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KEY FACTORS FOR THE DURABILITY OF COMMUNITY CURRENCIES: AN NPO MANAGEMENT PERSPECTIVE

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ABSTRACT

This paper investigates key factors for the durability of community currencies (CCs) by conducting a comparative dual case study on two long lived CCs in Japan. CCs both in Japan and abroad have exhibited effectiveness in developing social capital however the literature reveals a lack of academic research on the management or operation of CCs. Therefore this paper aims to identify key factors for the durability of CCs that could contribute to the development of a best practices model for social entrepreneurs. A secondary purpose is to add to the English body of knowledge on Japanese CC systems. Two contrasting Japanese CC organizations that have operated for more than a decade are investigated in depth. This entailed gathering both qualitative and quantitative data from both organizations and analyzing the data within a Nonprofit Organization (NPO) management framework. The results reveal five key durability factors: creating value and utility for stakeholders, appealing to the local solidarity of businesses, the receptiveness of businesses towards CCs, partnering with a corporation or larger institution and solid organizational structure. The main implication of these factors is that successfully engaging external stakeholders is crucial to sustaining the operations of a CC organization.

KEYWORDS

Community currency, durability factors, stakeholders, best practices framework.

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1. INTRODUCTION

1.1 The current state of Japanese CCs

Japan has appreciable community currency (CC) activity despite a decline in the number of CCs since the boom period of the early 2000s. According to Izumi and Nakazato, until December 2016, there were around 204 actively operating CCs in Japan (2017, p.42). According to their data, among the CC organizations created in Japan between 1999 - 2016, around 20% (79/389) have continued operating for more than a decade. Furthermore, the 2016 survey reveals that 60.8% of Japanese CCs are run by NPOs or civic groups (2017, p.43).

Kobayashi, Miyazaki and Yoshida (2017) take a different approach, placing some focus on the number of new CC organizations created each year. According to their data there has been a dramatic decrease in the number of new CCs created each year since the CC boom of the early 2000s. Within the last 8 years the number of new CCs launched each year averages around 15. This is down from highs such as over 120 created in 2002 and around 90 created in 2005 (Kobayashi, Miyazaki and Yoshida, 2017, p.4).

1.2 Research focus

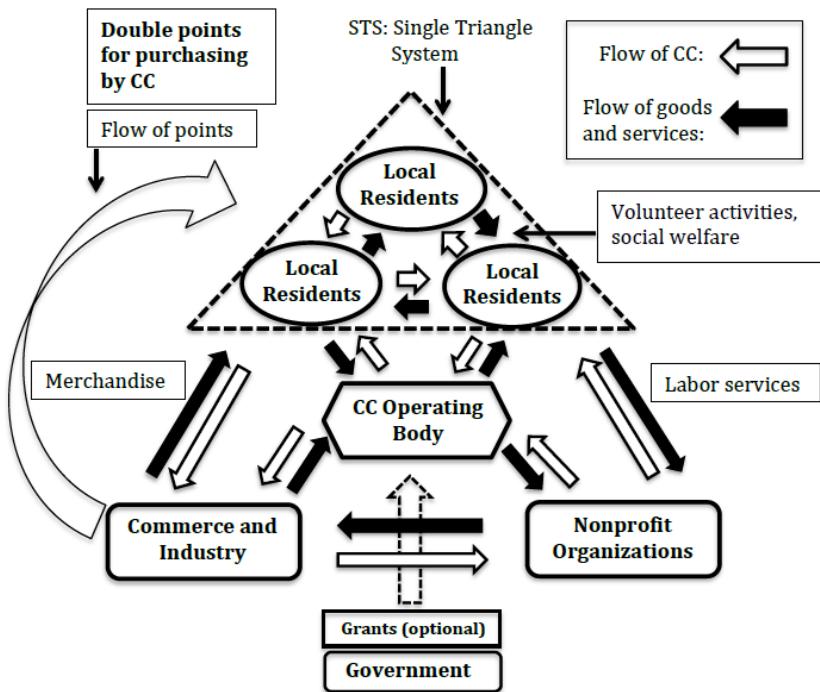
Miyazaki and Kurita have divided the development of Japan's wide variety of CCs into 3 phases of evolution from the 1970s to the present day (Kurita & Miyazaki, 2018):

1. Development of the reciprocal and home economy realm (1970s – early 2000s)
2. Integration between the reciprocal and market realms (early 2000s –)
3. Recent developments (mid-2000s – present)

This paper focuses on CCs that fall into the 2nd of the 3 phases. These 2nd phase Japanese CCs came into being partly to overcome the shortcomings and limited circulation of the first phase CCs (such as Eco-money), which were not linked to market activity. The inclusion of the business community provides more places to spend the currency, which encourages smoother and broader circulation. The two CCs investigated in this paper bear some similarity to European social currencies such as Samendoen (Batterink, Kampers & Van der Veer, 2017) in that they seek to shape social change through engagement and affiliation with the business community. This type of CC was chosen because of its potential to encourage greater local economic and social development than Japan's 1st phase CCs.

The 2 CCs examined in this paper have circulation mechanisms that resemble the Double Triangle System (DTS) proposed by Nishibe (Kichiji & Nishibe, 2008, p.270).

Figure 1: Double Triangle system



Source: Kichiji & Nishibe, 2008, p.270.

The double triangle circulation mechanism is depicted in fig. 1. A key aspect of a DTS is that it “mediates commercial transactions of goods and services offered by businesses and industries, the municipality, civil groups, and NPOs [...] to forge a complementary relationship between commercial and non-commercial transactions in an integrated cycle of CC” (Kichiji and Nishibe, 2008, p.269). In a complete DTS, local residents can earn double points when purchasing the CC with yen and then using the CC at participating businesses. The accumulated points amount to more purchasing power, which incentivizes the use of the CC. However, this point accumulation aspect of the DTS is not present in the 2 CCs investigated in this paper.

1.3 CCs and Social Capital

The development of social capital is one area where CCs have shown measurable efficacy. The findings from Richley, 2007; Wheatley, Younie, Alajlan, McFarlane, 2011; Izumi and Nakazato, 2013; Nakazato and Hiramoto, 2012 all support the idea that CCs play a role in developing social support and social capital. Nishide (2009, p.1) describes social capital as “social relationships such as trust, norms and networks that facilitate cooperation among members of a community.” The level of social capital is considered as an important measurement in the development of a community or society. In a World Bank paper on the measurement of social capital it is stated that, “A range of social problems – crime, health, poverty, unemployment – have been linked empirically to a community’s endowment of social capital (or lack thereof)” (Grootaert, Narayan, Woolcock & Nyhan-Jones, 2003, p.3). This link between CCs and the development of social capital is a key point regarding the utility and significance of CCs.

2. RESEARCH PURPOSE

Despite the above-mentioned benefits of CCs, little research has been done on the managerial and operational aspects of CCs in general (Calvo & Morales, 2014, p.60). This makes it unclear what managerial or operational factors separate long-lived CCs from the short-lived ones. For this reason the primary purpose of this paper is to identify key factors for the long-term durability of CCs, which could contribute to the development of a best practices model for social entrepreneurs.

A secondary purpose of this paper is to contribute to the English body of knowledge on Japanese CC systems by examining two CC organizations that are relatively unknown outside of Japan.

3. METHODOLOGY

3.1 Dual Case study

In order to uncover key durability factors, a comparative research strategy in the form of a dual case study was employed. According to Bryman (2012, p.72), social phenomena are better understood when compared in relation to two or more meaningfully contrasting cases. For this reason two contrasting CC organizations, Earthday Money (EM) and Atom Currency (AC), were selected for examination. EM and AC contrast in their currency issuing mechanisms (digital currency vs. paper currency), their access to resources and organizational size. A final important contrast is that after about 12 years of circulating, EM steadily declined and no longer circulates, whereas AC still circulates and has expanded to six branches nationally on the strength of their model. Both organizations are registered as NPOs and their currency circulation connects volunteer or community events with the local business community. Furthermore, both organizations have operated for more than 10 years, making them appropriate cases for the study of durability in the field of CCs.

The dual case study entailed examining these two organizations in depth using similar data collection methods and comparative analysis within the same NPO management framework. In accordance with case study methodology, multiple data collection methods (both qualitative and quantitative) were used. An attempt was made to make the data collection from both organizations as uniform as possible for effective comparison. The corresponding data collection methods can be seen in table 1.

The distinctive differences between the two organizations necessitated a differentiation of further data collection. The main distinction is that, in 2015, AC published a book titled: 'Designing your community with Atom Currency: A future where people are connected to their town.' The book is 250 pages and extensively covers AC's philosophy, organizational structure, history, circulation mechanism and details relating to each branch. This provided a firm basis for the investigation into AC's management mechanisms. In the light of this plethora of information surrounding AC, further data was sought on EM. This was gathered through the following means:

- Extended and more in depth interviews with organizational leaders.
- A short survey on NPOs participating in EM's network (see appendix 4): 22 surveys were sent out with 11 responses and 7 completed surveys. 4 of the responding NPOs stated that their EM liaison was no longer an employee and therefore, they could not complete the survey.

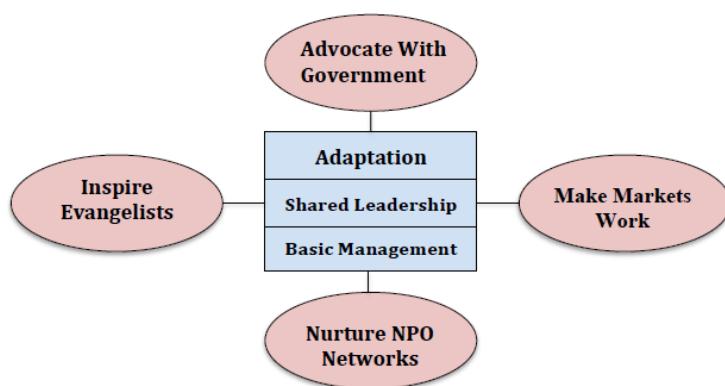
Given that EM is a substantially smaller organization than AC, this extra data and the additional interview time with the EM leadership provided more balance to the data collection.

Earthday Money		Atom Currency
Interviews With Organizational Leaders		
2 qualitative interviews with the EM co-founder. The total interview time was 1 hour and 58 minutes. First interview: 26 th of March 2016. Follow-up interview: 24 th of January 2017.		A 30-minute semi-structured interview with two AC central executive committee members on March 22 nd , 2017. The interview was preceded by 2 short e-mail questionnaires.
1 qualitative interview with an EM director on June 8 th , 2017. The interview time was 58 minutes.		A 15-minute impromptu qualitative interview with an AC committee member in Niiza City on the 19 th of October 2016.
Observation Of Activities		
Attendance and observation of a monthly EM related event in Yoyogi Park, Tokyo on the 27 th March 2016.		Attendance and participation in an AC event in Niiza city on the 19 th October 2016.
Secondary Data From A Comparative Research Report On Both Organizations		
A comparative survey by the City Planning Institute of Japan focusing on both AC and EM and their relationship to local businesses.		
Secondary Data From The Websites Of Both Organizations		
http://www.earthdaymoney.org/		http://atom-community.jp/
Quantitative Data On Currency Circulation		
A sample of 333 (out of 5,955) individual EM digital currency accounts showing the transactional behavior of EM users from 2006 to 2016. Refer to appendix 2.		Quantitative data on currency distribution and usage at the Waseda/Takadanobaba branch from 2004 to 2016. The data is taken from AC's yearly reports. Refer to appendix 3.

Table 1: Corresponding data collection methods for both organizations.

3.2 NPO Analysis Framework

An NPO management framework was used to guide the data collection. It facilitated the categorization and analysis of the data. The framework was synthesized in a 2012 book titled 'Forces for Good'. The book is the result of a two-year investigation of 12 highly impactful and successful NPOs. The results of the investigation provide seven areas of operation (6 practices in addition to basic management) where successful NPOs excel. The 'Forces for Good' framework is presented in Fig. 2. Both EM and AC are NPOs aiming to make social impact. As such, it was thought that this was an appropriate framework within which to analyse them. The framework consists of 3 areas related to internal operation (highlighted in blue) and 4 areas related to external collaboration or partnership (highlighted in pink).

Figure 2: Forces for Good framework.

Source: adapted from Crutchfield and McLeod Grant (2012, p.40).

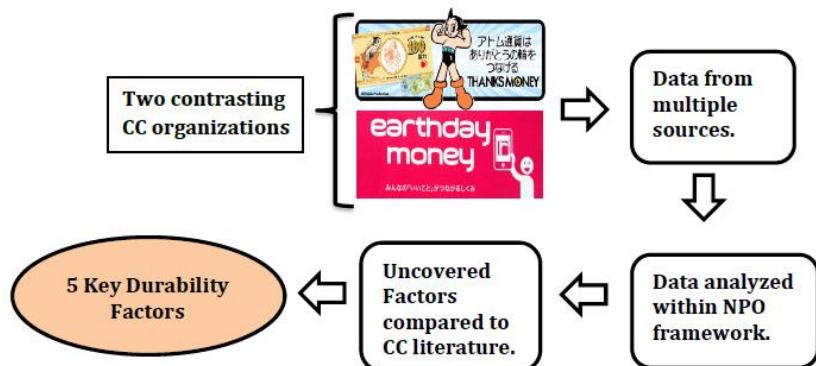
The collected data was categorized into each of the 7 areas of enquiry. The analysis of data in each area was based on three questions:

- Did operations in this area contribute to AC's or EM's durability?

- Did a deficiency in this area contribute to EM's decline?
- What were the key factors that influenced decline or durability in this area?

In the final step, the uncovered durability factors were considered in relation to some examples from CC literature to assess their broader validity. This was done to moderate the inherent limitations of case study research, which doesn't allow for the generalization of findings. Factors lacking in broader applicability or validity were eliminated, leaving 5 key durability factors which are explained in chapter 6. The summary of the methodology can be seen in fig. 3.

Figure 3: Methodology Summary.

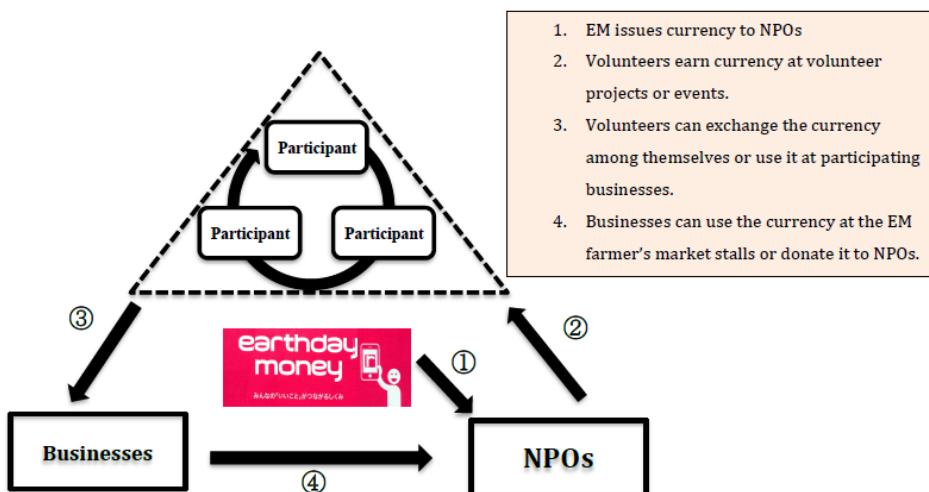


4. RESEARCH SITES

4.1 Earthday Money

EM was founded on October 23rd, 2001, as a specified nonprofit organization to promote volunteering in Shibuya. Individuals who wished to take part in the EM system could sign up to volunteer for one of 27 NPO projects listed on their website. Upon completing their participation, they received the currency, which could then be spent at one of around 150 participating stores in Shibuya. A basic representation of EM's circulation can be seen in fig. 4.

Figure 4: Earthday Money Circulation System.



Source: adapted by the author from EM promotional materials.

The currency was at parity (¥500 = 500 r) but not exchangeable with Japanese yen. It was effectively used as a coupon or voucher. EM was initially issued only as a paper currency but in 2006 the organization made the switch to a digital currency (transacted via cell phones) and discontinued issuing paper currency. EM's co-founder states

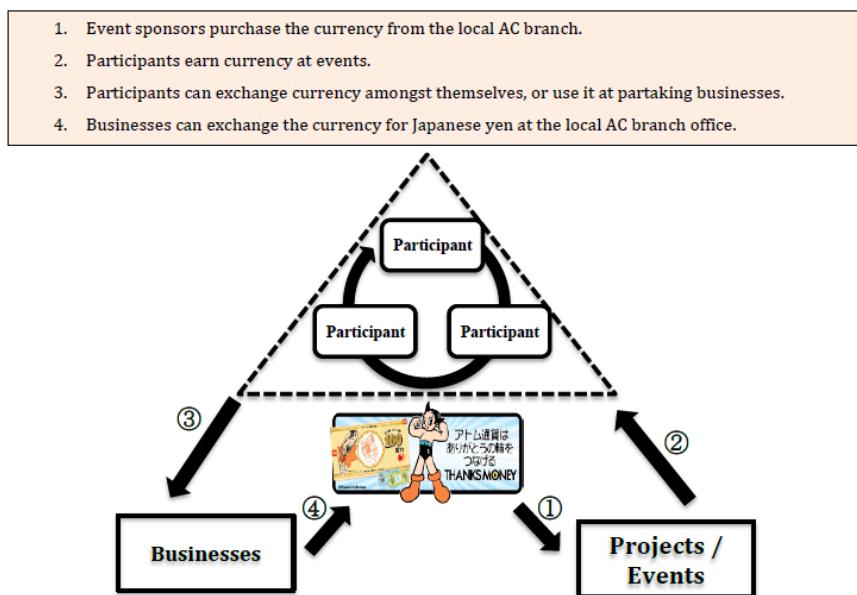
that the currency is not active now due to problems with the digital currency's technological platform (EM co-founder, personal communication, March 26, 2016).

4.2 Atom Currency

AC was launched on the 7th of April 2004 in the districts of Waseda and Takadanobaba in Tokyo. It is a nonprofit organization founded with the purpose of engaging in activities that contribute to society (AC executive committee members, personal communication, May 22, 2017). It is run by a central executive committee, which serves as a central administration point for its 6 branches. The currency is denominated as Bariki (馬力) meaning horse-power and is equivalent to Japanese yen in value (500馬力 = ¥500). Participating businesses can also exchange it for Japanese yen. Until 2008, AC only circulated in their Waseda/Takadanobaba branch. In 2009 AC expanded nationally and, according to its website, it currently has 6 branches around Japan. Atom Currency has two primary goals:

- To promote volunteer and charity activities within the area.
- To base this community revitalization around local businesses.

Figure 5: AC circulation system.



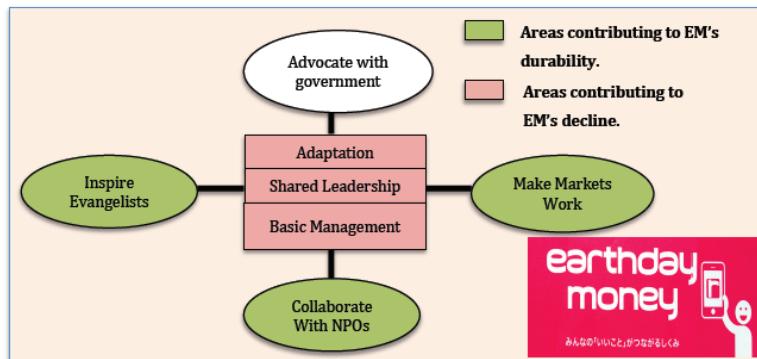
Source: adapted from AC's published book, Atom Currency Executive Committee, 2015, p.8.

The focus of this paper is on durability factors. For this reason the bulk of the analysis on AC will focus on the original branch in Waseda/Takadanobaba as it has been in operation since 2004.

5. RESULTS

5.1 NPO framework analysis summary

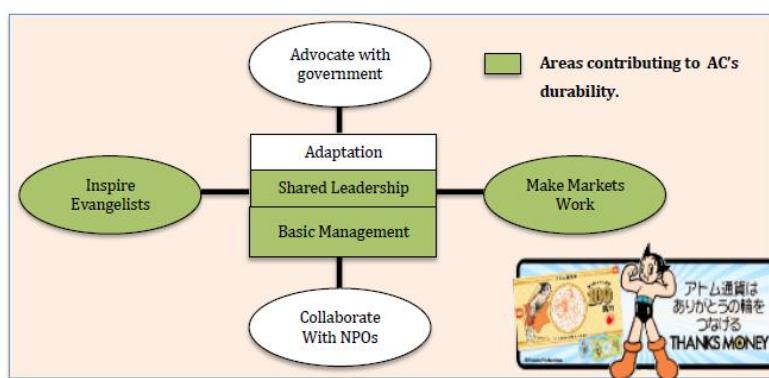
Fig. 6 and fig. 7 show a summary of the NPO framework analysis for EM and AC. A more comprehensive description for each area of analysis and the corresponding durability and decline factors can be seen in appendix 1.

Figure 6: Areas of management contributing EM's relative durability and decline.

5.1.1 Earthday Money analysis summary

A glance at EM's NPO framework summary reveals that the main areas contributing to EM's decline were related to internal management, which included a lack of funding and resources as well as a loose organizational structure. The lack of funding meant that they were unable to resolve issues that arose with their digital currency system. The issues were related to fast developments in cell phone and smartphone technology. According to EM's co-founder, the printing and delivering of paper money to distributing NPOs was quite costly. However, while the digital currency made for more convenient issuance and handling, the technological maintenance requirements proved to be equally, if not more problematic. As a pioneer in the field of digital CCs, EM's case is illustrative of the necessity of providing long term IT support to adapt to the rapid pace of technological change.

Regarding their infrastructure, EM's operations were mainly centred on the two co-founders. As a result, the organization floundered once they were unable to sustain their involvement after more than a decade of committed effort. EM's director also states that the organizational structure was quite loose due to the leadership meeting infrequently. The digital currency data suggests that less than 50% of the digital currency was actually spent after earning it. In addition to this, EM's co-founder revealed that the paper currency tended to accumulate at some businesses. This indicates that EM's circulation was not very smooth, but due to insufficient data this finding is inconclusive. Overall, it was the ability of the EM team to work well outside the boundary of their organization, including their collaboration with local businesses and NPOs that extended the longevity of their organization, despite its lack of resources and internal organization.

Figure 7: Areas of management contributing to AC's durability.

5.1.2 Atom Currency NPO framework analysis summary

AC strikes more of a balance between internal management and external collaborations. Regarding their internal management, AC has good infrastructure and especially effective shared leadership, with branches taking on much of the responsibility. AC also collaborates well with the business community. The quantitative data on the issuance and use of the currency in the home branch of Waseda/Takadanobaba shows slow yet steady growth in the amount of currency issued and the percentage of issued currency spent in stores. This kind of steady growth

over 13 years is a strong indicator of stable management. The one question mark hanging over the organization is their ability to successfully expand their model. Since expanding nationally in 2009, 6 out of 13 branches have closed down and 1 is currently on hiatus. AC acknowledges these problems and, according to the executive committee members, they are currently reforming their organizational systems. The success of these new reforms remains to be seen as they are currently being implemented.

6. FIVE DURABILITY FACTORS

The five key durability factors that were uncovered are:

- Creating value and utility for stakeholders (value creation)
- Engaging with the local solidarity of businesses.
- The receptiveness of business to the CC concept.
- Partnership with a corporation or larger institution.
- Well-defined organizational structure.

The details of each durability factor are discussed below and then summarized in table 3.

6.1 Creating value and utility for stakeholders (value creation)

6.1.1 Atom Currency

AC designed their currency to benefit local businesses by connecting businesses to a network of community revitalization efforts and giving them an opportunity to align with a famous brand (Atom Boy). Businesses accepting AC can also realize a tiny profit by exchanging AC for Japanese yen. Thus, cooperating organizations, recognizing the value and utility offered by AC, provide the human resources needed to operate AC Branches in their area. These cooperating organizations (as seen in table 2) include chambers of commerce, shopping street associations and local municipalities amongst others. According to AC's published book: A branch committee (which consists of volunteers from cooperating organizations) "is completely responsible for the local distribution of Atom Currency, money management and problem solving in their area." (Atom Currency Executive Committee, 2015, p.23). In addition to administering the distribution and redemption of the currency, branch committees also issue yearly reports on all aspects related to branch management. All of this is done on a volunteering or pro bono basis (AC executive committee members, personal communication, May 22, 2017). The duties and tasks that these branch committee volunteers perform in running an AC branch, is simply incorporated into their daily workload at their home organizations. Thus, in exchange for the benefits of having an AC branch in their area, these organizations provide the crucial human resources necessary to operate the branch effectively.

Figure 8: Atom Currency organizational structure.



Source: Atom Currency Executive Committee, 2015, p.26.

6.1.2 Earthday Money

EM was created to promote volunteerism and support NPO's (EM co-founder, personal communication, January 24, 2017) and, in return, NPOs promoted and distributed the currency. There is evidence that suggests that EM was effective in attracting volunteers to NPO projects. 4 out of 7 surveyed NPOs indicated that their volunteer numbers increased slightly when they joined the EM network – see appendix 4. Therefore, because the EM currency could potentially work as a tool for attracting volunteers, the participating NPOs distributed and promoted the currency. As can be seen in fig.4, the distribution of the currency by participating NPOs was a crucial point in EM's circulation.

6.1.3 Value creation summary

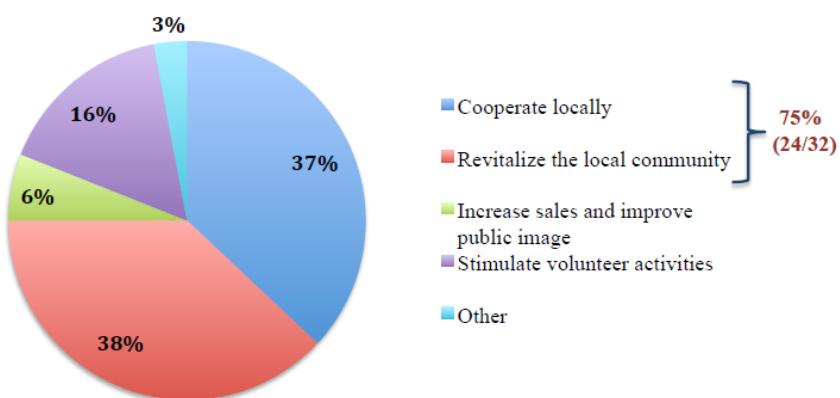
Both EM and AC designed their currencies to create value for their chief stakeholders. In EM's case, it allowed them to successfully promote and distribute their currency despite inefficient internal management. In AC's case, this strategy procures the human resources of cooperating organizations for the administration, distribution and promotion of their currency at no cost. Furthermore, in AC's circumstance, the utility provided to stakeholders incentivizes them to take on responsibility, which leads to effective shared leadership between the executive and branch committees.

6.2 Engaging with the local solidarity of businesses

Both organizations appealed to local stores' sense of solidarity with the community as motivation for joining the network. According to EM's co-founder, in addition to presenting a good public image, the chief motivation for local businesses joining EM was to engage with local activities and not to increase sales or profit (EM co-founder, personal communication, January 24, 2017). He raised this point in both interviews, emphasizing that EM was viewed as a non-commercial entity by these businesses. The findings of the City Planning Institute of Japan's survey in 2011 seem to align with this opinion. 23 CC participating stores (10 EM, 13 AC) were queried on their motivation for joining a CC network. 75% (24/32) of the responses were related to local solidarity. This data can be seen in fig. 9.

EM's currency was not exchangeable for Japanese yen and AC participating stores make a tiny profit - on average around ¥ 14,000 annual profit per store in 2016. This supports the notion that participating stores were more motivated by a sense of solidarity with the local community than the opportunity to increase sales or profit. Increasing the number of businesses in a CC network increases both the value and utility of the currency. Actively engaging with the local solidarity of businesses could be one way to attract more businesses to a CC network. To this end it should be viewed as a key durability factor, particularly in DTS CC systems that aim to link community revitalization with local business interests.

Figure 9: EM and AC participating stores motivation for joining a CC network.



Source: adapted from Kudo & Murota (2011, p.129).

6.3 Receptiveness of businesses to the CC concept

In the same 2011 survey of the City Planning Institute of Japan, 22 out of 23 AC and EM participating stores expressed a willingness to continue being part of their respective CC networks. These businesses also indicated an interest in expanding the usage, utility and the number of participating businesses in both CC networks (Kudo & Murota, 2011, p.129). This indicates that these businesses were quite receptive to the CC concept.

The ratio of the type of organizations affiliated with AC is further evidence of this receptiveness from the business community. Of the 30 organizations represented on AC executive and branch committees across Japan, 18 (60%) are directly related to the business community as seen in table 2. This relationship with the business community is at the heart of AC's success. It can also be speculated that a DTS CC works very similarly to a shopping coupon, easing its adoption by businesses. The relative success of other DTS CCs in gaining participating businesses supports this notion. The Toda Oar in Saitama has 106 participating stores listed and the Mu-Chu currency in Mu-sashino City had 140 participating stores listed in 2010 (Kurita, Miyazaki & Nishibe, 2012, p.139). As previously mentioned, business participation adds value and utility to a CC network. For this reason, the potential receptiveness of businesses to the CC concept is an important key factor to be taken into consideration.

ATOM CURRENCY COOPERATING ORGANIZATIONS	
Chambers of Commerce	3
Shopping Street associations	15
Civic Groups	3
Non-profit organizations	2
Municipal bodies	5
For-profit organization (Tezuka Productions)	1
Total	30

Business
community
affiliates.

Table 2: Atom Currency cooperating organizations.

Source: adapted from data in Atom Currency's 2017 report.

6.4 Partnership with a corporation or larger institution

6.4.1 Atom Currency

AC's partnership with the entertainment company Tezuka Productions is undoubtedly the biggest factor for its continued durability. One of AC's first executive committee members, a Mr. Matsuda, originally approached the Takadanobaba Western Shopping District Association with the idea to start a CC in the area. His proposal was not accepted. Later in the same year when Tezuka Productions approached the same shopping district association with their own proposal to start a CC in the area, it was accepted (Atom Currency Executive Committee, 2015, p.232). This anecdote reveals the obvious branding and credibility that Tezuka productions brings to AC. Tezuka Productions provides the following support (AC executive committee members, personal communication, May 22, 2017):

- 99% discount on the Astro Boy character-licensing fee. This means that branches only have to pay around ¥300,000 a year for use of the character, instead of around ¥30,000,000. This massive discount is a significant advantage as Astro Boy is an internationally recognized brand.
- Marketing and advertising support (non-monetary).
- Office and administration support.
- Advice with managing events.

This support has provided AC with strong branding and helped them to build effective partnerships with shopping street associations. The Atom Boy brand also drives each branch's income model as, unlike EM, event promoters have to purchase the currency. Most interestingly, AC provides an example of a CC being used as a tool for a company's corporate social responsibility efforts.

6.4.2 Earthday Money

Both EM's co-founder and director expressed the necessity of partnerships to maintain a CC. EM's co-founder believes that, for a CC to be successful, it must be combined with an existing business due to the maintenance requirements (EM co-founder, personal communication, March 26, 2016). EM's director believes that it is almost impossible to run a CC as a business by itself (EM director, personal communication, June 9, 2017). Their opinions, together with AC's success with Tezuka Productions, highlight the value of a partnership with a larger institution.

6.4.3 CC literature

Partnering with corporations or larger institutions is a common strategy for many long-lived CCs in Japan and abroad. The Toda Oar in Saitama prefecture has circulated since 2003 and has an association with the local municipality (Kurita, Yoshida and Miyazaki, 2015). The Calgary Dollar in Canada has been supported by the Calgary municipal government since 2000 (Wheatley, Younie, Alajlan, McFarlane, 2011). Finally, the Berkshares CC, based in Massachusetts in America, has circulated since 2006 with the support of five local banks (Nihei & O'Connor, 2013, p.47). Thus, there is strong supplementary evidence from CC literature showing how vital partnerships with supportive institutions are to a CC organization's long-term durability.

6.5 Well defined organizational structure

This is a basic requirement for most businesses, nonprofit or otherwise, and its importance to sustaining an organization is evident. It continues to contribute to AC's durability and its lack contributed to EM's decline. At the very least it should provide a clear division of responsibilities, which should include engaging with external stakeholders and regulated organizational processes. This is undoubtedly a key factor for durability.

DURABILITY FACTOR	FINDINGS
1. Creating value and utility for stakeholders.	The value and utility offered by both CCs incentivized their chief stakeholders to support and facilitate their continued operation.
2. Engaging with the local solidarity of businesses.	Both CCs successfully appealed to the local solidarity of businesses to attract them to the currency network.
3. Receptiveness of businesses to the CC concept.	Participating businesses in both CC networks displayed an eagerness to continue being part of their CC networks, indicating a compatibility for DTS CCs with businesses.
4. Partnership with a corporation or larger institution.	AC's partnership with a large company is the biggest factor for its durability. EM's lack of a supportive partnership was a key point in its decline.
5. Well defined organizational structure.	This factor contributed to AC's durability and its lack contributed to EM's decline.

Table 3: Durability factor summary

7. CONCLUSION

7.1 Limitations

7.1.1 Incomplete Earthday Money Data

Unlike AC, EM does not have a published book or yearly reports. It was also in decline by the time this study took place. This situation affected two important points of data:

- Data on participating NPOs: Five participating NPOs no longer exist and four others responded that the EM liaison was no longer employed there and consequently they could not complete the survey. Thus 22 surveys were sent out, 11 were responded to and only 7 were completed. Had EM still been active, the response might have been higher, providing more definitive data on EM's relationship with their NPO network.

- Data on EM's currency circulation: There is no data on EM's paper currency circulation, which was the only means of currency issuance prior to 2006. Nonetheless, the survey responses imply that more paper currency was issued than digital currency and based on observation the paper currency circulation continued long after 2006. However, due to insufficient data it is not possible to make definitive conclusions regarding EM's circulation.

7.1.2 Limitations of case study research

The chief limitation of any case study research paper is the inability to generalize the results. This paper is no exception despite assessing the uncovered factors against examples from CC literature. It is therefore recommended that a broader comparative study involving a larger set of CC organizations take place; in order to clarify the key factors separating long-lived and short-lived CCs.

7.2 Implications of this research

7.2.1 External stakeholders are vital

Four of the five key durability factors are related to the engagement of external stakeholders. EM's ability to sustain their activities despite inefficient internal management was due to effective engagement with external stakeholders (NPOs and businesses). While this implication cannot be generalized, it does run parallel to the conclusions of the investigators of 'Forces for Good'. Indeed, they found that the success of an NPO "has more to do with how nonprofits work outside the boundaries of their organizations than how they manage their internal operations." (Crutchfield et.al, 2012, p.35). This was certainly true for the two CCs investigated in this paper and bears some consideration for other CC systems.

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Personal Interviews

AC executive committee members. (2017) Personal interview with Jeremy September, March 22 (Japanese)

EM co-founder. (2016) Personal interview with Jeremy September, March 26

EM co-founder. (2017) Personal interview with Jeremy September, January 24

AC Niiza branch committee member. (2016) Personal interview with Jeremy September, November 13 (Japanese)

EM director. (2017). Skype interview with Jeremy September, June 8 (Japanese)

APPENDIX 1: SUMMARY OF NPO FRAMEWORK ANALYSIS

ATOM CURRENCY	EARTHDAY MONEY	
1. BASIC MANAGEMENT: The focus here is on fundraising ability, infrastructure and investment in human resources.	AC has a well-defined organizational structure and division of labor. Each branch committee (consisting of representatives from participating organizations) issues an annual report detailing their activities. The branch committee members are all volunteers. AC's branding also makes it attractive to purchase the currency for distribution at events, which is an important part of their income model. Factors: Value creation / clear organizational structure / Partnership with a corporation	EM lacked reliable sources of financial support and clear organizational structure. Most of the responsibility for operations rested on the two co-founders. The lack of funding resulted in the eventual failure of their digital currency platform, as they could not afford to pay for the expertise required to overhaul the system. Factors: Lack of funding and resources / Lack of organizational structure / Dedication of the two co-founders
2. ADAPTABILITY: The focus here is on the ability to perceive and adapt to changes in the environment.	AC is currently in the process of adapting to difficulties in national expansion. The organization has not yet conclusively demonstrated their ability to adapt to changes in the environment.	EM's failure to adapt when their digital platform malfunctioned resulted from a lack of resources and funding. Factors: Lack of funding and resources.
3. SHARED LEADERSHIP: The focus here is on the distribution of leadership in an organization and the extent to which others are empowered to lead.	The AC central executive committee delegates much leadership and responsibility to the volunteers on the branch committees. The representatives on these branch committees are motivated to take leadership responsibility on an AC committee because of the value and utility the currency gives to their organizations Factor: Value creation	EM lacked the organizational structure and processes needed to effectively share leadership and responsibility. When the original co-founders were no longer invested in the organization, activities ground to a halt. Factors: Lack of organizational structure.
4. MAKE MARKETS WORK: The focus here is on the ability to garner resources through interaction with for-profit businesses.	An essential element in AC's durability is their partnership with Tezuka productions. Other important elements are their relationships with local shopping district associations and local chambers of commerce for whom they create value. Factors: Partnership with a corporation / Value creation / The solidarity of businesses with the community / The receptiveness of business to the CC concept.	EM was successful in constructing a network of around 150 participating businesses that accepted their currency despite gaining no direct profit from the network. Their activities in running a separate business (a farmers market) also contributed temporarily to their relative longevity. Factors: The solidarity of businesses with the community / The receptiveness of business to the CC concept.

5. INSPIRING EVANGELISTS: This refers to individuals who are inspired to help the organization to increase its effectiveness and influence.

A key evangelist for AC was Mr. Junichiro Yasui. He was chairman of the Waseda Shopping District and also a representative of the Nationwide Shopping Street Planning Executive Committee. Mr. Yasui believes very strongly that AC creates value and utility for his shopping street organizations. He was instrumental in AC's early success and it's later nationwide expansion.	EM inspired some 'evangelists' to increase the organization's technological effectiveness through pro-bono website and application design. EM's website was instrumental in connecting to participating NPOs and currency users. These 'evangelists' came into contact with the EM through one of EM's co-founders, who had worked in the advertising field.
Factor: Value creation	Factor: Co-founder's network resources.
6. COLLABORATE WITH NPOs: The focus here is on sharing wealth, expertise, talent, and power with other NPOs.	
AC collaborates mainly with shopping street associations and chambers of commerce and only rarely with other NPOs.	Collaborating with fellow NPOs was central to EM's early success. They did this by designing their currency to create value and utility for their NPO stakeholders.
Factor: Value creation	
7. ADVOCATE WITH GOVERNMENT: The focus here is on policy advocacy with the government	
AC did no advocating with government.	EM did no advocating with government.

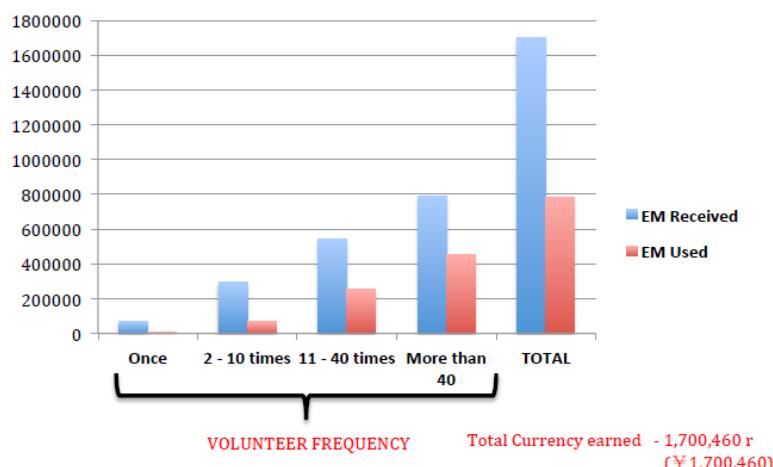
APPENDIX 2: SUMMARY OF NPO FRAMEWORK ANALYSIS

Table 4: Volunteer frequency table.

Volunteer Frequency	Percentage of the sample population
Only once	37.8% (126 users)
2 -10 times	42.7% (142 users)
11- 40 times	13.5% (45 users)
More than 40 times	6% (20 users)
Total	100% (333 users)

Source: created by author from digital account sample data.

Figure 10: Ratio between digital currency earned and spent.



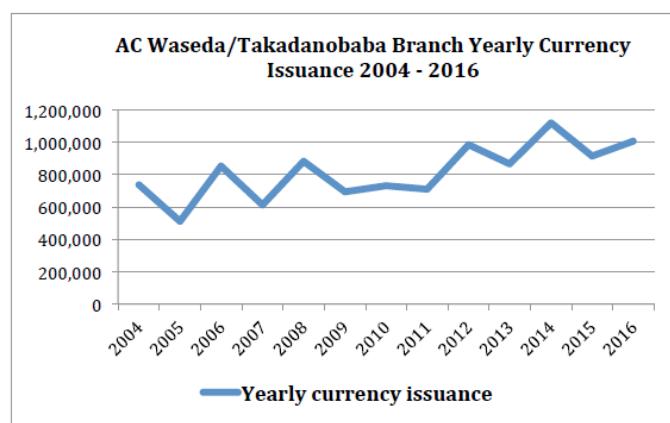
Source: created by author from digital account sample data.

Table 5: Average, Median and Mode values of the 333 accounts.

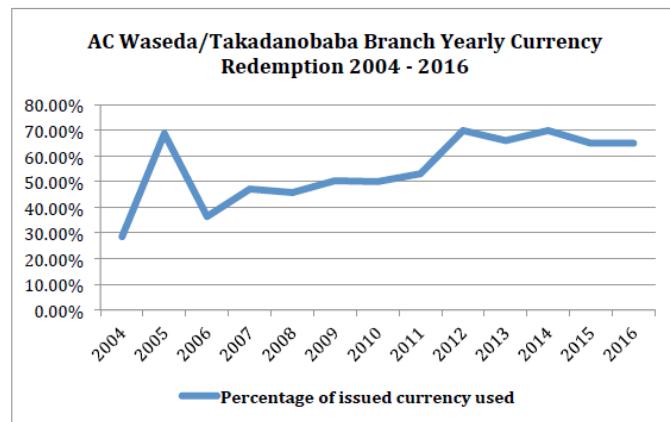
	Currency Earned	Currency Spent	Number of times volunteered	Number of times spent
MEAN	5106.49	2357.74	8.78	4.90
MEDIAN	1000	0	2	0
MODE	500	0	1	0

Source: created by author from digital account sample data.

APPENDIX 3: ATOM CURRENCY: CURRENCY ISSUANCE AND USAGE

Figure 11: Waseda/Takadanobaba branch yearly currency issuance.

Source: created by author from AC yearly reports.

Figure 12: Waseda/Takadanobaba yearly currency usage.

Source: created by author from AC yearly reports.

APPENDIX 4: EARTHDAY MONEY PARTICIPATING NPO SURVEY AND RESULTS

(Translated from Japanese)

This research is related to the management of a CC organization. The goal of this survey is to clarify your organization's experience in working with EM.

Questions

1) Influence on the volunteer numbers at your organization after becoming part of the EM network:

• No Change	3
• Slight increase	4
• Large increase	0

2) Distributing the EM paper currency to volunteers was:

• Really easy	1
• Easy	1
• Neutral	4
• Difficult	
• Really difficult	1

3) Distributing EM's digital currency using the mobile application was:

• Really easy	
• Easy	
• Neutral	3
• Difficult	1
• Really difficult	

4) Which type of currency did your organization issue more of?

• Paper currency	5
• Digital currency	2

5) The relationship between your organization and EM was:

• Really good	1
• Good	1
• Neutral	5
• Bad	
• Very bad	

6) EM's circulation has significantly declined. If EM was revived how strongly would your organization wish to continue being part of the network?

• Strongly wish to continue	1
• Wish to continue	2
• Neutral	3
• Wish to discontinue	
• Strongly wish to discontinue	1