 No. 8, pp. 1595-1600.
- Botsman, R. and Rogers, R. (2010), *What's Mine is Yours: The Rise of Collaborative Consumption*, HarperCollins, New York, NY.
- Browne, K. and Martin, G. (2007), *Still Waiting: Life After Katrina*, Documentary Film broadcast by the Public Broadcasting Service.
- Cahn, E.S. (2004), *No More Throw Away People: The Co-Production Imperative*, Essential Books, Washington, DC.
- Cha, A.E. (2012), "Spain's crisis spawns alternative economy that doesn't rely on the euro", *Guardian Weekly*, 4 September.
- Chamlee-Wright, E. (2008), "Signalling effects of commercial and civil society in post-Katrina reconstruction", *International Journal of Social Economics*, Vol. 35 No. 8, pp. 615-626.
- Christchurch Council (2012), *Suburban Centres Programme: Lyttelton Master Plan*, Christchurch City Council.
- Collom, E. (2005), "Community currency in the United States: the social environments in which it emerges and survives", *Environment and Planning A*, Vol. 37 No. 9, pp. 1565-1587.
- Collom, E. (2007), "The motivations, engagement, satisfaction, outcomes, and demographics of Time Bank participants: survey findings from a US system", *International Journal of Community Currency Research*, Vol. 11, pp. 36-83.
- Collom, E., Lasker, J. and Kyriacou, C. (2012), *Equal Time, Equal Value: Community Currencies and Time Bank in the US, Surrey*, Ashgate Publishing, Surrey, UK.
- DeVault, M.L. (1991), *Feeding the Family: The Social Organization of Caring as Gendered Work*, University of Chicago Press, Chicago, IL.
- Dwyer, R.F., Schurr, P.H. and Oh, S. (1987), "Developing buyer-seller relationships", *Journal of Marketing*, Vol. 51 No. 2, pp. 11-27.
- Enarson, E. (2012), *Women Confronting Natural Disaster*, Lynne Rienner, London.

- Etzioni, A. (2009), "A crisis of consumerism", in Hemerijck, A., Knapen, B. and van Doorne, E. (Ed.), *Aftershocks: Economic Crisis and Institutional Choice*, Amsterdam University Press, Amsterdam, pp. 155-162.
- Evans, B. (2011), *The Shaken Heart: Earthquake Stories from the Heart of Lyttelton*, Project Lyttelton, Lyttelton.
- Everingham, W. (2012), "Lyttelton's grassroots response", paper presented at the 11th Annual Emergency Management Conference, Wellington, 28-29 February.
- Follows, S.B. and Jobber, D. (2000), "Environmentally responsible purchase behaviour: a test of a consumer model", *European Journal of Marketing*, Vol. 34 Nos 5/6, pp. 723-746.
- Freathy, P. and Hare, C. (2004), "Retailing in the voluntary sector: the role of the Scottish food co-operatives", *European Journal of Marketing*, Vol. 38 Nos 11/12, pp. 1562-1576.
- Gansky, L. (2010), *The Mesh: Why the Future of Business is Sharing*, Penguin, New York, NY.
- Gibson-Graham, J.K. (2006), *The End of Capitalism (as We Knew It): A Feminist Critique of Political Economy*, University of Minnesota Press.
- Giesler, M. (2006), "Consumer gift systems", *Journal of Consumer Research*, Vol. 33 No. 2, pp. 283-290.
- GNS Science (2011), "6.3 magnitude earthquake part of the aftershock sequence", available at: www.gns.cri.nz/Home/News-and-Events/Media-Releases/earthquake-part-of-aftershock-sequence (accessed 20 October 2012).
- Goodman, R.M., Speers, M.A., McLeroy, K., Fawcett, S., Kegler, M., Parker, E., Smith, S.R., Sterling, T.D. and Wallerstine, N. (1998), "Identifying and defining the dimensions of community capacity to provide a basis for measurement", *Health, Education, and Behavior*, Vol. 25, pp. 258-278.
- Goulding, C. (2005), "Grounded theory, ethnography and phenomenology: a comparative analysis of three qualitative strategies for marketing research", *European Journal of Marketing*, Vol. 39 No. 3, pp. 294-308.
- Gowling, A. (2014), "Alternative currencies gaining popularity in the Netherlands", available at: www.iamexpat.nl/read-and-discuss/expat-page/news/alternative-currencies-gaining-popularity-netherlands (accessed 10 December 2014).
- Granovetter, M. (1973), "The strength of weak ties", *American Journal of Sociology*, Vol. 78, pp. 1360-1379.
- Guerrini, F. (2015), "Are Uber, Airbnb, Taskrabbit adulterating the sharing economy?", *Forbes*, 18 March.
- Guion, D.T., Scammon, D.L. and Borders, A.L. (2007), "Weathering the storm: a social marketing perspective on disaster preparedness and response with lessons from hurricane Katrina", *Journal of Public Policy & Marketing*, Vol. 26 No. 1, pp. 20-32.
- Hall, A. (2009), *PL Our Story*, Project Lyttelton, available at: <http://lyttelton.net.nz/index.php?start=90> (accessed 12 November 2012).
- Henry, P.C. and Caldwell, M. (2006), "Self-empowerment and consumption: consumer remedies for prolonged stigmatization", *European Journal of Marketing*, Vol. 40 Nos 9/10, pp. 1031-1048.
- Irby, D.M. (1992), "How attending physicians make instructional decisions when conducting teaching rounds", *Academic Medicine*, Vol. 67 No. 10, pp. 630-638.
- Jefferies, M. (2012), "Lyttelton: a case study", available at: <http://fleeingvesuvius.org/2012/02/27/lyttelton-a-case-study/> (accessed 9 November 2010).

- Jefferies, M. and Everingham, W. (2006), "Sustainability review: Lyttelton working towards sustainability—a case study", Project Lyttelton, available at: <http://lyttelton.net.nz/home-mainmenu-1/submissions> (accessed 9 November 2012).
- Klein, J.G. and Huang, L. (2007), "After all is lost: meeting the material needs of adolescent disaster survivors", *Journal of Public Policy & Marketing*, Vol. 26 No. 1, pp. 54-59.
- Kozinets, R.V. (2002), "Can consumers escape the market? Emancipatory illuminations from burning man", *Journal of Consumer Research*, Vol. 29 No. 1, pp. 20-38.
- Lee, M., Roux, D., Cherrier, H. and Cova, B. (2011), "Anti-consumption and consumer resistance: concepts, concerns, conflicts and convergence", *European Journal of Marketing*, Vol. 45 Nos 11/12, pp. 1680-1687.
- Liettaer, B. (2004), "Complementary currencies in Japan today: history, originality and relevance", *International Journal of Community Currency Research*, Vol. 8, pp. 1-23.
- Litt, J. (2008), "Getting out or staying put: an African American women's network in evacuation from Katrina", *NWSA Journal*, Vol. 20 No. 3, pp. 32-48.
- Longstaff, P.H. (2005), *Security, Resilience, and Communication in Unpredictable Environments such as Terrorism, Natural Disasters, and Complex Technology*, Program on Information Resources Policy, Cambridge, MA.
- McMillan, D.W. and Chavis, D.M. (1986), "Sense of community: a definition and theory", *Journal of Community Psychology*, Vol. 14 (January), pp. 6-23.
- Martin, I.M., Martin, W.E., Baker, S.M., Scammon, D.L. and Wiener, J. (2015), "Disasters and social marketing", in Stewart, D.W. (Ed.), *Handbook of Persuasion and Social Marketing*, Praeger, Westport, CT, Vol. 3, pp. 77-116.
- Mick, D.G., Pettigrew, S., Pechmann, C. and Ozanne, J.L. (Ed.) (2012), *Transformative Consumer Research for Personal and Collective Well-Being*, Routledge, New York, NY.
- Miranda, V. (2011), "Cooking, caring and volunteering: unpaid work around the world", Working Papers No. 116, OECD Social, Employment and Migration, available at: <http://dx.doi.org/10.1787/5kghrjm8s142-en>
- Moorman, C. and Miner, A.S. (1998), "The convergence of planning and execution: improvisation in new product development", *Journal of Marketing*, Vol. 62 No. 3, pp. 1-20.
- Norris, F.H., Stevens, S.P., Pfefferbaum, B., Wyche, K.F. and Pfefferbaum, R.L. (2008), "Community resilience as a metaphor, theory, set of capacities, and strategy for disaster readiness", *American Journal of Community Psychology*, Vol. 41 Nos 1/2, pp. 127-150.
- Norton, B.L., McLeroy, K.R., Burdine, J.N., Felix, M.R.J. and Dorsey, A.M. (2002), "Community capacity: concept, theory, and methods", in DiClemente, R.J., Crosby, R.A. and Kegler, M.C. (Eds), *Emerging Theories in Health Promotion Practice and Research*, John Wiley & Sons, San Francisco, CA, pp. 194-227.
- Ozanne, L.K. and Ozanne, J.L. (2011), "A child's right to play: the social construction of civic virtues in toy libraries", *Journal of Public Policy & Marketing*, Vol. 30 No. 2, pp. 264-278.
- Pentina, I. and Amos, C. (2011), "The Freegan phenomenon: anti-consumption or consumer resistance?", *European Journal of Marketing*, Vol. 45 Nos 11/12, pp. 1768-1778.
- Philip, H.E., Ozanne, L.K. and Ballantine, P.W. (2015), "Examining temporary disposition and acquisition in peer-to-peer renting", *Journal of Marketing Management*, ahead-of-print, Vol. 31 Nos 11/12, pp. 1310-1332.
- Putnam, R.D. (2000), *Bowling Alone: The Collapse and Revival of American Community*, Simon & Schuster, New York, NY.

- Rich, S. (2013), "San Francisco embraces sharing economy for preparedness", available at: www.emergencymgmt.com/disaster/San-Francisco-Sharing-Economy-Preparedness.html (accessed 10 December 2014).
- Sampson, R.J., Raudenbush, S.W. and Earls, F. (1997), "Neighborhoods and violent crime: a multilevel study of collective efficacy", *Science*, Vol. 277 No. 5328, pp. 918-924.
- Seyfang, G. (2003), "Growing cohesive communities one favour at a time: social exclusion, active citizenship and time banks", *International Journal of Urban and Regional Research*, Vol. 27 No. 3, pp. 699-706.
- Seyfang, G. (2004), "Working outside the box: community currencies, time banks and social inclusion", *Journal of Social Policy*, Vol. 33, pp. 49-71.
- Shankar, A., Cherrier, H. and Canniford, R. (2006), "Consumer empowerment: a Foucauldian interpretation", *European Journal of Marketing*, Vol. 40 Nos 9/10, pp. 1013-1030.
- Shklovski, I., Burke, M., Kiesler, S. and Kraut, R. (2010), "Technology adoption and use in the aftermath of hurricane Katrina in New Orleans", *American Behavioral Scientist*, Vol. 20 No. 10, pp. 1-19.
- Slay, J. (2011), "More than money", Discussion Paper, Nesta.
- Stuff (2013), "Interactive map: population shifts in Christchurch", available at: www.stuff.co.nz/the-press/news/census/9285204/Interactive-map-Population-shifts-in-Christchurch (accessed 30 December 2014).
- Suren, A. (2012), *The Brigade*, Lyttelton Volunteer Fire Brigade, Lyttelton.
- Thompson, C.J. (1997), "Interpreting consumers: a hermeneutical framework for deriving marketing insights from the texts of consumers' consumption stories", *Journal of Consumer Research*, Vol. 34 (November), pp. 438-455.
- Thompson, C.J. and Coskuner-Balli, G. (2007), "Countervailing market responses to corporate co-optation and the ideological recruitment of consumption communities", *Journal of Consumer Research*, Vol. 34 No. 2, pp. 135-152.
- Thornley, L., Ball, J., Signal, L., Lawson-Te Aho, K. and Rawson, E. (2013), "Building community resilience", available at: www.healthychristchurch.org.nz/media/101584/buildingcommunityresilience_march2013.pdf (accessed 10 December 2014).
- Tierney, K., Bevc, C. and Kuligowski, E. (2006), "Metaphors matter: disaster myths, media frames, and their consequences in hurricane Katrina", *The ANNALS of the American Academy of Political and Social Science*, Vol. 604 No. 1, pp. 57-81.
- United Nations International Strategy for Disaster Reduction (UNISDR) (2007), "Words into action: a guide for implementing the Hyogo framework", available at: www.unisdr.org/files/594_10382.pdf (accessed 31 October 2012).
- Weinberger, M.F. and Wallendorf, M. (2012), "Intracommunity gifting at the intersection of contemporary moral and market economies", *Journal of Consumer Research*, Vol. 9 No. 1, pp. 74-92.

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