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The impact of social enterprise on food insecurity – An Australian case study

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Abstract

Like many high-income countries, in Australia there are a range of programmes in place, from social security to food banks, to help address food insecurity. So far, they have been unable to adequately alleviate and prevent this growing nutrition challenge. This paper presents an evaluation of a new type of intervention in the food security landscape, the social enterprise. *The Community Grocer* is a social enterprise that operates weekly fresh fruit and vegetable markets in Melbourne, Australia. The aim of the study was to examine the market's ability to increase access, use and availability of nutritious food in a socially acceptable way, for low socioeconomic status urban-dwelling individuals. The mixed-method evaluation included: comparative price audits (n = 27) at local (<1 km) stores; analysis of operational data from sample markets (n = 3); customer surveys (n = 91) and customer interviews (n = 12), collected in two phases (Autumn 2017, Summer 2018). The results found common (n = 10) fruit and vegetables cost, on average, approximately 40% less at the social enterprise, than local stores. Over twenty per cent of customers were food insecure and 80% of households were low income. Thirty-four different nationalities shopped at the market, and just over half (54%) shopped there weekly. More than 50 types of vegetables and fruit were available to purchase, varying for cultural preferences and seasonality, which supported variety and choice. Overall, this enterprise promotes food security in a localised area through low-cost, convenient, dignified and nutritious offerings.

KEYWORDS

food insecurity, food security, foodbanks, nutrition inequities, social enterprise

1 | INTRODUCTION

Despite significant wealth and the abundance of food in high-income countries, household food insecurity remains a persistent and complex problem. In Australia one million households (4%) (Australian Bureau of Statistics (ABS), 2015) reported food insecurity in the latest national health survey. While food security measures vary between countries, in the United Kingdom, 10.1% (Taylor & Loopstra, 2016), in France, 6.9% (Cafiero et al., 2016), in Hong Kong, 8.6% (Cafiero et al., 2016), in Canada, 12.4% (Cheng & Tang, 2016) and in the United States of America, 12.7% (Cheng & Tang, 2016) of their populations are impacted. Food insecurity is described as '…whenever the availability of nutritionally adequate and safe foods or the ability to acquire acceptable foods in socially acceptable ways, is limited or uncertain' (Andersen, 1990, pp. 1575–1576). Fair wages, affordable housing, functional welfare services and a sustainable food system are some of the macro socio-political conditions required to prevent household and community food insecurity. In the context of governmental austerity measures and neoliberal political order, these conditions have been characterised as under threat or on the demise in high-income settings (Riches & Silvasti, 2016). Civil society and community organisations, therefore, have grown their programmes in recent years, to help alleviate the social isolation, nutritional deprivation and economic hardship that accompanies poverty.

Household food insecurity is associated with adverse health, educational and social outcomes. Food insecure adults have been found to consume fewer fruits, vegetables and dairy products and have a lower intake of essential vitamins (Hanson & Connor, 2014; Johnson et al., 2018) than the general population. These adults are also more likely to report back pain, mood/anxiety disorders and have multiple chronic conditions compared to food secure adults (Tarasuk, Mitchell, McLaren, & McIntyre, 2013). In children experiencing food insecurity, there is evidence of lower fruit (Hanson & Connor, 2014) and vegetable (Eicher-Miller & Zhao, 2018) consumption when compared with food secure children, and increased risk of truancy from school and developmental delays (Ramsey, Giskes, Turrell, & Gallegos, 2011).

In order to combat the adverse outcomes associated with food insecurity, a household must have the ability to economically and physically access and utilise nutritious food, and the food supply must be available and stable over time and obtained in a socially acceptable way. These well-known 'pillars' of food security, informed by the human right to food and articulated by United Nation's agencies (The Food & Agriculture Organization of the United Nations, 2018), can be used to monitor the prevalence and drivers of food insecurity and design programme and policy responses. The evidence documenting the growth, and yet limitations in the capacity of food banks to fulfil the right to food, and on the over-reliance of Western governments on this charitable system, is substantial (Bazerghi, McKay, & Dunn, 2016; Loopstra, 2018). Social enterprises are a newer evolution in civil society responses to food insecurity, and merit evaluation and consideration for their contributions and limitations.

A social enterprise is a commercially viable business, which exists to benefit the community, rather than shareholders or business owners. They have grown in popularity worldwide, particularly over the last decade (Santos, Pache, & Birkholz, 2015; Wills, 2017). From microfinancing, to environmental and health projects, social enterprises can take many forms and several have been evaluated as effective (Barraket & Yousefpour, 2013; Roy, Donaldson, Baker, & Kerr, 2014). They have also been characterised as '…fragile organizations that run the risk of internal tensions and mission drift…and…(*can*)…find it difficult to achieve financial sustainability' (Santos et al., 2015). A systematic review found the greatest value in the social innovation that these enterprises embody is in their capacity to redress broad system failures at local levels (Mason, Barraket, Friel, O'Rourke, & Stenta, 2015).

The literature on social enterprises that aim to reduce or prevent food insecurity in high-income settings is limited. Co-operative 'Social Supermarkets' have emerged in the United Kingdom, Austria, France, Greece, Canada and Italy (Holweg & Lienbacher, 2011; Saxena & Tornaghi, 2018) but not in Australia (Wills, 2017). These co-operatives sell donated foods 50%–70% below market prices and provide volunteer and employment opportunities. There is a lack of empirical research on Social Supermarkets (Saxena & Tornaghi, 2018). In the community sector, other entrepreneurial food security projects such as The Detroit Food Lab in the USA (The FoodLab Detroit website, 2018), Meechim Farm in Northern Manitoba Canada (The Northern Manitoba Food Culture & Community Collaborative website, 2018) and The Community Food Social Enterprise Network Scotland (The Social Enterprise Network Scotland, 2018) appear to be growing in profile and self-reported impacts.

What is known about this topic

- Household food insecurity is a complex problem associated with adverse health, social and educational outcomes.
- Social enterprises are emerging to help alleviate food insecurity, although there is limited evidence to guide their development or assess their effectiveness.

What this paper adds

- An Australian social enterprise fruit and vegetable market was found to vend produce 40% cheaper than nearby outlets and hence contribute to economic access to nutritious food in socioeconomically deprived suburbs.
- This is one of the only published papers on social enterprise and food security, to assist in the further development of these enterprises, evaluations, randomised intervention designs and participatory community research is required.

Otherwise, there is substantial literature on another civil society activity with a long history – charitable food. These food banks, soup kitchens, emergency food parcels and similar, have been generally characterised as nimble and locally responsive, and more appropriate when they offer nutritious food, choice and are embedded within community development programmes and advocacy (Lindberg, Whelan, Lawrence, Gold, & Friel, 2015; Martin, Wu, Wolff, Colantonio, & Grady, 2013). However, these programmes were not established to tackle the root causes of household food insecurity such as failed social welfare policies and fractured food systems. Furthermore, some offer non-nutritious, not-culturally appropriate, stigmatising services that can, at worst, exacerbate the vulnerabilities of the communities they serve (Middleton, Mehta, McNaughton, & Booth, 2018; Simmet, Depa, Tinnemann, & Stroebele-Benschop, 2017; Tarasuk, Dachner, & Loopstra, 2014).

1.1 | The Australian context

Social enterprises have operated in Australia for at least 15 years and this sector is growing (Barraket, Mason, & Blain, 2017), although the number and the impact of enterprises that aim to tackle food insecurity are unclear. Wills established that Australia's civil society was ill equipped to transition from food charity to entrepreneurship (Wills, 2017). McKay and colleagues (Haines, McKay, Dunn, & Lippi, 2018; McKay, Lippi, Dunn, Haines, & Lindberg, 2018) found that a social enterprise aimed at supporting asylum seekers and refugees had elements of paternalism and some disempowering (charity-like) methods of operating. McKay et al. also concluded that the enterprise promoted and enabled '…a social connection and create(d) a positive experience' for this highly marginalised community. There is, to our knowledge, no further Australian peer-reviewed literature to draw from. Sustainable food growing (Ladder, 2018), hospitality ventures (Streat, 2018) and community food hubs (Sustain: the Australian Food Network, 2018), are just some of the example enterprises that have emerged to reduce food insecurity and poverty in Australia.

This research was designed to evaluate a social enterprise called *The Community Grocer*, which operates weekly pop-up fresh food markets, open to all customers, in community settings in Melbourne, Victoria. The mixed-method evaluation aimed to examine *The Community Grocer's* ability to increase access, use and availability of food in socioeconomically disadvantaged areas, via a socially acceptable means. In the light of the growing interest in social enterprises, this research will help determine if, and how, social enterprises have a role in responding to household food insecurity in a high-income setting.

2 | MATERIALS AND METHODS

This case study was completed using a mixed-methods approach, with multiple data sources, to critically evaluate a social enterprise. Case study is an in-depth exploratory methodology for investigating causal relationships between a phenomenon (food security) and the context where it occurs (low socioeconomic status communities), taken from the perspective of those involved (customers at local markets) (Yin, 2009). A key advantage of case study methodology is that it can facilitate the collection of data from multiple sources, which can provide a rich and detailed understanding of reality (Stake, 1995).

Data were collected by student-researchers as part of a placement under the supervision of the co-authors. The evaluation data were collected over autumn (Phase 1: April and May 2017) and summer (Phase 2: February and March 2018). These time points were dictated by the placement timing. Ethics approval was obtained from the Monash University Human Research Ethics Committee.

The evaluation research question was:

What is the impact of a localised social enterprise fresh food market on the food security of low socioeconomic status individuals?

The objectives were to evaluate the market's impact on food security, in terms of:

- Access (economic and physical access to allow nutritious foods to be purchased, transported, prepared and consumed)
- Availability (the availability of sufficient, quality, varied, nutritious and culturally appropriate foods)
- Utilisation (the customers knowledge and skills to purchase and prepare nutritious foods)
- Social acceptability (as food security requires an individual to acquire foods in socially acceptable ways)

2.1 | The evaluation case study context

The Community Grocer was founded in Melbourne by two experienced not-for-profit food security practitioners. It became a registered charity in 2014. By mid-2018, it operated six weekly fruit and vegetable markets located in Australia's second largest city. Paid staff, with the assistance of volunteers, set up the weekly markets and sell the products to between 60 and 100 customers per market. Staff and volunteers include people recruited from the local area.

Community consultation assists with establishing markets in areas of low socioeconomic status, stocking and pricing products to meet cultural expectations and affordability goals and also, integrating markets within the other community development projects in the region. Organisational funding also affects location and pricing. Both philanthropic funding and volunteer labour enables the enterprise to purchase assets (such as tables, signage and sales equipment) and operate the market as a low-cost venture (products are priced at approximately 30% above the wholesale price). Weekly orders of fresh produce are purchased from a commercial wholesale business and delivered on the morning of the market. The governance and financial sustainability are the responsibility of a Board of Directors. At the time of the evaluation, the markets operated not entirely as commercially viable businesses, but not entirely as charity.

Of the six markets that were in operation by August 2018, three, all located in Melbourne's northern suburbs, were included in this evaluation:

- Site 1: Carlton
- Site 2: Fawkner
- Site 3: Fitzroy

Site 1 and 3 markets are located at the base of government-subsidised high-rise social housing apartment blocks, and site 2's market is out the front of a community health service. Site 3 was not yet open in Autumn 2017, and therefore, was only included in phase 2 (Summer, 2018). A fourth market is co-managed by *The Community Grocer* and an external partner who had conducted their own separate evaluation and to not over-burden the customer base, were excluded from this study. Two other markets were new and hence, too recent for data collection.

The market suburbs are socioeconomically disadvantaged and multicultural. All three suburbs have an index of relative socioeconomic disadvantage in the lowest 25% nationally (site 1:

16th percentile, site 2: 12th percentile and site 3: 24th percentile) (Australian Bureau of Statistics (ABS), 2018c). The lower the index the more the disadvantaged. This means that people that live in these three suburbs, may have limited access to economic resources and low levels of education and skills, in comparison to three-quarters of other Australian suburbs and towns. However, interpreting this index at the suburb level warrants caution. At the boarder local government area, these suburbs are located within the *least* socioeconomically disadvantaged areas in Australia (site 1: 89th percentile, site 2: 77th percentile, site 3: 86th percentile) (Australian Bureau of Statistics (ABS), 2018b). On average in Australian suburbs, approximately 67% of inhabitants are born in Australia. At site 1, 27% of inhabitants, site 2, 45% of inhabitants and site 3, 53% of inhabitants were born in Australia (Australian Bureau of Statistics (ABS), 2018a).

2.2 | Data collection tools and recruitment

2.2.1 | Survey

A 14-item survey was used in phase 1 and 2, designed to capture the demographic characteristics of customers, classify the severity of food insecurity in households and understand how the market contributes to the evaluation objectives of interest (access, availability, utilisation and social acceptability). The survey comprised of 13 tick-box questions with fixed responses and then one final open-ended question to allow participants to add any additional comments. Food security status was determined by an affirmative response to the commonly used question (Australian Bureau of Statistics (ABS), 2015), 'In the last 12 months were there any times that you ran out of food, and couldn't afford to buy more?' with severity determined by a subsequent frequency question (e.g. weekly, fortnightly, once per month). Market customers were invited to complete their surveys independently, however where requested, student-researchers could assist (for example, reading questions to customers). During phase 2 of data collection, four new items were included to provide additional detail on customer demographics: (i) age; (ii) number of people living in household; (iii) occupation status; and (iv) estimated average spend on food per week.

The survey participants were a convenience sample of customers. While carrying out their shopping, customers were non-systematically approached by student-researchers. After a brief overview of the project, willing customers were provided the explanatory statement and consent form before participating. Customers were excluded if they were attending their first market or unable to communicate with the student-researchers due to English language difficulties. Surveys were completed on site taking between 5 and 10 min.

2.2.2 | Customer interviews

Participants, after completing the survey, were invited to also partake in a qualitative interview. Willing customers were provided another explanatory statement and consent form before participating. A semi-structured interview guide (see Box) was used to gain more in-depth perspectives of customers. The guide was designed to explore the themes of community connections, social acceptability and experiences attending *The Community Grocer*. Interview length ranged between 4 and 27 min and was conducted by student-researchers on site, wherever practical near to market. Interviews were conducted in English, voice-recorded and transcribed verbatim. Field notes were also taken while student-researchers were at markets collecting surveys and interviews, to capture general observations relevant to the research objectives.

2.2.3 | Cost comparison

A cost comparison to determine the affordability of *The Community Grocer* when compared to nearby fresh food retail outlets was conducted in phase 1 and 2. Common items between *The Grocer's* product line and the fruit and vegetable component of the *Victorian Healthy Food Basket* survey (a widely used standardised food affordability tool) were utilised (Palermo & Wilson, 2007). The 10 common items were:

Box 1 Semi-structured interview guide

Why do you come to The Community Grocer?
How often do you come and how do you get here?
Is it easy to access the market? Do your friends/family shop here as well? Why/why not?
Approximately how much are you spending on food each week and how many people are you buying for?
Has shopping at The Community Grocer changed how you buy food in anyway? Or how you or your family eats food? *Prompt: Changed how much or variety of fruit and vegetables you eat? Cooking confidence or recipes? Anything else?*
Have you made friends at the market or chat to people or stay for the BBQ? Do you feel connected to your community when you come along to something like this?
What would you do if The Community Grocer shut down?
Do you have any ideas about how to make the market better?
Any other comments about what we have discussed?

- three fruits (apples, oranges and bananas); and
- seven vegetables (carrots, potatoes, onions, lettuce, cabbage, pumpkin and tomatoes).

For most items, the price per kilogram (kg) was recorded, with the exception of cabbage recorded as half (taken to be 900 g) and lettuce as whole (taken to be 500 g).

A 1 km radius from the location of each market was identified using Google maps. This radius was chosen to reflect the most likely alternative outlets used by customers. Food retailers (such as large chain supermarkets, green grocers, organic stores) within these areas were then visited on foot, with student-researchers also exploring the area to include any other relevant outlets. Outlets were excluded if they were closed on arrival or failed to stock more than two required items.

A price list from *The Community Grocer* market sites 1, 2 and 3 was obtained and price data were also captured at each outlet. As prices for fruits and vegetables can vary between weeks, it was crucial to obtain all data within one area on the same day to ensure comparisons were accurate. Data were captured from a total of 18 market days and from 27 visits to 19 outlets, across phase 1 and 2.

2.2.4 | Market log

A market log was provided by the three market managers. This log included information such as total revenue, customer numbers, average sales and weekly invoices.

2.3 | Data analysis

2.3.1 | Survey

Questions 1–13 were entered into Microsoft Excel and then uploaded into IBM SPSS Statistics Version 25 to be examined quantitatively. Responses to question 14 were collated into a table for thematic analysis and co-analysed with the interview data. Descriptive analysis was used to describe the demographic characteristics of the sample. A number of variables were analysed both as a total study population as well as split by market location and phase 1 and 2. The four additional questions added in phase 2 were analysed independently.

Household structures and reported household income were used to assess the number of 'low-income' customers. Singles (Category 1), couples (Category 2) and single parents or couples with one or more children (Category 3) were identified. These 'typical' household structures were classified, then, as low income if they reported that their household weekly income was below a commonly used threshold of $AUD575 for Category 1, $AUD865 for Category 2 and $AUD1150 for Category 3 (Department of Human Services, 2018).

2.3.2 | Interview

De-identified transcripts were manually deductively analysed by co-authors and grouped into codes and categories. These were then refined into broader themes, aligning with the four objectives of the evaluation. The emerging themes from the interviews were used to triangulate and validate the findings from the quantitative data, and cross-referenced with observational field notes.

2.3.3 | Cost comparison

The recorded prices were electronically entered and combined into a Microsoft Excel spreadsheet. The average price of each item was then calculated for each outlet combined and then compared to *The Community Grocer* pricing as a percent difference. Paired samples *t* test were undertaken to compare the difference in mean cost.

2.3.4 | Market log

These data were entered into Microsoft Excel and used to determine customer attendance, average spend per customer ($AUD) and the variety of produce available. Invoices from each market were used to determine the approximate average amount of produce purchased per customer (total kilograms ordered, divided by the total number of customers).

3 | RESULTS

Across phase 1 and 2, the evaluation enabled the collection of: n = 91 customer surveys (phase 1 n = 43 and phase 2 n = 48, with n = 35 at site 1, n = 41 at site 2 and n = 15 at site 3), and n = 12 semi-structured customer interviews (two males, 10 females, across sites), along with 27 cost comparison audits at 19 outlets (phase 1 and 2) and analysis of 18 market days operating in two seasons. Results are reported, first, in order to describe the markets and customer base in more detail. Second, the pillars of food security are used to present the findings thematically in order to answer the research question about the impact of a localised social enterprise food market on the food security of low socioeconomic status individuals.

3.1 | Description of the markets

Across the three market sites in phase 1 and 2, an average of 85 sales was recorded in the logs at the markets each week. Typically, market managers ordered between 370 kg and 570 kg of fresh food (fruit, vegetables, herbs and eggs) to sell at their afternoon or morning market, averaging 5 kg per customer. The observational field notes suggest a lively atmosphere with: conversations between some customers, volunteers and staff; the presence of a barbeque; visiting artists and community services; together with other vendors selling traditional handicrafts and cultural foods.

3.2 | Description of the customers

Based on the additional questions to the phase 2 survey, customers were mainly aged 25 to 44 years old (54%), lived with two to five people (74%) and about one-third were employed. Two thirds (66%)

of customers reported spending less than $200 per week on food for their household (Table 1).

A diverse range of nationalities (n = 34) were reported in both phases (Table 2). Twenty-one per cent of customers were food insecure (Table 3) with approximately one in five food insecure experiencing this on a weekly to fortnightly basis. Of the customers who lived in a 'typical' household structure (single, couple, single parent or couple parents) and who reported their weekly household income (n = 49), 80% were assessed as meeting the threshold for low-income status (Table 4).

3.3 | Access to food

A comparable basket of 10 fruit and vegetable lines cost, on average, $AUD 35.97 at local retail outlets and an average of $AUD 21.27 at *The Community Grocer* markets. This equates to a 41% difference in cost, indicating that *The Community Grocer* markets were significantly less expensive (p = 0.02) (Table 5). The markets' low pricing was a key theme identified in the customer interviews. The low cost was valued and comparisons to other shops (such as local supermarket chains) were made by customers. One interviewee reflected: *Well what did I spend today? Six dollars and thirty cents or something like that. Amazing. But I got lots of things I need.*

According to customers, over half visited every week and about three-quarters (74.7%) lived within 1 km of the market, taking less than

TABLE 1 Demographic characteristics of The Community Grocer customers who completed survey (phase 2) n = 48

Variables	Frequency, n(%)
Age (years)	
18–24	4 (8)
25–34	14 (29)
35–44	12 (25)
45–54	7 (15)
55–64	9 (19)
65+	2 (4)
Number of people living in household	
1	4 (9)
2	8 (17)
3	7 (15)
4	10 (21)
5	10 (21)
6	3 (6.5)
7	3 (6.5)
>8	2 (4)
Occupation	
Casual/part-time	12 (25)
Full-time	5 (10)
Stay-at-home parent	10 (21)
Student	6 (13)
Unemployed	4 (8)
Retired	8 (17)
Other	2 (4)
Did not answer	1 (2)
Approximate household spending on food per week (including takeaway, supermarket, grocer, restaurant) AUD$	
$50–100	10 (20)
$100–200	22 (46)
$200–300	9 (19)
$300 and over	6 (13)
Prefer not to say/did not answer	1 (2)

TABLE 2 Nationality of The Community Grocer customers completing survey (phase 1 and 2) n = 91

Nationality	Frequency
Australian	16
Somalian	5
Ethiopian	5
Italian	5
Vietnamese	4
Indian	3
Lebanese	3
Sudanese	2
Chinese	2
New Zealander	2
English	2
Pakistanis	2
Turkish	2
Arabic[a]	2
Paraguayan	2
Sri Lankan	2
Macedonian	1
Iraqi	1
Yemeni	1
Portuguese	1
Eritrean	1
German	1
French	1
Russian	1
Greek	1
Dutch	1
Singaporean	1
Filipino	1
Cambodian	1
Chilean	1
Pakistani	1
Palestinian	1
Did not answer	16

[a]Did not disclose nationality.

10 min to travel there and mostly (56%) on foot (Table 6). Similarly, interviewees described the geographical ease of access to the markets. One participant felt that it was … *great just having something like this, because if there wasn't, it's just very difficult for people if, with transport and especially around here with a disability, because it's really only [the major supermarket] down the road. There's few shops here. To get to a market for some people is really difficult for them with public transport so yeah, it's lovely.* Several interviewees reported health conditions (such as arthritis and mobility issues) which limited their ability to carry groceries a long distance or access shops.

TABLE 3 The Community Grocer's customer food security status and frequency of experience (phase 1 and 2) *n* = 91

Food security variables	Phase 1 *n* = 43 *n*(%)	Phase 2 *n* = 48 *n*(%)	Total Phase 1 & 2 *n* = 91 *n*(%)
In the last 12 months were there any times that you ran out of food, and couldn't afford to buy more?			
Yes	14 (32)	5 (11)	19 (21)
No	27 (63)	39 (81)	66 (73)
Don't know	2 (5)	2 (4)	4 (4)
Don't want to answer	0	2 (4)	2 (2)
If you answered yes to question above, how often would this happen?			
Weekly	3 (21.5)	0	3 (16)
Fortnightly	1 (7)	0	1 (5)
Once per month	3 (21.5)	2 (40)	5 (26)
Less than once per month	6 (43)	1 (20)	7 (37)
Don't know	1 (7)	2 (40)	3 (16)

3.4 | Availability of food

Markets were open to the public at the same time each week, and the observational notes included the varied times and days, which were set to best suit the community at each site. Site 2 closed during school holidays, for example, whereas only national public holidays impacted sites 1 and 3. This meant food was reliably and consistently available to local communities.

Approximately 50 to 60 products were ordered (see Table S1) and vended weekly. Typically this meant around 20 different fruits, 30 to 40 vegetables and a range of herbs, eggs and garlic, ginger and chillies. This indicates that only nutritious food, consistent with the Australian Dietary Guidelines (The National Health & Medical Research Council, 2015), was vended at the markets. Cultural foods, that may not otherwise be typically sold, in Melbourne supermarkets or green grocers, included okra, Chinese broccoli, daikon and bitter melon were also available.

The quality, variety and choices offered were identified as favourable aspects of the market according to those interviewed, for example one customer stated that *I can buy things I want to buy when I want to buy them and the amount I want to buy.* Another customer explained that she knew she could request and order particular fresh items through the market, if she discussed this with the market manager. And many interviewees repeated their appreciation for the *fresh*, *good quality* and *good value* items. Several observed that items ran out and the best products were available early and also, that the supermarkets were still required to purchase …*staples, tinned food, pasta.*

TABLE 4 'Typical' households and their self-reported income, assessed for low-income household status (phase 1 and 2), *n*=49[a]

Category of household structure (1–3) and reported income $AUD	Phase 1 (*n* = 30), *n*	Phase 2 (*n* = 19), *n*	Total Phase 1 & 2 (*n* = 49)
Singles (category 1)			
<$575	8	0	8
>$575	1	3	4
Couples (category 2)			
<$865	5	3	8
>$865	1	1	2
Single parents or couples with one +children (category 3)			
<$1,150	13	10	23
>$1,150	2	2	4
Total (%) low income households	26	13	39 (80%)
Total (%) not low income households	4	6	10 (20%)
Total category 1–3 sized households	30	19	49 (100%)

[a]Only 49of 91 customers were included. Customers had to have responded to the question about household structure and fit into Category 1–3 (those classified as 'other' were excluded). Additionally, they also had to have responded to the household income question ('prefer not to say' responses were excluded).

TABLE 5 Comparison of mean cost per kilogram (AUD$) for 10 common fruit and vegetable items, at The Community Grocer (Site 1, 2 and 3 markets) and other local food retail outlets (<1 km) (phase 1 and 2)

Item	Mean cost per kilogram at markets	Mean at cost per kilogram at local food outlets	Difference cost per kilogram
Apples	2.72	4.89	2.17
Oranges	2.07	4.43	2.36
Bananas	3.00	3.75	0.75
Tomatoes	3.72	5.15	1.43
Potatoes	1.16	3.38	2.22
Pumpkin	1.52	2.73	1.21
Cabbage[a]	2.67	2.91	0.24
Lettuce[b]	1.74	3.08	1.34
Carrots	1.72	2.68	0.96
Onions	0.98	2.97	1.99
TOTAL	21.30	35.97	14.67*

[a]900 g (half). [b]500 g (whole). *$p = 0.02$.

TABLE 6 The Community Grocer customer physical access and frequency of market use (phase 1 and 2)

Physical access and frequency of use variables		Phase 1 n = 43	Phase 2 n = 48	Total (%) n = 91
How far away from the market do you live?	Less than 1 km	30	38	68 (75)
	More than 1 km	13	10	23 (25)
How do you usually get to the market?[a]	Bus	0	2	2 (2)
	Train	0	1	1 (1)
	Walk	21	34	55 (56)
	Cycle	1	3	4 (4)
	Drive	20	11	31 (32)
	Other	1	3	4 (4)
How long does it usually take you to get to the market?	<10 min	28	45	73 (80)
	10–20 min	11	2	13 (14)
	>20 min	4	1	5 (6)
How many times each month do you usually visit the market?	1	2	5	7 (8)
	2	6	9	15 (16)
	3	9	10	19 (21)
	4	25	23	48 (53)
	Did not answer	1	1	2 (2)

[a]Some participants ticked more than one response.

3.5 | Utilisation of food

When asked, in interviews, about any changes in cooking or consumption of fruit and vegetables as a consequence of shopping at the markets, several interviewees reported no changes. Some, however, did share that they were now able to access more fruit and vegetables than previously and hence they felt the market had helped them to utilise more nutritious food. Several also described their confidence and enjoyment of cooking, for example, an interviewee explained *I mean I can cook good, I can cook everyday* and another joked *Yeah like my friends they laugh at me when they see me cook it's like wow you can cook bro. I'm like yeah man I did it by myself.*

The average customer spend recorded in logs was AUD$17.20 which could enable customers to purchase and then cook, for example, a range of varied fresh ingredients (see Box).

3.6 | Social acceptability and inclusion

Approximately 20% of the 'typical' households in the sample were not classified as low income, and hence, the market is likely to be serving some of the general population, as well as those who are more marginalised. An atmosphere comparable to a farmers market was commonly noted in field notes (e.g.: music, decorated tables and electronic-payment facilities).

Box 2 Example average shopping basket for $17.20

800 g Apples
1 kg Oranges
500 g Tomatoes
1 kg Potatoes
500 g Pumpkin
Cabbage – half
Iceberg lettuce
1 kg Carrots
1 kg Onions
250 g Okra
2 Limes

Almost all (91.2%) customers (Table 7) reported in the survey the feeling of being more connected to the community when attending the market. These results were further expanded on in the interviews, with customers sharing that the market provided a chance to meet *friendly* people and see their *neighbours*. Others highlighted that shopping at *The Community Grocer* enabled social interaction that did not occur at other retail outlets and welcomed the opportunity to meet new people. They wanted to help it succeed with one participant, for example, stating: *I want to support this Community Grocer so the more people that use it the more accessible it is for everybody.*

4 | DISCUSSION

The results support social enterprises having a role in responding to household food insecurity in high-income countries. Consistent with other research, the innovation that these enterprises embody is their capacity to help redress broad system failures at local levels (Mason et al., 2015). The regular weekly markets offer increased economic and physical access to a variety of fresh fruit and vegetables, and both food insecure/low-income people, and the general public are the multicultural loyal customer base. The implications of the case study are discussed below, in particular, the novel contribution this model makes compared to civil society's more traditional food security work: food charity. These markets are not the singular solution to preventing or ameliorating household food insecurity, which was found to be five times higher (21%) than the national average (4%) in the study sample. In Section 4.2, opportunities and considerations for the future are offered.

4.1 | Social enterprise markets promote localised food security

Despite the lack of clarity between fruit and vegetable intake and socioeconomic status, (Ball et al., 2015; Grech et al., 2017; Livingstone et al., 2017) access and availability of fruit and vegetables are well-established determinants of intake. This enterprise helps to reduce one of the commonly described barriers to access for people on a low income (Bisogni, Jastran, Seligson, & Thompson, 2012), the price of healthy food. Food affordability is of particular relevance to *The Community Grocer* customers since 80% of those who were assessed met the threshold for low-income status.

The blend of paid and volunteer staff, alongside the purchase of seasonal conventionally farmed produce through a wholesaler, and low-budget operations (for example, no permanent shop or storage) helps to reduce the overall cost of the model and hence, the significantly reduced prices for their customers. Items like oranges, onions and potatoes, were, on average, less than half of the cost of the outlets. To ensure the viability of the food system for population food security in a market economy, nutritious foods should not necessarily be 'cheap'. In a local urban community, where gentrification (Shaw & Hagemans, 2015) has led to organic stores and supermarkets catering for middle- and high-income customers, social enterprises may be able to appropriately support people on a low income. In Australia, when consumers are priced out of the two major supermarkets, few options other than charity, remain. Economic analysis of the cost benefits of food security social enterprises would assist in design and implementation in the future.

The agile pop-up nature of the markets and the deliberate choice of low socioeconomic locations help to tackle the physical barriers to household food security. Most customers walked to the markets and lived within 1 km. This ease of access is a valuable contribution because people who report food insecurity are more likely to have compromised mobility (Nolan, Williams, Rikard-Bell, & Mohsin, 2006) and/or poor health (Tarasuk et al., 2013), limited personal transport and/or less access to nutritious food outlets (Walker, Keane, & Burke, 2010), when compared to non-food insecure people. At the same time, in a Canadian study (Kirkpatrick & Tarasuk, 2010), high rates of household food insecurity were observed in urban areas with good geographic food access. Furthermore, unlike most commercial ventures, the markets are only open one half-day per week at each site, which may prohibit access for consumers. And for people who require emergency food during a period of acute crisis, the markets are not an appropriate service given their limited hours and range of goods.

TABLE 7 The Community Grocer customer reported community connectedness, markets combined (phase 1 and 2) $n = 91$

Question	Answer	Total (%)
Do you feel more connected to your community when you attend the market?	Yes	83 (91)
	No	6 (7)
	Did not answer	2 (2)

However, food insecurity is often chronic in nature (Hamelin, Habicht, & Beaudry, 1999). The reliable local vending of low-cost nutritious food in areas known for high-concentrations of socio-economic disadvantage may help prevent severe food insecurity and/or have a protective effect. Scaling these types of enterprises into known food deserts or areas of deprivation, would likely make a contribution to the food security of customers and the broader local community.

The varied fruit and vegetable products and regular weekly supply from the social enterprise, helps to ensure nutritious food is available and enjoyed by local communities. This may combat the monotony and sub-optimal nutrition known to be present in the diets of people experiencing food insecurity (Hamelin, Beaudry, & Habicht, 2002). Kneafsey Dowler, Lambie-Mumford, Inman and Collier (2013) found lower income consumers report '…that they must compromise on nutritional quality…This compromise in turn is likely to contribute to a reduction in the enjoyment and pleasure derived from food shopping and consumption, linked to the awareness of one's inability to choose from the 'better' quality brands and products' (p. 102). The interviewees, although a small sample, appeared to value the quality available at the social enterprise. Variety could be increased within these types of programmes if legumes, milk, cereals and other nutritious foods were vended alongside fruit and vegetables. *The Community Grocer* also makes culturally specific food available. This is likely well suited to the needs of multicultural customer base. Ethnic food retailers, similar to the results in this study, have been found to act as 'community centres' by providing spaces and opportunities for customers to socialise and linger (Khojasteh & Raja, 2017).

Finally, the markets mimic a typical retail environment reflecting social norms around food shopping. By replicating a conventional experience that offers customers autonomy of their grocery choices, *The Community Grocer* can circumvent a 'paternalistic food acquisition experience…' (p. 67) more common in food charity (Wills, 2017). Instead of presupposing community needs (Hamelin, Mercier, & Bedard, 2010), the inclusion of community members as volunteers, monitoring sales data through the market logs and/or the consultation of community for the initial set-up phase, is likely to contribute to the models success in vending relevant products to meet customer expectations. Ongoing formal community consultation and/or employment of community representatives (like Social Supermarkets; Holweg & Lienbacher, 2011) may further embed this.

4.2 | Food security interventions require multi-faceted approaches

The capacity of households to store, purchase, prepare and consume nutritious food is the utilisation pillar of food security. It was investigated in the case study and at least some customers reported increased use of fruit and vegetables as a consequence of shopping at the markets. Increasing customer food literacy and improving their domestic/consumption environment in order to support optimum food utilisation is not, however, a part of the social enterprise's direct mission or activities. In the future, models like this may benefit from working in collaboration with food literacy programmes (if there is an identified need, which is often presupposed in this community despite evidence to the contrary; Wicks, Trevena, & Quine, 2006) or with government housing departments to ensure customers have access to appropriate kitchen facilities (Wicks et al., 2006).

More broadly, social enterprises would likely have the greatest capacity to affect food security if they were integrated into a cohesive policy and programme approach to protect, respect and fulfil the right to food. A rights-based approach positions the elected government and public funds, not civil society and philanthropy, as the leading agents for food security. Within government's strategy and activities, social enterprises, food charities, the housing sectors, private food business and social protection measures would be connected and coordinated to promote food security. Monitoring would be national and regular and targets for reduction would be articulated and reported on. Without this, social enterprise food security strategies will likely be limited to local effects only, similar to community kitchens and gardens (Loopstra, 2018).

In Australia, there is evidence to suggest a resistance to food-based social enterprises from dominant food retailers and an unsupportive regulatory environment (Wills, 2017). When this is combined with the fragile nature sometimes apparent in the finances and strategy of social enterprises generally (Santos et al., 2015), government, philanthropic and/or private enterprise investment and support will be necessary to ensure growth and viability of this response to food insecurity.

4.3 | Study limitations and future evaluations

This study was conducted within the constraints of a limited budget and time period which have reduced the rigour of the design. Only 10 items (Palermo & Wilson, 2007) were included in the price analysis, inexperienced student-researchers collected all data and there was a lack of comparison group or evaluation pre- and post-intervention. All customer data were self-reported and limited to a convenience sample. The cumulative effect of these limitations could have obscured the data collected and hence the findings of this study, one of the few on social enterprise and food security, should be interpreted as preliminary.

In future evaluations, validated measures for self-reported fruit and vegetable intake, socioeconomic status and general health should also be included in a uniform survey for all sites. Language barriers precluded some customers from participating and funding will be required for interpreters. Participatory community research would add value to the evaluation. Pre- and post-evaluations and randomised intervention designs can be costly but would make a substantial contribution to the very limited evidence on the effectiveness of a growing nutrition intervention: the social enterprise.

5 | CONCLUSION

This paper presented an evaluation of *The Community Grocer*, a social enterprise based in Melbourne, Australia. The aim was to examine the ability of this new model to increase access, use and availability of nutritious food in a socially acceptable way, for low socioeconomic status individuals. The mixed-method design found that the markets help to address food security, particularly in terms of economic and physical food access, and the availability of varied, nutritious and culturally relevant fruit and vegetables vended through a socially acceptable and inclusive setting. Social enterprises may be part of a solution to food insecurity, particularly if they were scaled up and integrated into a comprehensive right to food approach. This evaluation adds to the limited evidence base of the impact of social enterprise models to address food insecurity in high-income urban settings.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

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