

LOCAL CURRENCIES: WORKING TOWARDS AMSTERDAM'S CIRCULAR AMBITIONS

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ABSTRACT

Amsterdam is aspiring to have a fully circular economy in 2050. In order to achieve the goal of 100% circularity, the municipality of Amsterdam emphasises the importance of creating a resilient and independent local economy. It is argued that local currencies stimulate sustainable consumption patterns by increasing local economic activity also known as localisation. Noticeable is the overlap between local currency's area of influence (the local economy) and Amsterdam's emphasis on strengthening the local economy. This study has assessed the potential use of a local currency to contribute to Amsterdam's circular ambitions through the analyses of four case studies and a survey. Due to the limited number of studies performed on the chosen case studies, it has been challenging to produce an accurate assessment. Yet, the analysis has shown that implementing a local currency can indeed help Amsterdam's circular ambitions. Notably, the case studies' measured impacts were most in line with the first and second value chain of Amsterdam's circular ambitions, Food & waste streams and Consumer goods. Additionally, the survey shows that there is some interest in a local currency however, the evidence is not overwhelming. Lastly, five factors were identified as playing a leading role in the success of the case studies: ecosystem, identity, digitalisation, public authority and community relationships. Amsterdam exhibits two of these five characteristics. If implemented properly, a local currency could provide a valuable strategy in achieving Amsterdam's circular ambitions.

KEYWORDS

- Community Currency
- Local Currency
- Localisation
- Amsterdam Circular ambitions
- Sustainable Consumption Patterns

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INTRODUCTION

Amsterdam is aspiring to have a fully circular economy by 2050 (Gemeente Amsterdam, 2020b). From repurposing discarded materials to shortening the food chain, these ambitions require a shift in current social functions. In order to achieve the goal of 100% circularity, the municipality of Amsterdam emphasises the importance of creating a resilient and independent local economy (Gemeente Amsterdam, 2020a). A local currency is a currency that functions solely within a geographic area and presents itself in banknotes or digitally (Seyfang & Longhurst, 2013). This type of currency falls underneath a broader category of complementary currencies named community currencies, which according to certain theories, nurture the establishment of resilient local economies, help poor communities and promote sustainable consumption patterns, making it a possible strategy for promoting Amsterdam's goals (Seyfang & Longhurst, 2013; see also Graugaard, 2012; see also Briceno & Stagl, 2006;) . It is argued that theoretically, local currencies stimulate sustainable consumption patterns by increasing local economic activity, also known as localisation (Seyfang, 2006). For these reasons, this study will seek to assess the use of a local currency as a means of contributing to the circular ambitions of Amsterdam through a literature review of four case studies. Firstly, through a literature review of the case studies, an analysis will be performed to evaluate whether the local currency's impact coincides with Amsterdam's Strategy 2020-2050 (e.g., does the local currency increase sustainable consumption patterns). Secondly, the characteristics (e.g., region of the local currency) which have contributed to the impact of the local currency will be analysed and compared to Amsterdam's. Lastly, a survey will be conducted with businesses across Amsterdam, examining whether there is interest in a local currency. This research explores a potential strategy for Amsterdam's circular ambitions and addresses the characteristics that have led to a thriving local

currency and its impacts on sustainable consumption patterns, which remains a largely unexplored area of research. This paper aims to incentivise more research on the synergy between local currencies and sustainable consumption patterns and stimulate new research for novel ways of creating circular economies within cities.

AMSTERDAM'S CIRCULAR AMBITIONS

Amsterdam's circular ambitions have been created to respond to the current climate, biodiversity and pollution crisis which has largely been fuelled by the rapid industrialisation and globalisation of countries predominantly in the northern hemisphere (Climate Change 2014 Synthesis Report IPCC, 2014; Gemeente Amsterdam, 2020a). These processes have, in turn, caused sharp increases in carbon emissions, the breakdown of ecological systems and a global waste problem. (Climate Change 2014 Synthesis Report IPCC, 2014; Gemeente Amsterdam, 2020a). In order to achieve these ambitions, Amsterdam's municipality has adopted a framework created by Kate Raworth, a British economist, called the Doughnut model. Here, the image of a doughnut (Figure 1) is used to visualise a societal state in which basic human rights are upheld whilst simultaneously respecting the planetary boundaries (Raworth, 2017). With this in mind, Amsterdam's main ambition is to become a climate-neutral city by 2050, which has been divided into three goals:

- 1) Reducing Amsterdam's CO₂ emissions by 95% from levels measured in 1990, by 2050.
- 2) Reducing Amsterdam's use of raw materials by 100% by 2050
- 3) Generating all of Amsterdam's energy from renewable sources by 2050

The municipality's document in which the strategy to achieve these goals is stipulated, *City of Amsterdam* (2019), divides Amsterdam's total greenhouse gas emissions (CO₂, methane and nitrous oxide) into three scopes: the direct emissions, the indirect emissions and the emissions

outside of Amsterdam. The first scope addresses emissions that are generated within the region of Amsterdam, namely those caused by factories and transportation, the second scope targets the emissions from electricity and lastly, the third scope focuses on the emissions generated through consumption that occurs in Amsterdam. Whereas the first two scopes require a more material approach to sustainability, such as building energy-efficient housing, developing renewable energy infrastructure and creating natural gas-free buildings, the third scope demands a fundamental change in the behaviour of Amsterdam's citizens, businesses and most importantly, its economy. As a result, the scope-3 emissions will be targeted through a different strategy, namely *Amsterdam Circular 2020-2025*. In this program, three value chains were identified as requiring a change to reduce the scope-3 emissions and facilitate Amsterdam's trajectory towards circularity: Food and Waste Streams, Consumer Goods and the Built Environment. Corresponding to these value chains, the municipality has attached different ambitions, which are ultimately supposed to shift these value chains towards circularity. This has been visualised in figure 2.

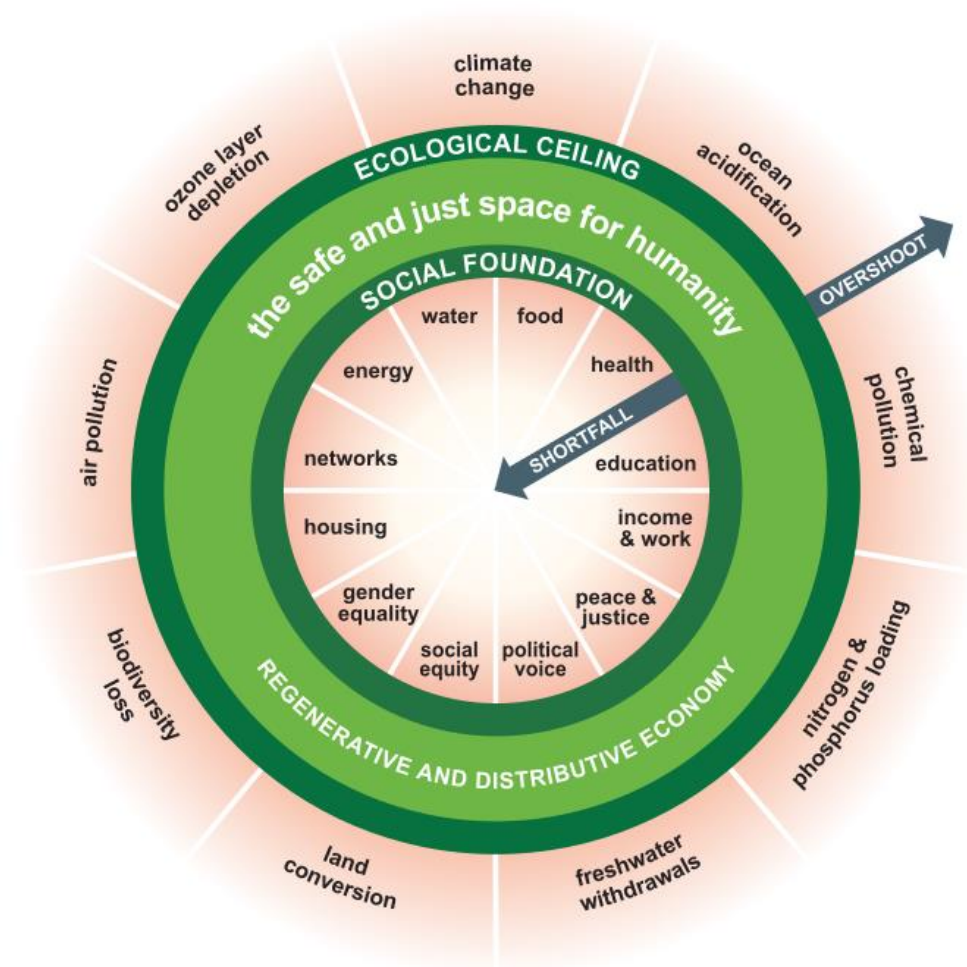


FIGURE 1

AMSTERDAM'S ACTION PLANS AND STRATEGY

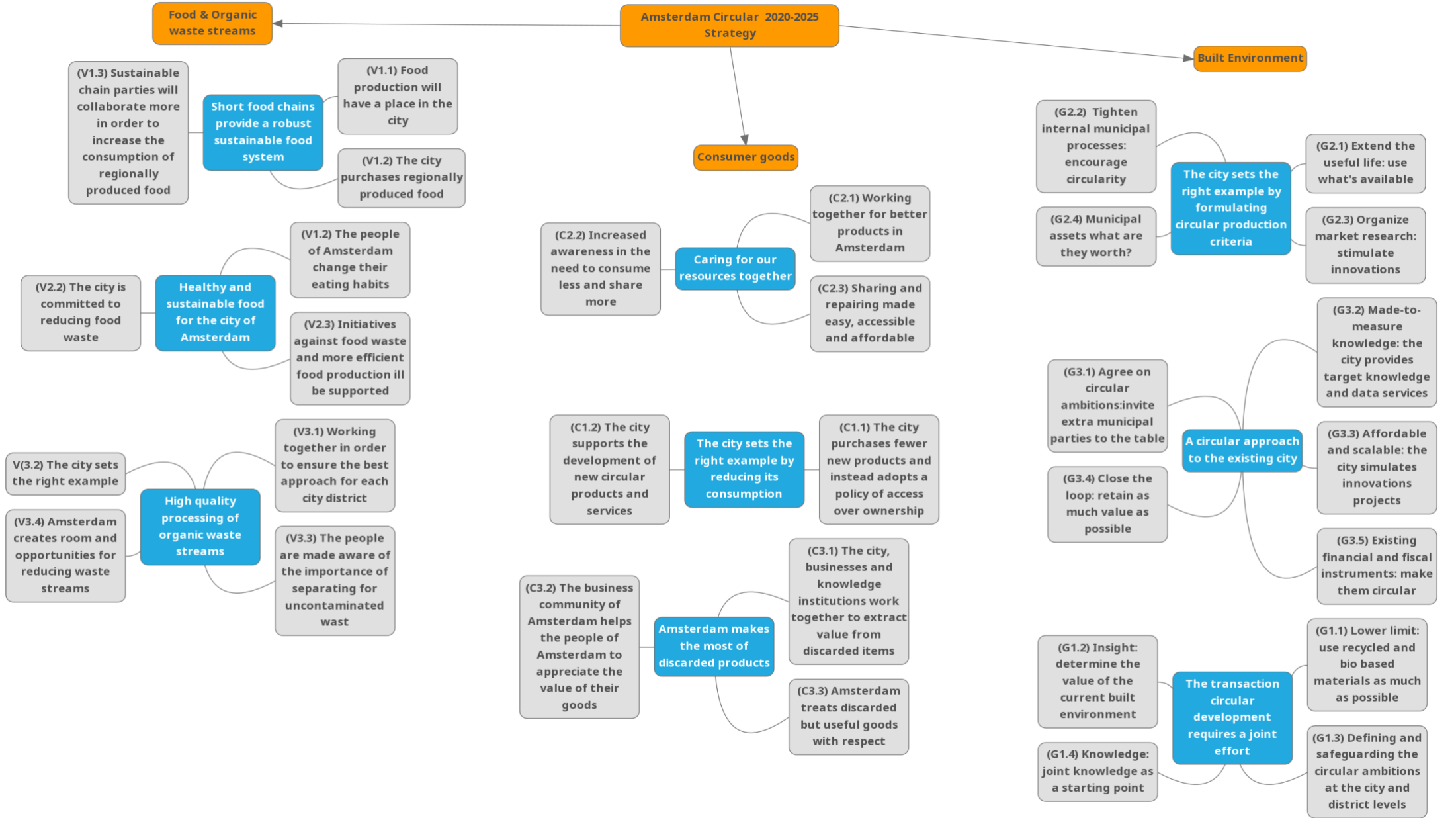
For each of the three value chains, multiple ambitions are constructed with their respective strategies (Gemeente Amsterdam, 2020a). The first value chain, *Food & Organic Waste Streams*, is addressed with the ambition to create a healthy and sustainable food system for the citizens of Amsterdam, an efficient network of processing organic waste streams and minimising the ecological impact of Amsterdam's food supply (Gemeente Amsterdam, 2020a). As shown in figure 2, the steps created to achieve these goals are divided into three separate categories: V1, V2 and V3, which are then further broken down into subsections of action plans and their corresponding tools in order to encourage these developments. These tools consist of awareness campaigns, spatial planning, financial support, creating collaboration platforms, informative events and creating or improving infrastructure (Gemeente Amsterdam, 2020a). In addition, the

municipality emphasises the responsibility of knowledge institutions to research food streams, food production and behavioural change, and the capacity for businesses to alter their range of products as well as buy and sell from local businesses.

The second value chain, *Consumer Goods*, aims to make consumer products sustainable and reduce levels of consumption (Gemeente Amsterdam, 2020a). Again, these goals are divided into different areas, C1, C2 and C3, each with their own subcategories. In this value chain, the municipality is mainly planning on developing its infrastructure for reusing, sharing and repairing products by increasing collaborative efforts between the municipality and businesses, local initiatives, and services (Gemeente Amsterdam, 2020a). The instruments created to promote these developments include limiting non-recyclable products and financially supporting innovative initiatives. This ambition is expressed in the goal to reach 100% circular procurement and reduce the city's consumption by 20% in 2030

The third and last value chain, *Built Environment*, centres on reducing raw material use in the production of buildings and public spaces through three ambitions. Firstly, creating circular criteria must be implemented in all projects regarding urban development and public spaces (Gemeente Amsterdam, 2020a). This includes promoting the use of biobased and recycled materials through policy and regulations and financially supporting innovative methods. Secondly, the city wants to include existing properties, such as municipal buildings, in the transition towards a circular built environment (Gemeente Amsterdam, 2020a). Thirdly, the municipality aims to involve extra-municipal parties in formulating circular ambitions and experimenting with new economic frameworks (Gemeente Amsterdam, 2020a). Since this value chain relies primarily on the municipality, it will most likely not be affected by local currencies.

FIGURE 2



COMMUNITY CURRENCIES

Achieving the ambitions stipulated in *Amsterdam Circular 2020-2025 Strategy* requires a significant change from Amsterdam's citizens, businesses and economy. However, the municipality of Amsterdam also recognises Raworth's statement concerning the inability of our current economy to solve the salient climate, biodiversity and pollution crisis (Gemeente Amsterdam, 2020a). A similar conviction is held by Seyfang, Longhurst (2013) and Jackson (2009), who argue for an economic system that is bound by limits similar to those defined by the doughnut (figure1). Acknowledging the necessary major economic shift implicated in this argument, Seyfang and Longhurst (2013) introduce community currencies as a means of exchange that could support sustainable development. This currency attempts to fill in the shortcomings of the current market-based approach to sustainability, labelled as "green growth" (Jackson, 2009), by resting its foundation on social equity, ecological boundaries and distancing itself from economic growth (Jackson, 2009). In addition to the conventional objective of money, as a means of exchange, community currencies embody a specific "purpose" and work in parallel to existing fiat currencies, which is more congruent with its traditional function as seen through most of history (Seyfang & Longhurst, 2013). Lastly, as opposed to national or international currencies such as the Pound and the Euro, community currencies function within a limited community, network, area, or association, to serve and enhance the economic activity of that region. Furthermore, additional objectives are included such as strengthening ecological practices (Seyfang & Longhurst, 2013).

Using the categorisation developed by Seyfang & Longhurst (2013), community currencies can be divided into four types: Service Credits, Mutual Exchange, Barter Markets, and Local Currencies. Service Credits are time-based currency systems that foster social cohesion by rewarding activities that help the community (Seyfang & Longhurst, 2013). An example of this is the Swiss Time Bank, where people earn time credit based on the duration that they spend

providing a service to another person, which can be spent to receive a similar service (Michel & Hudon, 2015).

Mutual Exchange systems are based on trading services, and credit and debt. One person requests a service and thus creates a debt, which can be repaid by providing a service to another person. These transactions are registered on a system, where the debit and credit are measured in various ways, such as through fiat currency, time or a combination (Seyfang & Longhurst, 2013). The objective of this system is to contribute to the local economy. However, research has indicated that social and community welfare has benefited the most from these schemes (Seyfang, 2001; Williams et al., 2001).

Barter Markets are trading events that only allow a local currency to exchange services and goods (Seyfang & Longhurst, 2013). Local communities are often involved in such events and are responsible for issuing the currency, which can only be used at the market. These schemes have been used in Venezuela, Argentina, and Mexico to encourage the reuse of goods (Seyfang & Longhurst, 2013).

A local currency is a currency that functions solely within a geographic area and presents itself digitally or in the form of banknotes (Seyfang & Longhurst, 2013). Literature suggests that local economies could greatly benefit from a local currency as they can increase the length of time a currency circulates within an area before leaving the region, minimising “leakage”, which is the dissipation of a systems’ wealth (Douthwaite, 1996; Hopkins, 2008). This can be seen in importing goods from other countries, where wealth is transferred to the exporter, thereby removing the possibility of spending the money within the country. Minimising leakage in a region means that more money is spent within the area, increasing local economic activity, and in turn, multiplying the number of people spending the currency, a process known as localisation (Seyfang, 2006). This can be measured with a tool developed by the New Economics Foundation named the Local Multiplier 3, which identifies the localisation of a region by dividing the amount

of money an organisation/business/individual has generated in the region by its income (Sacks, 2002).

This research will focus on local currencies and their potential to contribute to the circular ambitions of Amsterdam since there is overlap between their area of influence and the objectives of Amsterdam's value chains, *Food & Organic Waste Streams* and *Consumer Goods*. To illustrate, the decrease in leakage caused by a local currency encourages the procurement of local food products, which is in line with the V1 objectives of *Food & Organic Waste Streams*. Likewise, local currencies support local sustainable small and medium enterprises by encouraging businesses to purchase sustainable products from the region or city (Fare, 2011). This is similar to one of the objectives of *Consumer Goods*, where the city aims to promote businesses that operate locally or have a circular business model (Gemeente Amsterdam, 2020a).

Whilst the potential of local currencies is mentioned in Raworth's *Doughnut Economics*; it has not been explicitly considered in the strategy to achieve Amsterdam's goals. Little research has been done exploring the effect of local currencies on increasing sustainable behaviour. Additionally, other than in the works of Collom (2005), North (2010) and Kim et al. (2016), there have been limited studies comparing different initiatives of local currencies. As a result, more research into the determining factors for successful local currencies is necessary. This can help to assess the viability of introducing a local currency in Amsterdam as a means of progressing its circular ambitions.

CASE STUDIES

This research will focus on the impacts of particular case studies on conditions that align with Amsterdam's circular ambitions, the number of euros exchanged monthly into the local currency, the number of members and businesses participating in the currency, and the amount of currency circulating that region. To emphasise, the local currency will be valued on its impact on the three value chains: *Food & Organic Waste Streams*, *Consumer Goods* and the *Built environment*. More specifically, the action plans of *Food & Organic Waste Streams* and *Consumer Goods* are the area's most likely to be impacted by localisation (Fare, 2011). Furthermore, the characteristics of the local currencies with the highest impacts on these goals will be evaluated. Lastly, since the success of a local currency depends on various factors such as its region, relationship with citizens and previous history of complementary currency, Amsterdam will be evaluated in relation to these factors and compared with successful local currencies. This will gauge, along with a survey used amongst businesses assessing the level of interest in an Amsterdam based local currency, whether Amsterdam can provide a fruitful environment for a local currency. The survey will be done in collaboration with the Utrechtse Euro as they expressed interest in the research and wanted to explore the business environment of Amsterdam. Hence, some of the questions in the survey are created by the Utrechtse Euro.

For this research, four case studies were chosen: the Eusko, the Chiemgauer, the Bristol Pound and the Utrechtse Euro. After starting in January 2013, the Eusko has quickly evolved to include more participants than the Chiemgauer, the Bristol pound and the Utrechtse Euro and has more currency in circulation (Edme-Sanjurjo et al., 2020), making it a crucial case study to analyse, since its trajectory could reveal the factors which have led to its success. Additionally, the socioeconomic make-up of the Northern Basque Country region is similar to that of the second case study, the Chiemgauer, making it easy to compare (Edme-Sanjurjo et al., 2020).

The Chiemgauer was chosen because its objectives are similar to the circular ambitions of Amsterdam. Therefore, by analysing the progress on its objectives, the currency could highlight which characteristics are conducive to Amsterdam's ambitions. Most importantly, Chiemgauer is a local currency that has successfully stimulated the local economy (Gelleri & Stodder, 2021a; Hayashi, 2021). Furthermore, since it has been found that localisation is positively related to sustainability (Olivier et al., 2018), the Chiemgauer can provide crucial information about the traits which have led to this development.

The Bristol Pound was chosen as a case study because it is currently struggling to survive. Adding a local currency that has become less successful will provide valuable insights into harmful factors. In addition, this will give a clearer picture of the different components which play a role in a local currency's success.

The Utrechtse Euro was chosen as a case study because it circulates in a Dutch city. Analysing a local currency in the Dutch economic, social and cultural environment can provide valuable information on how a local currency could function within Amsterdam. Furthermore, among the other case studies, the Utrechtse Euro is the only all-digital local currency that could generate an understanding of how all-digital currency works. Lastly, the Utrechtse Euro only works with the city's businesses instead of businesses in a region like the Chiemgauer, Eusko and Bristol pound. This would illuminate how a city-based local currency functions, which is valuable if Amsterdam were to implement one.

THE EUSKO

Since the appearance of its first local complementary currency in 2010, France is now home to 82 currencies, making it the country with the most local currencies within Europe (Sol, 2021).

History

A good societal and economic ecosystem is essential for a local currency to flourish (Edme-Sanjurjo et al., 2020). The region of the Eusko, the Basque Country, has a rich political and social history which has provided several favourable circumstances promoting the use of the currency. Firstly, the Basque Country is considered an autonomous community with a strong cultural identity among the region's population. This has been mainly fuelled by the Basque nationalist movement in the 1970s, which stimulated the creation of production cooperatives to defend the region's economic and cultural identity (Edme-Sanjurjo et al., 2020). Hence, introducing a local currency whose goals are to serve the community was welcomed by the region.

Secondly, the Euskal Moneta, the organisation of the Eusko, is involved in a conglomeration of organisations and cooperatives which work to encourage and assist the ecological transition and the local economy (Edme-Sanjurjo et al., 2020). Being part of this environment has been particularly conducive to the popularity of the Eusko, as it has allowed the Euskal Moneta to be placed in the centre of a robust institutional Basque ecosystem. This has resulted in financial support from initiatives with similar objectives and cooperation between local organisations, companies, and the Eusko. This has been beneficial since it has further extended the use of the currency by making it possible to use the Eusko at various businesses from different sectors such as Enargia and I-ENER (for distribution and financing and production of energy), Txirrind'ola (urban mobility), Konpon Txoko (Waste) and Action Non Violente COP 2 1 (citizen mobilisation organisation) (Edme-Sanjurjo et al., 2020).

Lastly, from the outset of the Eusko, which started as an experiment by a group of activists, participation from the region's inhabitants has been a significant objective. The group leading the project attended various meetings involving local currencies from other countries and regions in order to study them. Subsequently, by hosting public educational meetings with the inhabitants of the Basque region, the idea of a local currency was explored, and strategic decisions were deliberated, which has led to the current stipulations and laws of the Eusko, and finally, the foundation of the Euskal Moneta (Edme-Sanjurjo et al., 2020).

To sum up, these three characteristics have strongly fuelled the popularity of the Eusko and provided valuable insight into the socio-political factors that play a role in a local currency's success. Important to realise is the ongoing encouragement for public participation by hosting events like the Eusko Day, involving volunteers in the graphic design of new banknotes, the securing of distribution systems and human resource management (Edme-Sanjurjo et al., 2020). Maintaining a stable and strong relationship with the region's inhabitants has ensured constant participation and preserved enthusiasm for the currency.

Goals and Structure

Created through a deliberative process involving the inhabitants of the Basque Country, the Eusko's goals and statutes are detailed in articles available on their site. These describe the main objectives of the Eusko, which are: localise the economy, protect the Basque language (Euskara) and encourage ecological and solidarity practices (Euskal Moneta, 2013a). Additionally, the articles also describe the 11 missions of the Euskal Moneta. These include supporting initiatives that promote the Basque language, sustainable practices and community, organising educational events about sustainability and the local economy, and providing funding for local, sustainable organisations (Euskal Moneta, 2013). The Euskal Moneta additionally supports local organisations by donating 3% of an exchanged sum to a democratically selected NPO (Edme-

Sanjurjo et al., 2020). Thus, even though the goals are ambiguous compared to the circular ambitions of Amsterdam, they are generally in line with Amsterdam's ambitions.

The Euskal Moneta created the operating rules of the Eusko in order to achieve the goals mentioned earlier. The conversion laws differ based on the nature of the user: individual or business. In the case of the former, Eusko's cannot be converted back into euros or transferred onto an online Eusko account (Euskal Moneta, 2012). The reason for this is to incentivise local spending on businesses and organisations registered in the Basque Country. However, for businesses and organisations, a conversion can be made back into euros with a 5% fee on the amount converted.

Additionally, two agreements are made with businesses and organisations when they join the Eusko. Firstly, in order to keep the currency circulating between businesses, a minimum of €500 Eusko per month is required to be spent between businesses (Euskal Moneta, 2013b). Secondly, the business must integrate at least three local products in its activity (Euskal Moneta, 2013b). If its activity does not allow for this, it will have to employ three members of the Eusko network, or it will have to set up a recycling system for the business (Euskal Moneta, 2013b). To sum up, the goals of the Eusko are used to construct its organisational structure and statutes. If the Eusko has an impact on its ecological goals, its structure could provide a sound basis for developing a local currency in Amsterdam.

Digitalisation

Amongst the four case studies, the Eusko has been the quickest local currency to allow for digitalised transitions by following two steps. In 2014, The Euskal Moneta firstly implemented the option for professionals to electronically transfer the currency between accounts (Edme-Sanjurjo et al., 2020). Secondly, in 2017, the Eusko offered individuals the use of a payment card, the euskokart, increasing the number of Eusko circulating (Edme-Sanjurjo et al., 2020). As a result, digitalisation is reflected in the rapid growth of the Eusko. The circulation of

the digital Eusko increased sevenfold (Edme-Sanjurjo et al., 2020), whereas the banknotes experienced a yearly 22% growth from 2017 until 2019. This suggests that the overall growth can largely be attributed to digitalisation.

THE CHIEMGAUER

Just a year before the German recession in 2003, the Chiemgauer was launched, in the Chiemgau region, as part of a school project, only available to its community (Gelleri & Stodder, 2021a). The project initially only included parents, small businesses and teachers and eventually evolved into the Chiemgauer Regiogeld, an organisation that became the issuer of the currency, responsible for its management, distribution and development (Gelleri & Stodder, 2021a). Currently, the Chiemgauer is widely used in the Chiemgau and, like the Eusko, has a digital counterpart called the eChiemgauer.

History

Much like France, Germany has a rich socio-political history of grassroots movements advocating for a more regionalised economy. The concept of the Chiemgauer stems from three separate movements in the early 20th century, which were pushing for alternative monetary systems (Gelleri & Stodder, 2021a). Each movement experimented with local currencies, two of which still function today: WIR-bank (Switzerland) and the Bethel Euro, the oldest complementary currency in Germany. An alternative monetary system was thus not a foreign concept when the Chiemgauer was founded.

Goals and structure

Like the objectives of the Eusko, the Chiemgauer aspires to promote regional development, non-profit organisations, and sustainability (Gelleri & Stodder, 2021a). The goals of Chiemgauer Regiogeld are similar to those of the Euskal Moneta; however, the emphasis is placed on researching new sustainable and regional forms of economics (Chiemgauer Regiogeld, 2014). Nevertheless, the means to achieve these goals are similar to that of the Euskal Moneta. As for the structure, the Chiemgauer is similar to the Eusko, as it also strongly advocates for public participation by involving members of the organisation. The organisation's statutes bind every member, and a board of executives is elected every two years (Gelleri & Stodder, 2021a). Becoming a member-only requires a small fee to prevent wealthier people from being overrepresented. The Chiemgauer supports local organisations by enforcing a 3% conversion fee, which goes to a chosen Non-Profit Organisation (NPO). Chiemgauer Regiogeld is a non-profit organisation and invests all its surplus into research and development of the Chiemgauer (Gelleri & Stodder, 2021b). Much like the Eusko, if the Chiemgauer has a positive ecological impact, its structure could identify which characteristics create a thriving local currency.

THE BRISTOL POUND

The Bristol Pound was launched in 2012 with the ambition to localise supply chains and prevent leakage of money. Quickly, with around 1 million pounds worth of transactions yearly, the Bristol Pound became the most successful local currency in England (Bristol Pound, 2021). Recently, however, the Bristol Pound has struggled to survive and is in the process of transforming into an all-digital local currency named Bristol-Pay.

History

The Bristol Pound was founded through a partnership between the Bristol Credit Union and The Bristol Pound Community Interest Company and rapidly gained international attention (Marshall & O'Neill, 2018). Currently, the Bristol Pound is transitioning towards an all-digital currency system, as it is no longer able to sustain itself. Despite the lack of information on the currency's trajectory, there are a few characteristics that can be attributed to its rise and downfall. Firstly, the Bristol Pound can be spent throughout the former region of Avon. Similar to the region of the Chiemgauer and the Eusko, this was deemed as a good ecosystem for the Bristol Pound as it encompasses a large urban population, agricultural producers and suppliers (Marshall & O'Neill, 2018). The wide range of different business would be favourable to minimising leakage and promoting localisation, as citizens would have access to many local products (Marshall & O'Neill, 2018). In the cases of the Chiemgauer and the Eusko, a productive ecosystem has shown to have positive effects on the growth of the currency; hence it can be reasoned that the Bristol Pound experienced a similar effect.

Goals and structure

Unlike the objectives of the Chiemgauer and the Eusko, the initial goals of the Bristol pound were to solely stimulate the local economy and support local businesses (Bristol Pound, 2015). Sustainable ambitions were later added, however with the current transition to Bristol Pay, these ambitions are unclear.

The Bristol Pound is managed by the Bristol Credit Union and Bristol Pound Community Interest Company (£BCIC) and is supported by the City Council, which allows the currency to be used for taxes (University of Bristol, 2019). The Bristol Pound currently relies on funding; however, it is striving to become self-sufficient (University of Bristol, 2019). Like the structure of the Chiemgauer and the Eusko, the organisational framework allows for public participation by involving account holders in the decision-making process (Marshall & O'Neill, 2018). However,

overall, there is little information on how it currently functions due to its transition to Bristol Pay.

UTRECHTSE EURO

Founded by the Social Trade Organisation (STRO) in 2017, the Utrechtse Euro is an all-digital Dutch local currency. The Utrechtse Euro aims to stimulate the local economy, specifically in times of crisis (Utrechtse Euro, 2017). As opposed to the Chiemgauer and the Eusko, the Utrechtse Euro does not have any evident sustainability and social goals. Similar to the Chiemgauer the Utrechtse euro uses a donation system, where 3% of every expense is donated to a chosen local charity chosen. Utrechtse Euro could aid in creating a structure for a local currency suitable for the Dutch economic, social and cultural environment ecosystem. Due to the limited time since their inception, however, little information is known about their impact on the local economy and their progress.

STATISTICS

<i>Characteristics</i>	Eusko	Chiemgauer	Bristol Pound	Utrechtse Euro
<i>Amount in circulation (Euro)</i>	2.500.000 ¹	1.067.906 ²	Unknown.	48.000 ³
<i>Businesses and organisations participants</i>	1100 ¹	770 ²	570 ⁴	170 ³
<i>Members</i>	4000 ¹	3774 ²	1500 ⁴	200 ³
<i>Amount converted back</i>	96.000	Unknown.	Unknown.	Unknown.
<i>Ecological goals</i>	Yes	Yes	Yes	No
<i>Digital</i>	Yes	Yes	Yes	Yes
<i>Area</i>	Region	Region	Region	City

¹ Euskal Moneta. (2021). *L'Eusko en chiffres*. https://www.euskalmoneta.org/eusko_en_chiffres/

² Chiemgauer Regiogeld. (2021, June 7). *Einladung zur ordentlichen Mitgliederversammlung des Chiemgauer e.V.* Chiemgauer. https://www.chiemgauer.info/startseite/?no_cache=

³ Data received from the Co-CEO of the Utrechtse Euro, Jaap Vink

⁴ University of Bristol. (2019). *Inclusive Economy Institute Developing a Value Proposition: the Bristol Pound*. <https://bristolpound.org>

MATCHING THE CASE STUDIES WITH AMSTERDAM'S CIRCULAR AMBITIONS

For the first value chain, *Food & organic waste stream*, the action plans V1.1, V1.2 and V1.3, which focus on the consumption of locally produced food (Gemeente Amsterdam, 2020a), target areas that align with the impact of the case studies. An image has been created which visualizes these areas in the framework of *Amsterdam's Circular 2020-2025 Strategy* (Figure 3). On April 20 2021, a study was published by the French organisation, Mouvement Sol, revealing the results of a year and a half long survey evaluating the social, ecological and economic impact of 46 local French currencies. The Euskal Moneta has used the study to evaluate the social, ecological and economic impacts of the Eusko. Both results of the Eusko and the overall result will be used, as the general survey helps deliberate over the potential impact of a local currency. The survey suggests that 48% of Eusko users have started buying products directly from producers (Euskal Moneta, 2021b). More importantly, the survey has found that 72% of the Eusko participants have purchase more local products (Euskal Moneta, 2021b), and 61% have reported purchasing more frequently from small supermarkets (Euskal Moneta, 2021b). A similar result was found on the national level, where 69% of the local currency participants have reported a decrease in supermarket purchases, and 51% have reported a decrease in online purchases (Euskal Moneta, 2021b). For the case study of the Bristol Pound, a survey showed that 25% of the members reported frequenting local businesses more often (Bristol Pound, 2020). However, this result should be approached with caution since the survey was performed by the Bristol Pound itself, increasing the likelihood that it is biased. As for the Chiemgauer and the Utrechtse Euro, no study was found measuring the impact of the currencies on the consumption of locally produced food. To sum up, the results from the Eusko strongly suggest that creating a local currency can shorten food chains by stimulating purchases from regionally produced foods and local businesses.

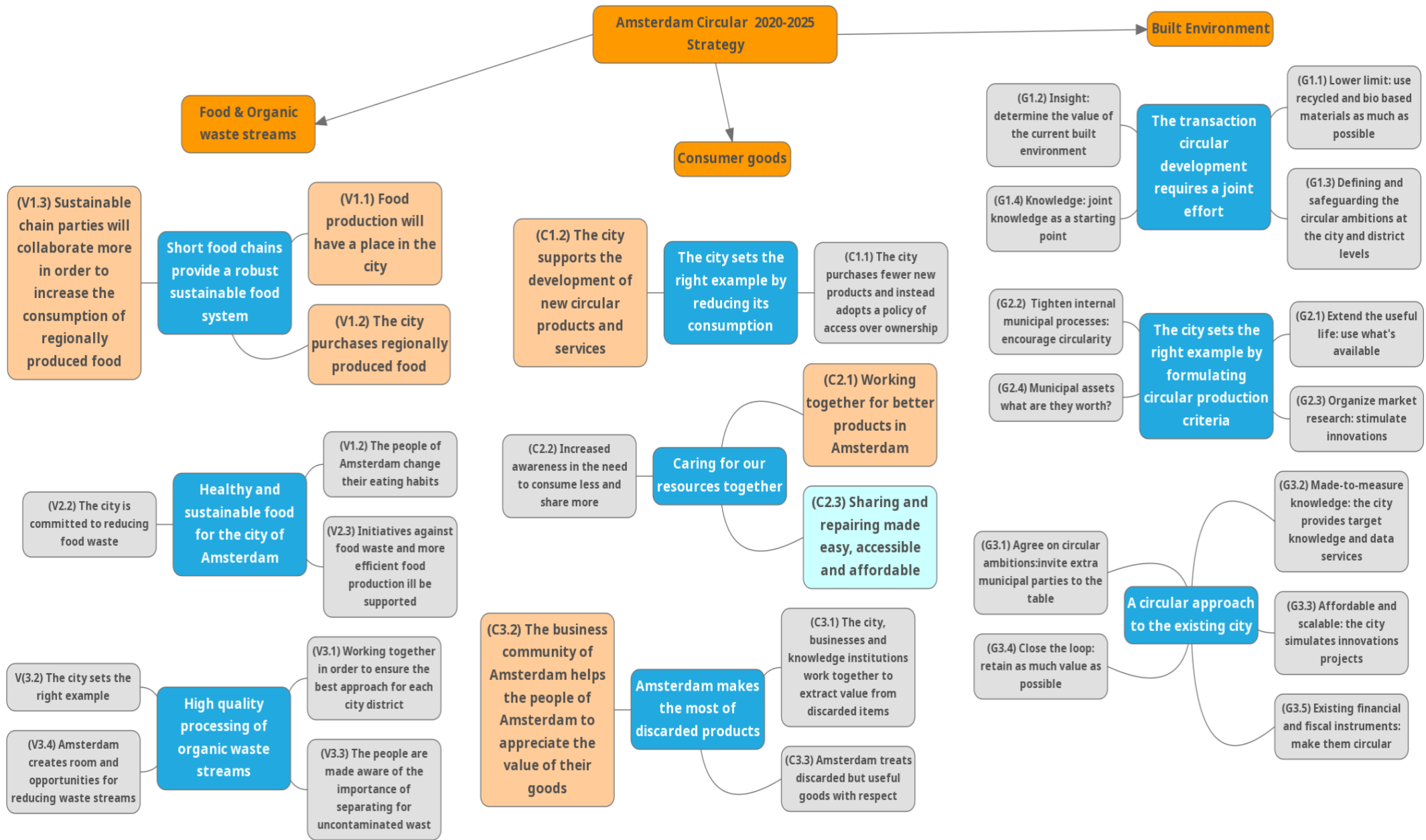
For the second value chain, *Consumer goods*, the action plans of C1.2, C2.1 and C2.2, which aim to stimulate consumer awareness, and collaborations between various circular businesses (Gemeente Amsterdam, 2020a), organisations and the municipality, target areas that potentially fall in line with the impact of the case studies. From the Eusko's survey, 84% of businesses have changed to more sustainable business practices, such as switching to a green energy supplier (Euskal Moneta, 2021b). These behavioural changes can be seen as a consequence of Euskal Moneta's mandate and supports Fare's (2011) claim that community currencies can stimulate sustainable purchases. Additionally, the survey has shown that the Eusko has positively impacted relationships between businesses that accept the Eusko. Since the businesses involved in the Eusko share similar ecological, societal and economic goals, this has created a solid foundation for eventual collaboration. This is also reflected in the survey results, in which 81% of businesses have reported to prioritise other businesses that use the Eusko. In addition, 83% have reported recommending businesses that use the Eusko to colleagues, which could, through increased awareness, further stimulate sustainable businesses and the Eusko. These results suggest that a local currency can stimulate the procurement of circular products and services.

This can also be concluded by investigating the Chiemgauer, which has successfully maintained wealth in the Basque region, circulating three times quicker than the Euro (Gelleri & Stodder, 2021a). Resulting from the funds generated by Chiemgauer's conversion fee system, NPOs have received around 740.000 euro in 2020 (Gelleri & Stodder, 2021a). Furthermore, since Chiemgauer Regiogeld requires that these organisations serve the objectives of the Chiemgauer, the NPOs inherently create sustainable services and goods for the community, such as education and social events (Gelleri & Stodder, 2021a).

Similarly, the Eusko has also been able to circulate successfully in the Basque region, stimulating the local economy and generating between 1.25 and 1.55 times more revenue than one Euro would (Euskal Moneta, 2021b). Furthermore, the survey has indicated that 56% of the

businesses have started purchasing from at least one new local supplier, and 84% of them have never reconverted the Eusko, suggesting that the currency is successfully remaining within the region reducing 'leakage' (Euskal Moneta, 2021b). Overall, the results of both the Chiemgauer and the Eusko strongly suggest that local currencies can contribute to Amsterdam's circular ambitions by encouraging local consumption, localising the economy, stimulating consumer awareness, and promoting collaborations between various circular businesses and organisations.

FIGURE 3



CHARACTERISTICS OF SUCCESSFUL LOCAL CURRENCIES

Among the four case studies, the Eusko had the most significant impact on the conditions linked to Amsterdam's value chains. The studies about the Chiemgauer did not explicitly show any ecological improvements; however, localisation increased, thereby stimulating the local economy (Gelleri & Stodder, 2021a). Five factors were identified as playing a leading role in the Eusko's and Chiemgauer's success: ecosystem, identity, digitalisation, public authority and community relationships. For the Eusko, its involvement with Basque organisations and cooperatives plays a significant role in its success since it allowed the Euskal Moneta to develop the currency within an associational and professional ecosystem. This ensured a quick adoption of the currency in the first year by those other than activists and enthusiasts (Edme-Sanjurjo et al., 2020).

Similarly, the Chiemgauer was founded in a comparable community-based environment, namely a school. This setting allowed the currency to gain support amongst teachers, parents and students. In brief, it is crucial to place and grow a local currency in the heart of its community.

Fortunately, Amsterdam is a city with a rich entrepreneurial environment (Gemeente Amsterdam, 2020a), housing various circular local businesses and organisations such as the Amsterdam Donut Coalite (inspired by Raworth's doughnut). Such an ecosystem would allow the organisation to create relationships with many businesses and organisations, encouraging the currency's adoption and integration by local companies and institutions.

The second vital force to the Eusko's growth is its representation of the Basque identity. The strong economic and cultural identity of the Basque region provided a fruitful environment, favouring the use of a currency that protects the Basque identity (Edme-Sanjurjo et al., 2020). This, together with the region's history of independence, incentivised people to participate. The Chiemgau region has a similar socio-political history; thus, it is not unreasonable to also attribute some of the Chiemgauer's success to its representation of the region's identity. The importance of emphasising the identity of the region or city was also found in previous research (Johnson &

Harvey-Wilson, 2017) regarding the Bristol pound, where it was identified that citizens joined the currency to strengthen the identity of the city. In other words, highlighting the identity of the community can motivate people to participate in the currency. Amsterdam's long history has created a strong identity (Nijman, 1999) which just like the Northern Basque Country, Chiemgau and Bristol, could encourage citizens to participate in a local currency which works to enhance it.

Thirdly, an essential factor contributing to the Eusko's success was its fast digitalisation (Edme-Sanjurjo et al., 2020), which provided access to an extensive range of participants who joined the Eusko when it was still a novelty. This is crucial, as an increase in membership is more likely when the concept is still new, and the community is excited, a phenomenon coined by Collom (2005) as the “novelty effect” (University of Bristol, 2019). Both the Chiemgauer and the Bristol Pound adopted a digital version of the currency, however, compared to the Eusko, this was developed relatively late. Together with a strong emphasis on identity, early digitalisation can spur people to take part in the currency by taking advantage of the “novelty effect”.

Fourthly, the involvement of public authority has been a significant contribution to the development the Eusko. Throughout its growth, the local authorities have been involved by accepting allowances in Eusko and allowing the currency to be used for public services (Edme-Sanjurjo et al., 2020). As a result, the Eusko has been successful in maintaining the currency within the region. The low reconversion rate of Eusko (see Statistics section) suggests that there is a significant amount of trust in the local currency, which can partially be attributed to the commitment of public authorities. When looking at the Bristol Pound, its main issue was its minimal impact on localisation (Marshall & O'Neill, 2018). It was found that the highest earners of Bristol Pounds converted the currency back into Euros due to the fact that Bristol pounds can be used to pay taxes, dampening its circulation in the local economy and thereby impeding localisation (Marshall & O'Neill, 2018). It can thus be concluded that a specific kind of involvement is required from a public authority. The municipality of Amsterdam has the

potential to be a valuable partner were a local currency to be established, especially, since Amsterdam is committed to its circular ambitions.

Lastly, the Euskal Moneta and the Chiemgauer Regiogeld have maintained high participation numbers as they are actively involved in their community. They organise events, collaborations and sponsor innovative ideas for achieving their goals. An example of this is the Klimabonus, a project which aims to stimulate sustainable behaviour through rewards. Chiemgauer Regiogeld has provided financial aid to this project and is co-partnering with them. During the past five years, the Bristol Pound has struggled to survive. In order to identify the critical issues with the currency and its organisation, research was conducted in 2019 by the University of Bristol in collaboration with the Bristol Pound. Several findings regarding the organisation's structure are particularly relevant as they can be related to the structure of the other case studies. The overall conclusion of the research is that the Bristol Pound is not interacting with its participants and businesses enough (University of Bristol, 2019). Whereas with the Eusko and the Chiemgauer, which maintain their relationship with the participants by knowing its members, supporting its businesses and organising community events, the Bristol Pound is disconnected from its community (University of Bristol, 2019). Consequently, the participants of the Bristol Pound do not see the added value of being involved in the currency (University of Bristol, 2019).

An Amsterdam based local currency could collaborate with sustainability related events, in order to support its businesses and contribute to community events. For example, Amsterdam hosts the biggest flea market in Europe, the IJ-Hallen, which could be hosted with a local currency. Such an event is frequently held in Ueda City (Japan), where a local currency is used to trade goods and services (Meng & Ueda, 2020), encouraging people to use their local currency at such a market as opposed to purchasing new products. If such markets were to proliferate in Amsterdam, this would significantly contribute to the action plan C2.3 of the second value chain

(highlighted in light blue in Figure 3). This plan aims to promote the reuse of discarded products and reparations.

SURVEY RESULTS

The survey was constructed in order to assess the level of interest in an Amsterdam based local currency. Five questions were created pertaining to the characteristics of the businesses such as the impact of e-commerce on its business and its number of employees. Additionally, five other questions were created to evaluate different conversion rules of local currencies (based on those of the Eusko, Chiemgauer, Bristol Pound and the Utrechtse Euro) and the interest in joining an Amsterdam based local currency. The survey was sent to around 650 Amsterdam based businesses through Chainels, an online platform which connects stakeholders, businesses and organisations. Through this, businesses from four different streets in Amsterdam-West were surveyed: Kinkerstraat, Bilderdijkstraat, Jan van Galenstraat en Clerqstraat. These were chosen since a high number of local businesses are located Amsterdam. Out of the 650 businesses however a limited number answered. As result, an additional number of businesses were approached in the 9 Streets, a district known to contain many small independent businesses, in order to broaden the scope of the survey. In total, 15 businesses responded to the ten-question survey (see appendix).

As the survey was done in collaboration with Utrechtse Euro, it includes questions not pertinent to the study. However, three questions are particularly relevant to this research. The first: *Would you be prepared to accept an Amsterdam based local currency in order to generate more clientele?* A small majority of the respondents would accept a local currency in order to get more clientele (Figure 3). This suggests that for businesses to participate in local currency, there should be incentives other than only financial. This strengthens the notion that social and cultural incentives, such as representing an identity and creating solidarity, plays a large role in the success of a local currency.

Would you be prepared to accept an Amsterdam based local currency in order to generate more clientele?

- No, I have enough clientele
- Yes, only if I can spend the currency at other businesses.

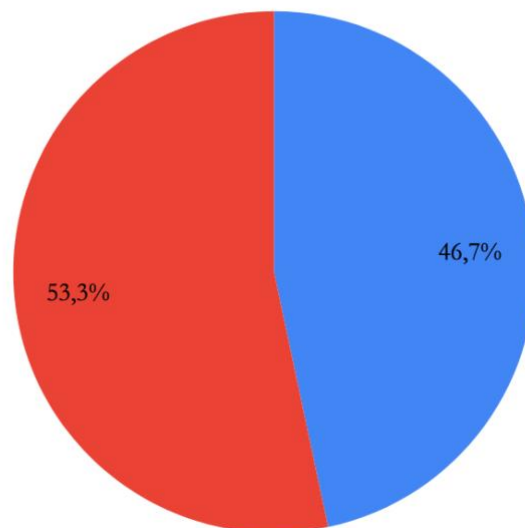


FIGURE 4

The second question is: *Which of the two options to boost the local currency do you prefer?* As seen in the analysis of case studies, each local currency has its own strategy dedicated to preventing the conversion of the currency. As a result, this question was formulated in order to discern which method was the most preferred amongst businesses. Euskal Moneta promotes the use of the Eusko by having a 5% commission fee when converting back to Euro. The Utrechtse Euro on the other hand promotes the use of its currency by denying the conversion of the currency into euro for six months. The results of the survey show no difference in preference (Figure 4).

Which of the two options to boost the local currency do you prefer?

- The currency can only be spent at participating companies for six months. After that, it can be reconverted into euro again.
- No preference/I don't know
- The local money can be converted to euros with a 5% commission. The money that comes from the commission is donated to NGOs, sustainable organizations or ecological projects
- Both options should be possible

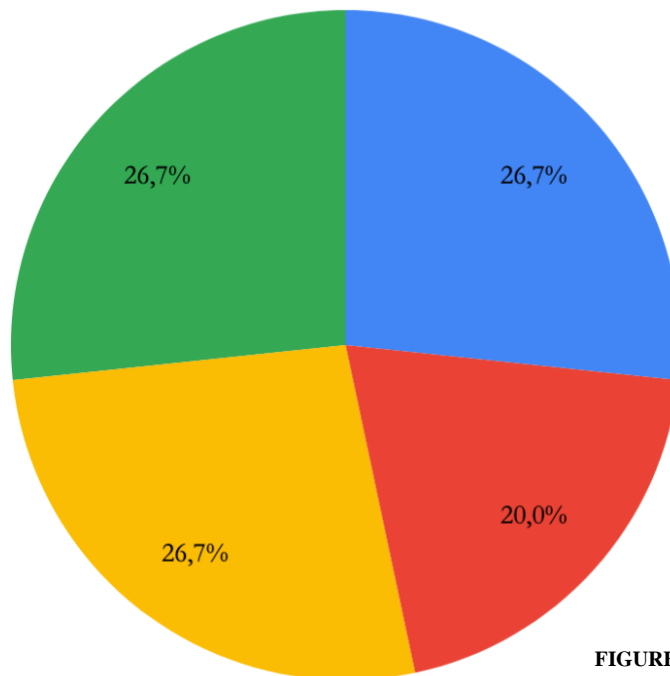


FIGURE 5

The third and last question is: *Would you be able to spend your local currency at other Amsterdam Businesses?* Even though the majority of the businesses would be able to work with local suppliers, the two second largest segments state the opposite. This suggest that there are still a large number of businesses that would not be able to fully benefit from a local currency, since they would have to convert it back into euro in order to pay their suppliers. This is a barrier to the success of the currency as creates less incentive to use it.

Would you be able to spend your local currency at other Amsterdam businesses?

- No, but if I can get new customers, I don't mind waiting a certain period until I can convert the local currency back into euros
- No, I do all my expenses outside of Amsterdam, including personnel costs.
- Yes, I work with local suppliers. They would of course have to be participants in the network
- Yes, I don't work with local suppliers but if I were to participate in the initiative, I would consider switching to local suppliers

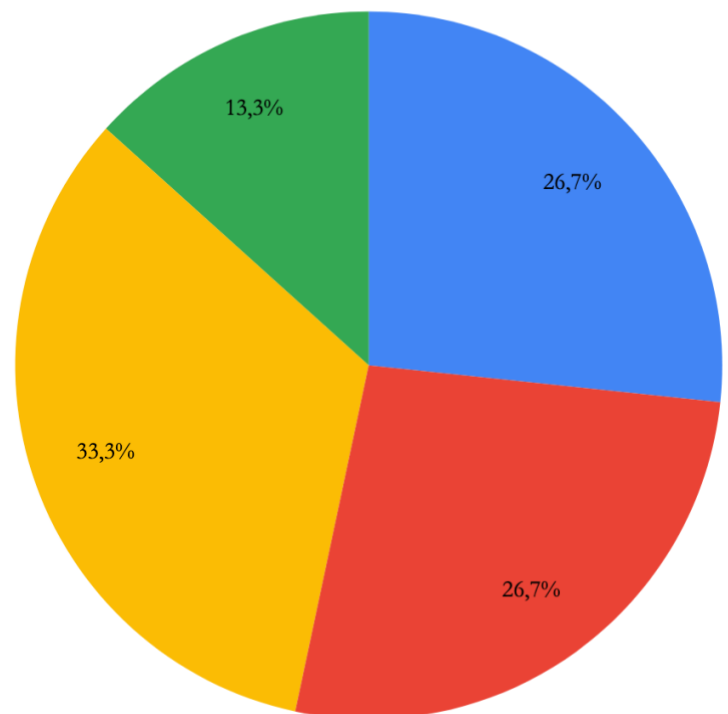


FIGURE 6

To sum up, the survey shows that there is some interest in a local currency however, the evidence is not overwhelming. Most importantly, due to the limited number of respondents, one should approach these results with caution before making conclusions regarding the current interest of Amsterdam's businesses in a local currency.

DISCUSSION

Although the analysis results provide some evidence of local currencies' impact on ecological objectives, such as Amsterdam's circular ambitions, it is essential to acknowledge the paucity of literature exploring the ecological impacts of local currencies. Due to the limited number of studies performed on the chosen case studies, it has been challenging to produce an accurate assessment. In addition, as opposed to the Eusko and the Chiemgauer, the trajectory and development of the Utrechtse Euro has not been researched. This has made it challenging to assess a beneficial structure for a Dutch local currency. Similarly, the limited amount of information available on the Bristol Pound has made the current developments and objectives of the currency largely unknown. Furthermore, the limited number of responses has made it more challenging to gauge the interest of businesses. Examining the broader significance of the study, this paper displays the growing potential of local currencies to aid the transition towards a circular society. However, there are yet many unexplored areas of interest. As opposed to a survey-based research such as the study by SOL Mouvement on French local currencies, the impact of local currencies should further be studied by quantitatively assessing the effect of the currency. For example, by measuring the increase in local procurement.

The scope of this research has been limited to four case studies, three of which function within a region. The only case study which operates within a city is the Utrechtse Euro. Due to the limited amount of research on this currency, it has been challenging to extract which characteristics are crucial for a city-based currency, as opposed to a regional one. Hence, further research into the prospects of an Amsterdam based local currency would benefit from an analysis involving city-based currencies.

CONCLUSION

This paper has presented research on a local currency's potential to help the circular ambitions of Amsterdam. In doing so, the following three topics have been explored: whether a local currency's impacts coincide with Amsterdam's circular ambitions, the characteristics which have contributed to the relevant impact compared to Amsterdam's and finally, the current interest in a local currency among businesses. Overall, the analysis of the four case studies has shown that implementing a local currency can indeed help Amsterdam's circular ambitions. Notably, the case studies' measured impacts were most in line with the first and second value chain of Amsterdam's circular ambitions. Specifically, the action plans V1.1, V1.2 and V1.3 (*Food & organic waste streams*) and C1.2, C2.1 and C3.2 (*Consumer goods*), have all been found to be in line with the measured impacts of the analysed local currencies (Figure 6). These results do not deny the efficacy of the tools selected by the municipality in order to achieve Amsterdam's circular ambitions. In fact, they propose an additional method which could work in parallel to these tools and potentially contribute to Amsterdam's objectives.

Examining the results of the survey, it has become clear that other than profit, social and cultural incentives, such as representing an identity, plays a large role in the success of a local currency. This further strengthens the notion that a local currency could thrive in Amsterdam. On the other hand, the respondents of the survey have indicated that their business would not be able to spend the currency as they do not use local suppliers. Finally, the results of the survey shown no difference in preference regarding circulation rules.

Lastly, examining the characteristics that have made the Eusko and Chiemgauer impactful, Amsterdam has the potential to house a successful local currency. Since Amsterdam has a rich entrepreneurial environment and a strong cultural identity, it exhibits two of the five characteristics which have found to be crucial to the success of a local currency. Two of the three remaining factors, swift digitalization and maintaining a positive relationship with

participants, are the responsibility of the organizations of the currency. Hence the municipality does not play a role in these factors. The last characteristic namely the involvement of public authority, however, is heavily dependent on the municipality of Amsterdam. The involvement of the municipality in an Amsterdam based local currency could strongly influence its success and impact. Local authorities would legitimize the currency and encourage its use by allowing it to be accepted at various municipal services. If done properly, a local currency could provide a valuable strategy in achieving Amsterdam's circular ambitions.

APPENDIX

SURVEY QUESTIONS

1. Name
2. Name of Business
3. Are your clients businesses or individuals?
 - a. (mainly) individuals
 - b. (mainly) businesses
 - c. Both
4. How many employees do you have?
 - a. Self-employed
 - b. 2 – 10 employees
 - c. 10 -50 employees
 - d. +50 employees
5. How does e-commerce influence your business?
 - a. Positively: my business generates the majority of its revenue through online purchases
 - b. Negatively: my business loses a lot of revenue as more purchases are made at other online businesses
 - c. Neutral/not applicable
6. Would you be prepared to accept an Amsterdam based local currency in order to generate more clientele?
 - a. No, I have enough clientele
 - b. Yes, only if I can spend the currency other businesses
7. Would you be able to spend your local currency at other Amsterdam businesses?
 - a. Yes, I work with local suppliers. They would of course have to be participants in the network
 - b. Yes, I don't work with local suppliers but if I were to participate in the initiative, I would consider switching to local supplier
 - c. No, I do all my expenses outside of Amsterdam, including personnel costs.
 - d. No, but if I can get new customers, I don't mind waiting a certain period until I can convert the local currency back into euros
8. A similar initiative in Sardinia gives its members interest-free loans of between 1,000 and 30,000 in local currency. Would this appeal to you?
 - a. Yes, I would then try to persuade my suppliers to participate so that I can spend the currency.
 - b. Yes, but I'm not willing to make the effort to involve my suppliers in the network. Only want this credit if there are already businesses where I can spend it.
 - c. No, I don't need credit
9. Which of the two options to boost the local currency do you prefer?
 - a. The currency can only be spent at participating companies for six months. After that, it can be reconverted into euro again.
 - b. The local money can be converted to euros with a 5% commission. The money that comes from the commissions donated to NGOs, sustainable organisations
 - c. Both options should be possible
 - d. No preference/I don't know
10. May we inform you when a local currency is launched in Amsterdam?
 - a. Yes
 - b. No

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