The Food Circle

Connecting people through home cooked meals

INOVM0015: Innovation, Entrepreneurship and Enterprise

Business Plan

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Executive Summary

The Food Circle (TFC) is a presenting a new way of dining through a meal sharing app that will provide healthy home cooked meals at low cost, reducing food miles and food waste. Eating can be very expensive or time consuming with 28% of people in the 18-34 age range getting takeaway at least once per week [1]. In addition to this, TFC's preliminary survey of 103 respondents revealed that 66% spend too much time cooking and cleaning up, 60% weren't content with the variety of food they cooked, and 37% spend over £40 on food each week.

Through TFC, users can spend in-app currency – called tokens – to have dinner at each-others houses, or an option for a takeaway homemade meal. As one person is cooking for many others, the total amount of money and time spent making food drastically decreases, providing users with a quick and cheap way to eat. The app provides key functionality to allow users to scroll through potential meals, with key criteria such as food type, distance, chef rating and time of meal on display.

Both primary and secondary research were conducted for market analysis, looking into customers, competitors and the food industry. TFC will target students and young professionals as the value proposition would be most appealing to the younger population. Top-down modelling was used to size the initial market of TFC as 2400 users in Bristol and this data is aligned with our growth strategy for future projections of market size. TFC's journey begins in 2022, firstly building a solid prototype for validation and developing an online presence through social media. TFC will aim to launch in September 2022, just before university opens.

TFC generates revenue via the facilitation of token exchange. Users can buy tokens through the app at a cost of £4.50 and they can sell their tokens for £2.00, generating a profit of £2.50 per buy/sell transaction. Break-even is forecasted to be achieved in the third year after we launch, and after five years, the cash flow of TFC is projected to be just under £4.4 million. TFC hopes to obtain initial funding of £20,000 via a Kickstarter project to enable the creation of a rudimentary version of the app. Following this, TFC seeks a further £250,000 from an investor in return for a 20% equity share of the company. With a projected net income of just under £2.4 million after five years, the expected pre-tax ROI is 860%, a competitive return. This investment will comprise of two stages: £100,000 will be used in year one to fully develop the app, and three instalments of £50,000 throughout year two will be spent on overheads. These instalments will be conditional on the validation and success of the first phase of our business. After five years we offer the option to buy out the investor's share at market value which is feasible based on our projected cash flow.

TFC's primary risks relate to user numbers and user safety. Key mitigation strategies will be implemented through measures such as detailed data analysis, proven marketing strategies, photo verification of each user and food safety training. TFC will initially operate in Bristol and will expand beyond the UK through a five year growth and development process. After a successful expansion, we will have the means to implement more features to our service that both our current and future competitors offer over us, forming a sustainable business model that has the potential to penetrate other food service markets.

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Executive Board

The Food Circle (TFC) Executive Board are introduced below:

Tom Goodwin

Chief Executive

Poomkhun Chayavoraprapa

Chief Operations Officer

Henry Giudici

Chief Technology Officer

Olivia Harris

Chief Financial

Lucien Joseph

Chief Analytics Officer

Vishnushree Srinivasan

Chief Marketing Officer

1 Value Proposition and Business Model

1.1 The Problem

Many young professionals and students want to eat healthily but find that it is either very expensive or time consuming to do so, and so they often opt for cheaper unhealthier alternatives like fast food. Young people are the most likely to buy takeaways; it was found that 28% of people in the 18-34 age range get takeaway at least once per week while 21.5% do so in the 35-54 range [1]. Young people that depend on takeaways spend a lot of money per week, and those who cook spend too much time. Families can avoid this problem as one family member can make dinner, saving time for others, however young people often do not have this option as they are living alone or with other professionals.

Results from our survey (Appendix E) support this: of our 103 respondents, 66% said they *spend too much time cooking and cleaning up*, and 60% said they were not *content with the variety of food they cooked*, and 37% said they *spent over £40 on food per week*.

1.2 The Solution

TFC brings the benefits of family cooking to individuals. It is a food sharing platform which facilitates users sharing meals with each other. By cooking for lots of people at once, huge amounts of time and money are saved. Tokens are used as a currency for users to exchange home cooked meals; with each diner spending a token to receive a meal and the cook receiving a token from each diner that attends their meal. Tokens can also be bought and sold from TFC and the difference in these prices is how TFC generates revenue.

If a user is planning to cook a meal, they can advertise it on the platform. Other users can then request to join, and the cook can choose to accept these requests based on the diner's profile and previous ratings. These features will be discussed in more detail in Section 2.2 along with other features which focus on creating a safe and balanced community.

1.3 The Value

Through TFC, people can eat communally without needing their family or close friends nearby. This is so powerful that the value it creates is multifaceted – TFC will be of value in different ways to different people. To demonstrate this, we have provided the example of Sam and Charlie, two potential users of TFC.

Charlie is a student. She has a hectic lifestyle and a small budget for food. She does not have time to cook for herself every night, but she cannot afford to constantly be spending money on takeaways. Bulk cooking is not an option because she never knows if she will be in the house for dinner, and her food could go to waste.

For Charlie, TFC offers a great solution: on the weekend she cooks for five people at her flat, and this gives her five tokens to spend later in the week. For example, on Monday at 5pm she realises she will be free that evening, and so uses one of her tokens to book dinner at 8pm. When she cooked on the weekend, she only spent £10 on the ingredients for six people (including herself), that is £1.67 per person. So, when Charlie wants a meal, she is able to spend one of her tokens on it - which only cost her £1.67 (in ingredients) - and she can do this four more times before she has to cook again.

Sam is a first-generation immigrant and is keen to integrate into his community, and he also wants to share his own culture with them. Sam has created a dinner group with locals who want to try Sam's food and to share their own. They use TFC to organize their dinners. They have a group on TFC (an optional feature), so meals posted in there are private, and they all get notifications when a meal is posted by someone. They take it in turns making dinner and learning about each other's cuisines. Through TFC they can see who cooked dinner last time and who's turn it is next, they, and Sam make a group of friends in his local area.

2 Description of Product and Service

2.1 Token system

Note on nomenclature throughout the document: the words **'cook'** and **'cooks'** are used to describe users who decide to cook a meal for others on a particular day, it does not mean they exclusively cook for others. The words **'diner'** and **'diners'** are used to describe users who attend a meal prepared by a **'cook'** on a particular night, but they themselves might cook for others the next night, where they would become a **'cook'**.

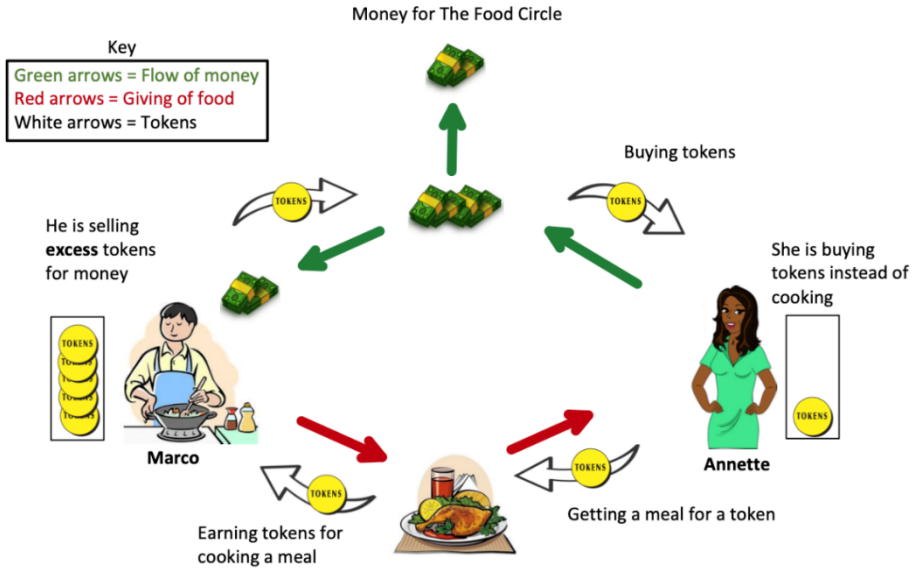

Figure 2.1: The Token System in Pictures

Figure 2.1 shows the operation which was described briefly in Section 1.2: The cases of a user who likes cooking a lot, and a user who does not cook very often are used to demonstrate the purpose of the token exchange system – shown by the green arrows. Because Marco is always cooking, he has excess tokens, and so sells them to TFC for cash. Conversely Annette does not have time to cook but still wants to eat, so she chooses to buy tokens from TFC, these are shown by the green arrows. Once Annette has the token, she can spend it on a meal from someone cooking that night, this is shown by the red arrows at the bottom.

Users that cook high quality meals will have the option of increasing the price of their meals to two tokens. This will only be allowed where a user has a high rating and a large number of meals completed. It will incentivise cooks to make better food and give diners the option of spending more if they would like.

2.2 Safety Features

We know that users may be apprehensive of people they do not know coming to dinner, that is why we have numerous features to help put users more at ease:

1. **Bring a friend:** Users will have the option of booking two places on a meal (paying two tokens) so they can bring a friend along to the meal. This is an important feature as concerned users will feel much safer arriving at the dinner venue with someone they know.
2. **Connect through Facebook:** The ability to connect with Facebook will be brought in. Our survey found that people would feel much more comfortable going to someone's house for dinner if they had mutual friends with them.
3. **Collect at the door:** We will give users that are cooking food the option to select some portions as takeaway. These portions would be advertised as such on the service and users will have to bring their own collection boxes. It will provide a way for people to use the service if they are nervous about having dinner at someone else's house.
4. **Rating system:** Users can rate each other as both a cook and a diner. For example, if the food does not match its description, or if a diner was more than ten minutes late the rating will reflect this, so other users can better choose which meals to go to/diners to invite.

2.3 App Design

TFC is an app that aims to connect people through their love of home cooked meals and various snapshots from the app can be seen in figures 2.2 and 2.3. Figure 2.2a displays the home screen where we offer the option of creating an account directly with us or signing in through Facebook.

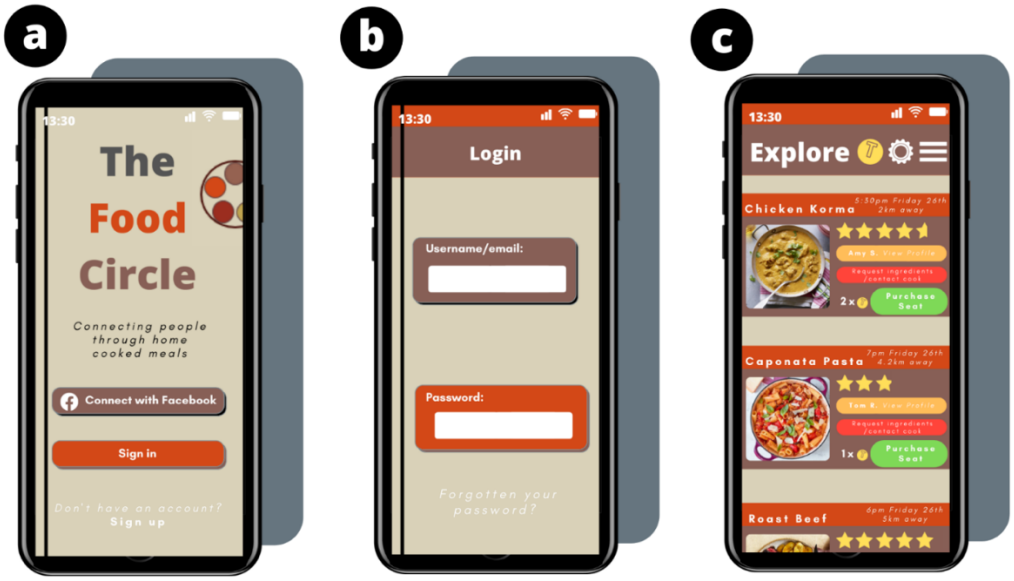

Figure 2.2: The Food Circle User Interface Part 1

Figure 2.2c displays the explore page, where users can scroll through potential meals. These meals can be filtered by typical variables such as distance, food type, rating as well as time of meal. The type of meal will be clearly displayed along with an image of the meal. Ideally the photo will be supplied by the user (from when they last cooked the meal) although stock photos will also be provided. Cooks' ratings will be displayed based on feedback from their previous meals. There is an option to view each cook's profile, alongside the ability to contact the cook to request ingredients in order to check for allergens. From our market research we found that users with allergies would feel safer if the cook has the same dietary requirements as they have, so we have included an option for cooks to display their own allergies or dietary choices on their profiles.

Figure 2.3: The Food Circle User Interface Part 2

Users can add cooks to their Favourites to be notified when they post a meal. Users can scroll through their favourite cooks to find meals as seen in figure 2.3a. As previously stated, users receive tokens for every user that attends their meal, and they can spend tokens to receive meals. There is also an option to buy and sell tokens through the app, costing £4.50 to buy a token and the user will receive £2.00 when they sell a token.

Food safety is of paramount importance, and we will provide training videos on food hygiene and allergens through the app, please refer to Section 7.4 for further details on this.

3 Market Size and Competition Analysis

3.1 Market Analysis

It is estimated that the global online food industry is worth 151 billion USD [2]. Any gap in a market of this size provides a huge business opportunity. Figure 3.1 shows existing companies within the online food industry, the region they operate in and the size of their user base. This shows that the market has scope for start-ups to grow from a small company to a large one like HelloFresh.

Existing Companies	Established	Market Region	Users
Home Cooked UK	2018	Liverpool & London	1k+
Savorly	2019	US & Mexico	50k+
Prep Kitchen	2018	Texas	40k+
HelloFresh	2011	Europe	5M+

Figure 3.1: Potential of Similar Markets

Our first step was towards obtaining customer validation was a survey for potential customers with 15 critical questions, allowing us to better gauge the needs of our target market. The response was highly positive, people were very receptive to the idea of TFC, and we had numerous survey respondents provide us with their email, so that they could be further informed of the app's development. Finally, there were a high proportion of respondents that said that they would use our service, this can be seen in figure 3.2. The results of the survey can be seen in Appendix E.

Figure 3.2: Key Impact Questions from Market Survey

3.2 Market Sizing

A top-down approach was utilised in market sizing as the assumptions made can be backed up with data collected from primary research. We are expecting the majority of initial customers to be university students, as value propositions such as saving time, money, as well as the social aspect of the service are more likely to appeal to the younger population. TFC aims to target students in Bristol in the beginning and expand to target more geographical regions in the future. Referring to figure 3.3, we started estimating the market size with the number of students in Bristol, which is approximately 60,000 [3]. From there, statistics from the survey were applied to narrow down the market, such as the number of people who cook, and the number of people who cook in bulk. Market penetration is assumed to be 5%, bringing the number of users to 2,400.

Taking growth and expansion into account, we analysed several cases for expansion of TFC in different geographical areas to create a five -year market sizing projection. This is done by considering general student population of Bristol, and then Bristol and Bath combined, Southwest, then expansion to London, to the whole of UK, and eventually areas of Europe. For further detail on this projection, please refer to Appendix C.

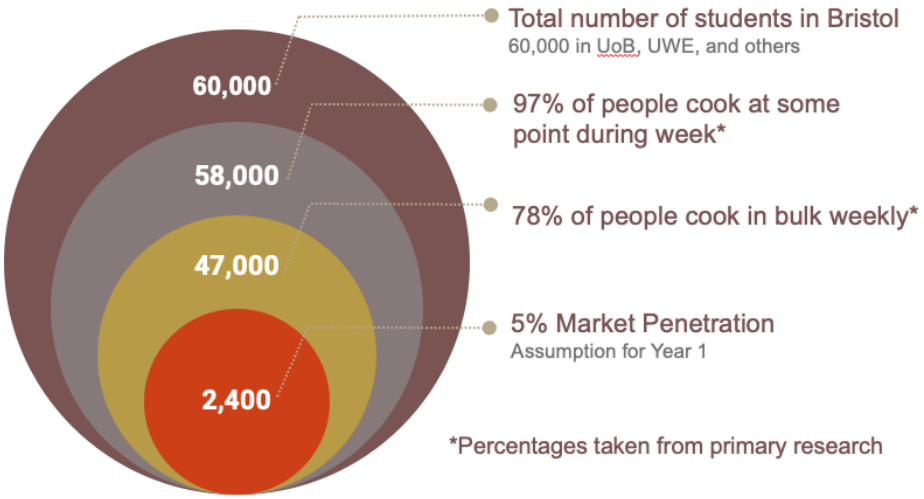

Figure 3.3: Visualisation of Market Sizing

3.3 Competition Analysis

There are lots of competitors in the food industry, such as Uber Eats, Just Eat, and Deliveroo. Worldwide there are 93 million users of Uber Eats and 60 million from European countries [4]. Even though these are global companies in the food industry, these are not direct competitors as they provide delivery service from restaurants only. TFC's direct competitor in the UK is Homecooked. However, Deliveroo is most concentrated in the UK where it has 7.1 million consumers [4]. Figure 3.4 displays the key features of Savorly, Prep Kitchen, Deliveroo, HelloFresh and demonstrates that they lack some of the services that fulfil the customer needs. The table highlights how TFC has the highest number of desirable features.

Competitor	Instant Meal Availability	Quick Sign-up	Meals Starting from <£5	Dine-in Option	Link with Facebook friends/mutuals	Delivery Service
Homecooked	✓				✓	✓
Savorly						✓
Prep Kitchen		✓	✓			✓
HelloFresh		✓	✓			✓
Deliveroo	✓	✓			✓	✓
The Food Circle	✓	✓	✓	✓	✓	

Figure 3.4: Comparison of Key Service Features with Competitors

The only direct competition in the UK is Homecooked but it is expensive and there are no dine-in and quick sign-in options. Other international competitors include Dish Divvy and Homemade in the USA, and Home Food in India. Indirect competitors include Olio and Prep Kitchen. Despite TFC not offering a delivery service right away, our goal is to integrate this feature into our app in the future, hence TFC will have an edge over our competitors.

4 Market detail

4.1 Route to market

This section will focus on the next steps of TFC as a start-up in four stages. There are five elements to tackle for the route to market [5].

1. Raising awareness of the company's product and services
2. Helping customers evaluate the company's value proposition
3. Allowing customers to purchase specific products and services
4. Delivering a value proposition to customers
5. Providing post-purchase customer support

In the first several years, the most important factors to focus on will be raising awareness of the company's services, helping customers understand the company's value propositions and delivering them well. The route to market timeline is shown in figure 4.1 and the four phases are described below.

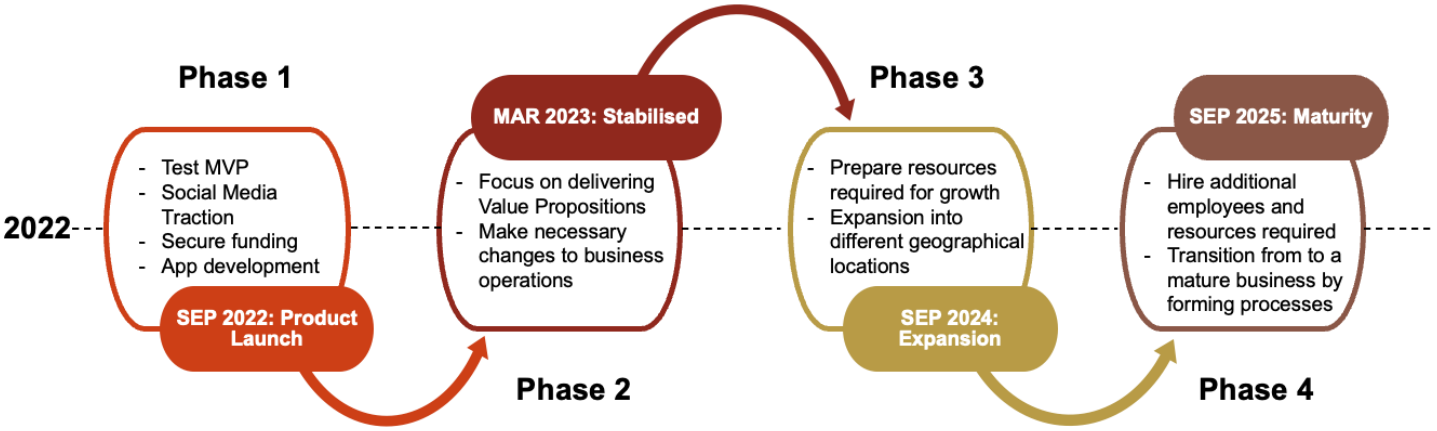

Fig 4.1: Diagram showing Route to Market Strategy

Phase 1 – Development and Product Launch

The end goal for this phase is to successfully launch TFC as a start-up company. The first step would be to build a Minimum Viable Product (MVP) and test it to gain validation from the market. Once the concept of TFC has been tested, social media accounts will be created to keep the target market updated, as well as to continue building traction. Typically, it takes an average of three to six months for a start-up to secure funding [6]. By dedicating a member of our team to specifically find funding, this will increase the potential of securing funding as soon as possible. App development takes approximately two months for more complex applications [7]. With two months before the launch, the marketing plan should be implemented, along with executing any operational details and logistics.

Phase 2 – Adapting and Stabilising

Once TFC has been established, it is crucial to monitor the operations side of the business closely in order to deliver customer value propositions successfully. TFC has specific operating considerations as it is a Customer to Customer (C2C) business, acting as a platform for consumers to interact with one another. If the operations of the business do not work as planned, then changes will have to be made to the business model, as well as operational logistics in Section 7. After TFC has a solid user base and following, the next step would be to find resources needed for growth. This involves issues surrounding financial calculations, marketing, technical feasibility, and growth strategy.

Phase 3 – Scaling and Expansion

Scaling is one of the most important aspects from a start-up company that differentiates it from a traditional business. The aim of this phase is to produce a high growth in revenue by capturing as much of the target market as possible, while expanding the service in wider geographical locations. Preparation is crucial in this step, as there are many different types of resources and risks involved for expansion. During year 2 and 3, most of the growth in customers for TFC will happen during this stage, with the goal of expanding throughout the UK, and some European countries.

Phase 4 - Maturity

In the Maturity stage, TFC will transition from a start-up to a more stable business. Sales revenue and growth will begin to level off, and cash flow will break-even. It is important to continue to innovate, and find new ways to improve TFC, by monitoring the customer feedback and data analysis. Furthermore, since TFC has been in operation for several years, it is likely that there will be useful data on food and consumption, that other companies may want to have access to. Therefore, there could be an opportunity to make new revenue streams through this channel.

4.2 Marketing Strategy

TFC will employ Sustainability Marketing Mix as opposed to Traditional Marketing Mix to identify key elements for the marketing strategy.

Traditional	Sustainability Marketing Mix	Description
Product	Customer Solution	Connecting users with home cooked food through a token system
Price	Customer Price	For cooks: - Costs of ingredients and time spent cooking For consumers: - 1 Token, or buy 1 Token for £4.50
Place	Convenience	Pick-up option. (Delivery will be implemented in the future)
Promotion	Communication	Online promotions, advertisements, social media platforms

Figure 4.2: Table to show Sustainability Marketing Mix

4.3 Branding and Advertisement

Advertising our brand effectively is a crucial factor in the success of TFC as it significantly affects the growth rate of the number of users of our app. Initially, we will create a strong social media presence utilising several different platforms, such as Instagram and Twitter, in order to efficiently capture the attention of a younger audience, particularly students and young professionals. The budget of our marketing allows us to hire university brand representatives, who will create a rapport with the student community and thus reflect the warm and welcoming characteristics of TFC. Analysing data collected from social media interactions will play a useful role in fine tuning our marketing strategy, allowing it to become increasingly effective. As TFC grows, we will invest in advertisement across other media platforms such as television, in order to spread awareness of TFC beyond the younger population. Additionally, we expect word-of-mouth to elevate our user numbers, particularly since TFC aligns with current trends of healthy eating and environmental consciousness.

5 Financial Plans and Projections

5.1 Costs

The primary initial cost of TFC is the development of our app, the estimated value of which is based both on primary and secondary research. A quote of £100,000 was provided by a developer who works at Valtech, an international digital agency. This value is based on a freelance hourly rate of £52 and an estimated total number of 1750 hours to develop two apps, one that is compatible with the iOS operating system and one that is compatible with the Android operating system. This conservative valuation is reinforced by research into the cost of the development of the AirBnB app which is in the region of $50,000 - $150,000 [8]. The AirBnB app and TFC app share many key features such as personal profiles, search tool, booking system, push notifications, geolocation, rating system, chat platform, in-app transactions, customer service etc., making their development comparable in cost.

Other fixed costs include app maintenance, app enrolment, legal fees, salaries of employees, software subscriptions, office rent, and marketing. As our company expands, TFC will need more staff, more office space and a higher marketing budget, which is accounted for in the projection of expenses. Data storage constitutes the variable costs and is dependent on the number of users of our app. The projected contributions of app costs, salaries, other fixed costs and variable costs in the first five years is shown in figure 5.1.

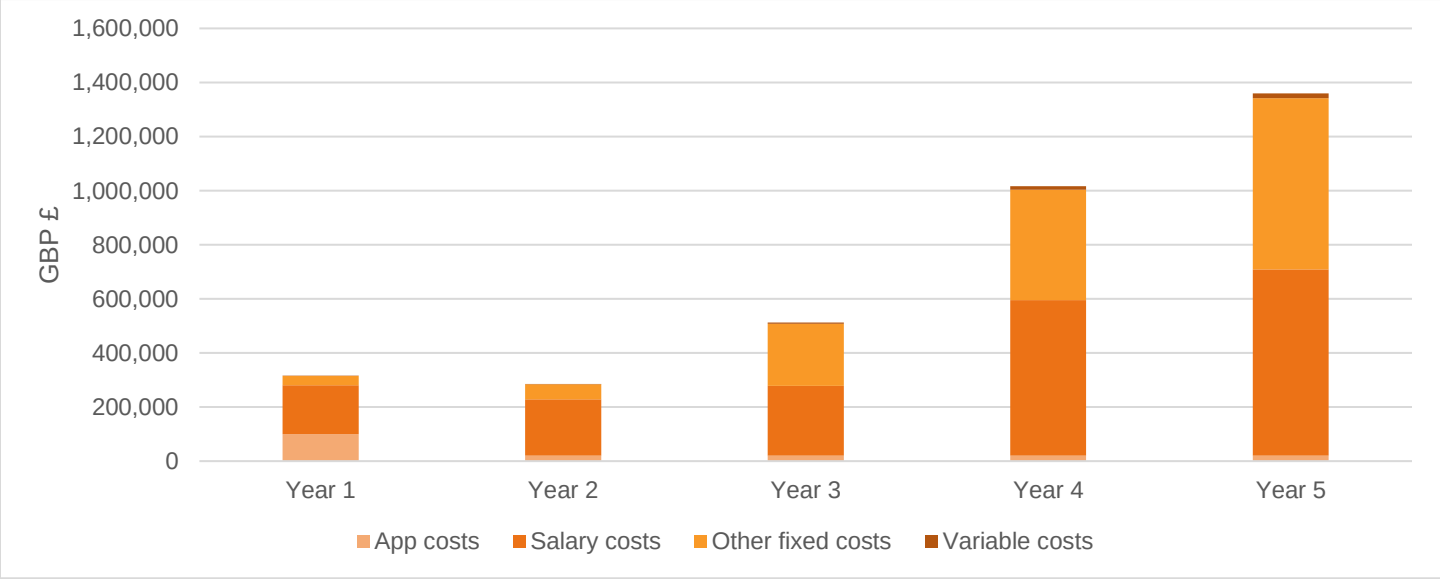

Figure 5.1: Yearly Contributions of each Types of Expense

5.2 Revenue

Three different strategies for generating revenue from TFC's model were considered; the strategies are described as follows.

Strategy 1: Set the rate of buying tokens to £4.50 per unit and selling tokens to £2.00 per unit, generating a profit of £2.50 per buy/sell transaction.

Strategy 2: Charge other companies to advertise on the interface of TFC app.

Strategy 3: Collaborate with food suppliers (such as supermarkets) or recipe box subscription companies (such as HelloFresh) on a sponsorship/commission basis.

The pros and cons of these strategies are detailed in figure 5.2.

	Strategy 1	Strategy 2	Strategy 3
Pros	▪ Will cause quicker acquisition of users than installation fee alternative ▪ Long term source of revenue that will increase exponentially	▪ Minimal additional expenses	▪ High short-term revenues which would benefit cash flow ▪ Aids expansion of network within the food industry
Cons	▪ Gradual initial flow of revenue; likely to negatively affect initial cash flow	▪ Very gradual so likely to negatively affect initial cash flow ▪ Risk of losing custom as appeal to clients relies on user screen time	▪ Only obtainable once we have a sufficient user base ▪ Less financial security (no guarantee of custom)

Figure 5.2: Pros and Cons of each Revenue Strategy

We have decided to employ Strategy 1 in the first five years of our business venture, and plan to combine this with Strategy 3 in the years after.

5.3 Sales Forecast and Revenue

The forecast of the number of sales of tokens within the first five years is determined by the growth rate of the number of users (N), which is in turn determined by the findings from our market sizing and the budget of our marketing expenses. Indeed, spikes in our progression between each stage of growth will be caused by monetary injections into our marketing strategy, allowing us to target larger geographical coverage. Other factors that determine the number of tokens sold are described in figure 5.3. The values of the following parameters are primarily based on the results of our survey.

Factors affecting sales of tokens	Notation	Explanation
The percentage of TFC users who will buy tokens	α	The percentage of survey participants who said they would use our app but would not cook food for other users
How often a user buys a token	β	The weighted average number of times a month a survey participant would order a takeaway as a result of being unmotivated to cook
The average number of tokens spent on a meal	μ	Determined using a uniform distribution across the token spending options

Figure 5.3: Revenue Calculation Parameters

Revenue is determined by a number of parameters; namely, N, α, β, μ and the profit per transaction (in pounds) given by $p1 - p2$, where $p1$ is 4.5, and $p2$ is 2. We chose the value of $p1$ to be sufficiently low to compete with other meal alternatives such as takeaways or ready meals, and chose the value of $p2$ to be high enough in order to satisfy customers who tend to collect more tokens than they use (and low enough to prevent users collecting an excess number of tokens). Revenue R is given by the following function:

$$R = \alpha\beta\mu(p1 - p2)N$$

Our five year revenue projection, as well as our sales forecast, is shown in figure 5.4.

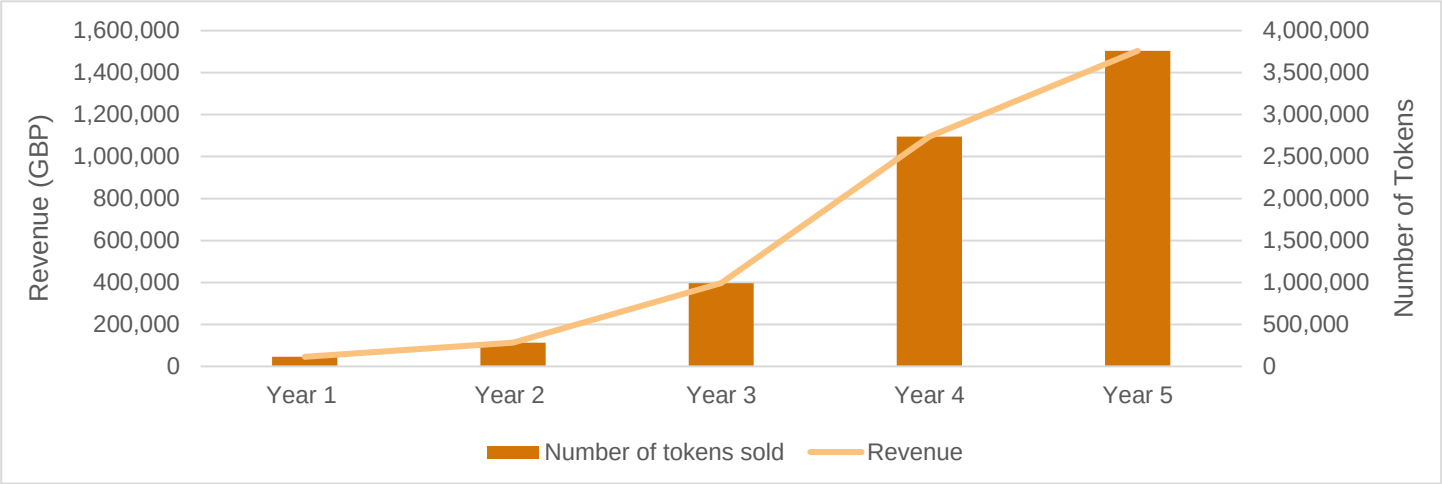

Figure 5.4: 5 Year Revenue Projection and Sales Forecast

Figure 5.5 shows the cash flow balance as well as the profit/loss analysis that we expect to see in the first five years. As the graph shows, we expect to break-even in year three. Without initial funding we expect to reach a minimum cash flow balance of approximately -£230,000 in year two, and a maximum cash flow balance of just under £4.4 million after five years. Figure 5.6 highlights the projected annual profit/loss. Details of the five year projections of cash flow and profit/loss (including revenue and expenses) can be found in Appendix A.1 and A.2, respectively. Note that these financial figures are based on a projection without initial funding. Additionally, all figures are stated in real terms (i.e. the inflation rate is set to zero) and before tax.

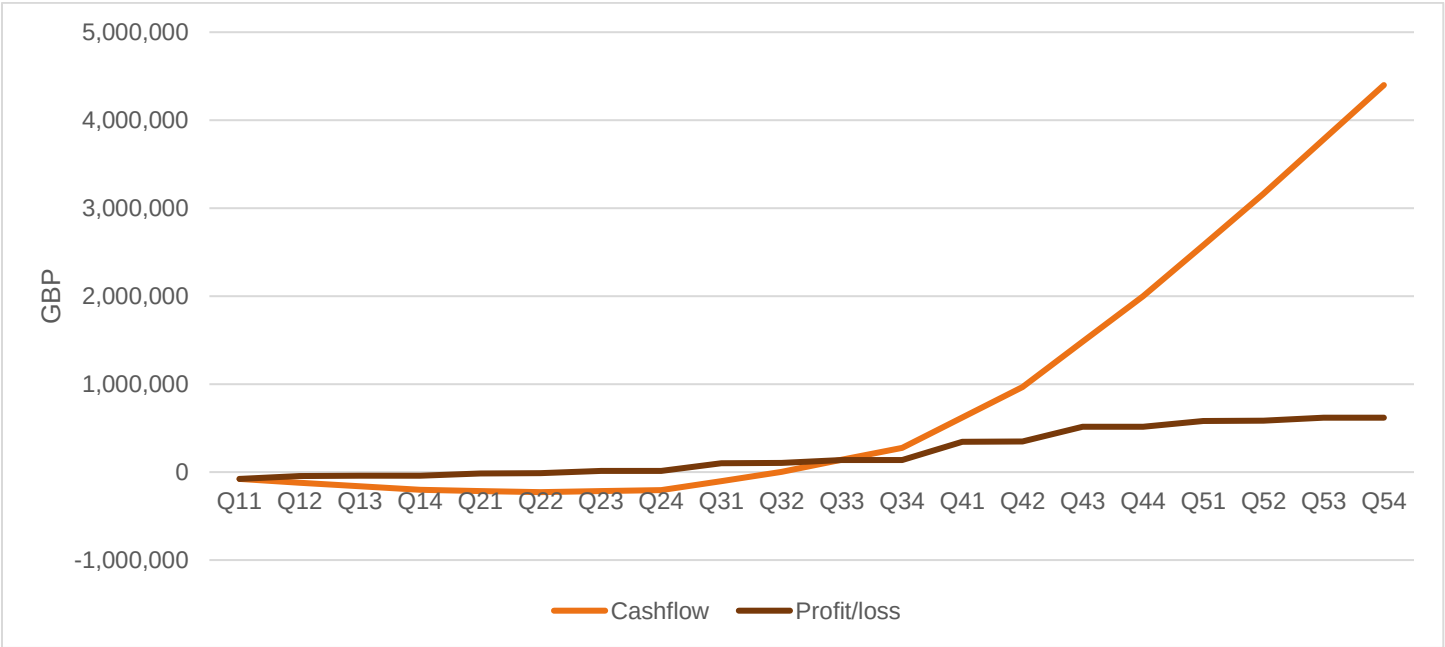

Figure 5.5: 5 Year Projection of Quarterly Cash Flow and Profit/Loss

	Year 1	Year 2	Year 3	Year 4	Year 5
Profit/loss (GBP)	-201,614	-1,663	479,570	1,722,769	2,399,994

Figure 5.6: Annual Profit/Loss

5.4 Sensitivity Analysis

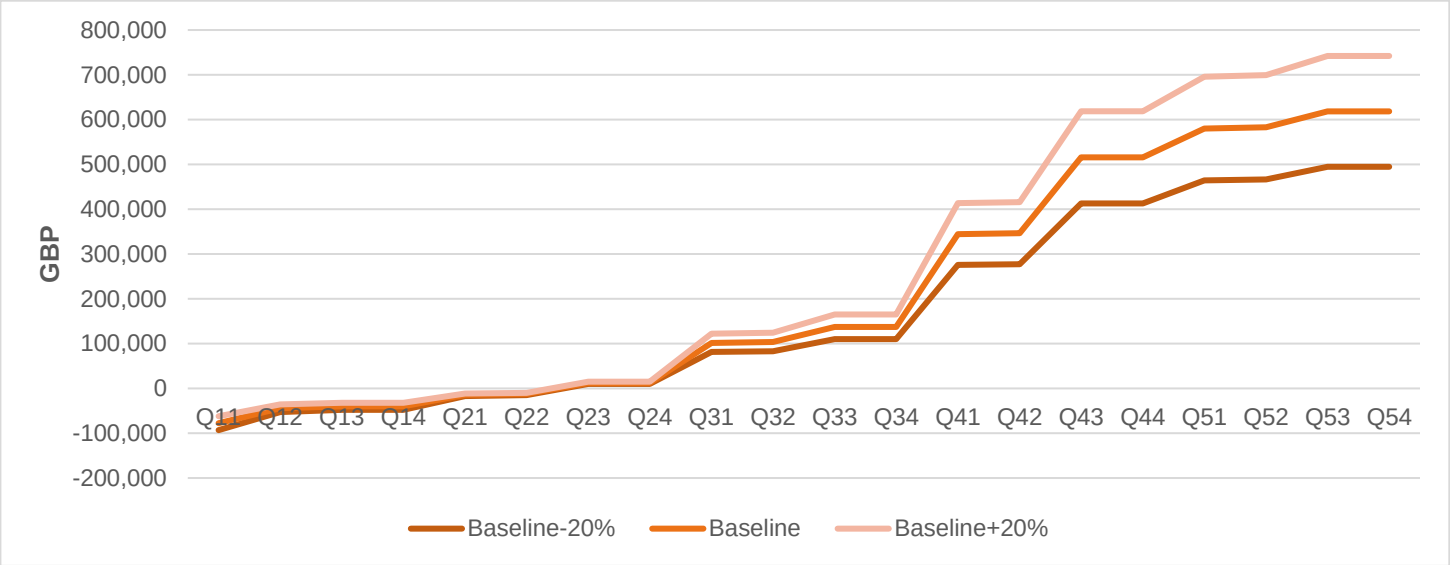

Figure 5.7: Sensitivity Analysis of Profit/Loss

Although our modelling assumptions are relatively conservative, we conducted a sensitivity analysis on our quarterly profit/loss projection. We have considered a 20% deviation from the baseline number of users in either direction. The results are shown in figure 5.7.

6 Funding and Investment Strategy

Initial funding of £20,000 for the development of a rudimentary version of our app will be obtained through creating a Kickstarter project. TFC are seeking further funding of £250,000 from an investor in return for a 20% equity share of the company. This valuation is based on the net income in the fifth year and a conservative profit multiple valuation of five, which in turn is justified by the ever-growing food industry and increasing popularity of sustainable alternatives. The expected pre-tax ROI is therefore 860%. This investment will comprise two stages: an initial £100,000 will be used in year one to fund the full development of the app, followed by three instalments of £50,000 throughout year two, which will go towards overheads in order to prevent negative cash flow. The guarantee of the second stage of investment will be conditional on validation and success of the first phase (Section 4.1) of our business. After five years we will offer the option to buy out the investor's share at market value which is feasible based on our projected cash flow.

7 Operational Logistics and Safety

7.1 Computer Model

To investigate the dynamics of the token system, a Python model (Appendix D) was created using Agent Based Modelling (ABM). The program was designed to test possible control methods for the system and to gain a better understanding of it. The model showed that customer satisfaction is heavily dependent on the ratio of cooks to diners, and we plan to control this by adjusting the price of tokens via discounts and bonuses. This can be observed in D.2 in Appendix D. As TFC grows, the model will be expanded and verified. Real world data can be added to improve the model, and thus the predictions it makes will continue to become more accurate. The model will be a useful recourse as TFC develops, as a testbed for new features and as a tool for diagnosing problems that are encountered.

7.2 Application Launch

The operation of our service relies on our user base consistently cooking and selling their meals for tokens, otherwise there would simply not be any meals available. This will not be a problem once the “early majority” have started using the app, however, when the app is first launched (September 2022) there will be no available meals. To counter this, we will inject our own source of homecooked meals into the app. The number of injected meals will be constantly adjusted to meet the required engagement that will allow the service to sustain itself. To keep the cost of these meal injections down, we will approach prospect customers from our survey who wished to be updated on the apps progress, offering them double the amount of tokens per cooked meal in exchange for cooking meals prior to the apps release. However, this alone will not be sufficient, and we will also hire a number of experienced home cooks to cook meals for initial users until the app is self-sustaining.

7.3 Application Development and Data Management

The app will be developed primarily by independent consultants in order to get the service launched as quickly as possible, with future development and maintenance being carried out by future employees of TFC. Development of the app and service will be centred around the observation of user data, this can include the number of tokens bought/sold, number of people eating using the dine-in option, chef ratings, new registered users etc. Observation of this data will be essential to ensure the service is working as has been intended, highlighting any mistakes made in our predictions of consumer behaviour – allowing any problem to be solved as soon as possible. Direct customer feedback will also play a part in this; it will also be important when testing new potential features.

7.4 Food Safety

Our survey results (Appendix E) showed that most people would feel comfortable eating other people’s food if they had reviews on their food standards; most people with food allergies also said they would be comfortable with other people cooking their meals. Food safety is the number one priority for TFC, users will not stay engaged with the service if they do not feel comfortable with the safety of their food, as well as opening the TFC to legal liability should somebody become ill from eating somebody else’s food. Checking the food hygiene of our users in person would be too time consuming and expensive, so to counter this, we will be making all new users watch mandatory viewings of videos on food safety. These videos will outline the ‘4C’s’: cleaning, cooking, chilling and cross-contamination; they will also include guidance on the 14 most common and dangerous allergens [9], as well as any other relevant food safety guidance. This will help to guarantee the safety of our customers, whilst ensuring our service is straightforward for new users to join, which should facilitate faster growth of the service.

7.5 Insurance and Liability

The types of required insurance for TFC has been given in the notes of Appendix A, with public liability insurance being particularly essential for our service [10]. As mentioned, customers will need to watch food safety videos before using the service - the content of these videos will be based directly from food safety standards detailed on the government’s Food Standards Agency’s website [9]. Therefore, if a user chooses to ignore the food safety videos and makes someone seriously ill, TFC will not be held liable. However, despite this, TFC will make every effort to resolve any customer dispute made about food safety, regardless of who is to blame.

7.6 Sustainability

Food waste is both an economical and environmental concern; almost 33-50% of global food production is never consumed, this costs 1 trillion dollars in the USA alone, and accounts for 1.3% of their total GDP [11]. TFC effectively minimises food waste produced by encouraging bulk cooking. Food miles will also be reduced as multiple people will be eating the same meal, as opposed to each person buying different ingredients.

8 Risk and Growth Strategies

8.1 Growth Strategy

8.1.1 Future Addition of Service Features

As TFC expands, the need to implement extra features to our service becomes crucial, particularly for tackling potential future competitors and for keeping older users engaged in the service, whilst also attracting new ones. The priority feature for us to add is a delivery service for our customers, as it will encourage more meal sharing and also allow people who do not have means or time to collect meals from others to do so easily. Other features to be added in the future could include: an option for users to get a scheduled weekly delivery of meals (similar to meal prep companies like PrepKitchen), introduction of diet plans or dedicated areas for meals designed for athletes, and either offering pre-packaged cooking kits or collaborating with existing companies such as HelloFresh (see Section 5.2).

8.1.2 Employee Requirements

The initial employee requirements are given in the notes of Appendix A. As the service gets off the ground, the hiring of new staff will rapidly grow. The inclusion of more board members, marketing employees, in-house app developers, technical staff and data analysts will become essential. We will also need staff to deal with the heavy volume of financial transactions of tokens between us and the customers. The inclusion of a customer service team will be critical once the app has gathered enough users, as this will be a key factor in keeping users engaged with the service, as well as dealing with any food disputes – which are likely in a food sharing service.

8.1.3 Exit Strategy

TFC has considered all potential exit strategies and decided that acquisition is the most appropriate choice, with big food services like Uber Eats being a potential buyer. In 2020, Uber Eats acquired another food service, Postmates, for $2.65 billion [12] – showing the potential of this option. As mentioned previously, there is also potential for a merger with other homecooked food services such as HelloFresh, which will then give the original investors an option to cash out and sell their equity to the partnering company chosen.

8.2 Risk Management

As TFC intends to operate a novel food sharing method, there will undoubtedly be many associated risks. Whilst risks cannot be completely avoided, risk mitigation strategies can decrease the likelihood and severity of each potential risk. A detailed risk assessment has been carried out and the results can be found in Appendix B. This risk assessment considers aspects such as competitors, marketing, finance, management, operations, and legal policies.

Due to the nature of TFC, the primary risk is related to the number of users. If there is a reduction in either of the two types of user (cooks or diners) the entire ecosystem of the app could collapse. To reduce this, a data analyst will be hired to determine the best strategies, as well as the development of a user tracking tool that predicts and tracks user patterns. The tool can then identify periods with low users of a certain type and promotional offers can be sent during these periods. Also, a stronger marketing push could be implemented to increase user levels. User safety also poses a significant risk. Food safety guidelines will be given to all users that intend to cook, and any breach of guidelines will result in a ban from the app. TFC will provide a photo verification service to confirm the identity of all users within the app, and there will be an option for users to find other trusted diners to attend meals or use a takeaway service. A further safety risk relates to the COVID-19 pandemic that has already heavily affected the food industry through regulations that limit household mixing. Both cooks and diners will be recommended to take lateral flow tests before attending a meal. In the case of regulations that halt all TFC eat-in experiences, the takeaway service will be promoted as a safe alternative.

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Appendices

Appendix A: Finances

Cashflow	Q11	Q12	Q13	Q14	Q21	Q22	Q23	Q24	Q31	Q32	Q33	Q34	Q41	Q42	Q43	Q44	Q51	Q52	Q53	Q54
Total income	0	35,035	39,704	39,704	56,720	56,720	85,080	85,080	226,879	226,879	269,419	269,419	587,050	587,050	782,734	782,734	918,861	918,861	960,789	960,789
Total expenses	77,578	79,167	79,656	79,656	70,815	68,937	72,756	72,756	125,312	123,434	132,140	132,140	242,433	240,555	266,906	266,906	338,743	335,865	342,349	342,349
Balance b/f	0	-77,578	-121,710	-161,662	-201,614	-215,709	-227,925	-215,601	-203,277	-101,710	1,735	139,014	276,293	620,910	967,406	1,483,234	1,999,062	2,579,180	3,162,177	3,780,617
Income	0	35,035	39,704	39,704	56,720	56,720	85,080	85,080	226,879	226,879	269,419	269,419	587,050	587,050	782,734	782,734	918,861	918,861	960,789	960,789
Expenditure	77,578	79,167	79,656	79,656	70,815	68,937	72,756	72,756	125,312	123,434	132,140	132,140	242,433	240,555	266,906	266,906	338,743	335,865	342,349	342,349
Balance c/f	-77,578	-121,710	-161,662	-201,614	-215,709	-227,925	-215,601	-203,277	-101,710	1,735	139,014	276,293	620,910	967,406	1,483,234	1,999,062	2,579,180	3,162,177	3,780,617	4,399,056

A.1: Cash Flow Statement for Years 1 to 5

	Q11	Q12	Q13	Q14	Q21	Q22	Q23	Q24	Q31	Q32	Q33	Q34	Q41	Q42	Q43	Q44	Q51	Q52	Q53	Q54
Income																				
Tokens	0	35,035	39,704	39,704	56,720	56,720	85,080	85,080	226,879	226,879	269,419	269,419	587,050	587,050	782,734	782,734	918,861	918,861	960,789	960,789
Total income	0	35,035	39,704	39,704	56,720	56,720	85,080	85,080	226,879	226,879	269,419	269,419	587,050	587,050	782,734	782,734	918,861	918,861	960,789	960,789
Expenses																				
Fixed costs																				
App costs																				
App development	25,000	25,000	25,000	25,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
App enrolement	99	0	0	0	99	0	0	0	99	0	0	0	99	0	0	0	99	0	0	0
App maintenance	0	0	0	0	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Salary costs																				
CEO+Chairperson	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	12,500	12,500	12,500	12,500	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
CFO	0	0	0	0	0	0	0	0	0	0	0	0	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
CTO	0	0	0	0	0	0	0	0	0	0	0	0	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
CMO	0	0	0	0	0	0	0	0	0	0	0	0	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
COO	0	0	0	0	0	0	0	0	0	0	0	0	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Data analysis	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750
Financial management	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750
Marketing	6,750	6,750	6,750	6,750	13,500	13,500	13,500	13,500	13,500	13,500	13,500	13,500	20,250	20,250	20,250	20,250	33,750	33,750	33,750	33,750
Customer service	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	25,000	25,000	25,000	25,000	35,000	35,000	35,000	35,000	50,000	50,000	50,000	50,000
Other fixed costs																				
Office Rent	5,250	5,250	5,250	5,250	6,000	6,000	6,000	6,000	7,500	7,500	7,500	7,500	12,750	12,750	12,750	12,750	16,500	16,500	16,500	16,500
Legal fees	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,000	0	0	0
Insurance	1,060	0	0	0	1,060	0	0	0	1,060	0	0	0	1,060	0	0	0	1,060	0	0	0
Software	719	0	0	0	719	0	0	0	719	0	0	0	719	0	0	0	719	0	0	0
Advertising	0	3,503	3,970	3,970	5,672	5,672	9,359	9,359	45,376	45,376	53,884	53,884	76,317	76,317	101,755	101,755	137,829	137,829	144,118	144,118
Variable costs																				
Data storage	0	163	185	185	265	265	397	397	1,058	1,058	1,257	1,257	2,738	2,738	3,651	3,651	4,285	4,285	4,481	4,481
Total costs	77,578	79,167	79,656	79,656	70,815	68,937	72,756	72,756	125,312	123,434	132,140	132,140	242,433	240,555	266,906	266,906	338,743	335,865	342,349	342,349
Number of users	0	2,403	2,723	2,723	3,890	3,890	5,835	5,835	15,561	15,561	18,479	18,479	40,264	40,264	53,685	53,685	63,022	63,022	65,898	65,898
Number of employees	7	7	7	7	8	8	8	8	10	10	10	10	17	17	17	17	22	22	22	22
Total profit before tax	-77,578	-44,132	-39,952	-39,952	-14,095	-12,217	12,324	12,324	101,567	103,445	137,279	137,279	344,617	346,496	515,828	515,828	580,118	582,997	618,439	618,439

A.2: Profit/Loss Statement for Years 1 to 5

Notes for A.2:

All figures are stated in real terms i.e. the inflation rate is set to zero

App development: based on quote and secondary research

App enrolment: the cost of enrolling the app in the app store

Annual app maintenance: 20% of initial app development cost from year 2

Advertising: starts at 10% of total revenue and increases in increments to 15%

Salaries includes overheads such as pension contributions and employer's national insurance contributions

CEO + Chairperson: salary increases from £40k in year 1 to £60k in year 4

CFO, CTO, COO, CMO: employed from year 4 full-time at £60k salary each

Data analysis: 1 person full-time at £27k

Financial management: 1 person full-time at £27k

Marketing: 1 person full-time at £27k, increasing to 5 people in year 5

Customer service: 3 people full-time at £20k, increasing to 10 people in year 5

Office Rent: £250 per employee per month

Legal fees: trademark for UK in year 1 and additional countries in year 5

Insurance: includes employers' liability insurance, public liability insurance and professional indemnity insurance

Software: includes Microsoft Office and Zoom

Data storage: calculated using Amazon S3 pricing

Appendix B: Risk Register

	Risk				Mitigation			
	Description	Severity	Likelihood	Risk Rating	Control Strategy	Severity	Likelihood	Resultant Risk
Competitor Risk	Existing competitors such as Deliveroo and Just Eat will make it difficult to enter the market and establish market share.	2	5	10	App design to present a unique selling point (sharing cheaper home cooked meals) in order to attract customers to switch away from pre-existing competitors.	2	3	6
	New competitors creating a similar application and reducing market share.	2	3	6	Research into intellectual property rights to prevent similar apps from being created. Frequent marketing to keep The Food Circle relevant with a strong user base. After the initial trial period, the full app should be developed ASAP to prevent competitors entering the market.	2	2	4
Marketing Risk	Market size smaller than anticipated	5	4	20	Detailed analysis of the current market carried out in the initial stages of development to allow a pivot if necessary.	5	2	10
	Unsuccessful marketing to the student population.	4	3	12	Target marketing to this demographic using proven techniques.	4	2	8
	Unsuccessful marketing to young professionals.	4	3	12	Target marketing to this demographic using proven techniques.	4	2	8
Financial Risk	Poor financial management	4	3	12	Ensure financial resources are carefully monitored and both short and long term plans are established.	3	2	6
	Higher development costs than anticipated	5	3	15	Research into the costs of similar applications and make financial plans for the worst-case scenario.	5	1	5
	Higher running costs than anticipated	4	4	16	Detail a full breakdown of potential running costs, taking into account predicted patterns of service growth.	4	2	8
	Insufficient funding from investors	4	3	12	Apply for grants, such as government backed start-up grants. Approach investors to invest in The Food Circle, consider offering equity in the company.	4	2	8

B.1: Risk Register

Management Risk	Departure of founding members	3	2	6	Attempt to fully satisfy founding members to reduce likelihood of departure. Keep detailed records of work so that if there is a departure, loss of expertise will be kept to a minimum.	2	1	2
	Lack of organisational structure	3	2	6	Hire experienced managers who believe in The Food Circle and want to progress growth.	3	1	3
	Disagreement among the board of directors.	3	3	9	Regular meetings to encourage clear communication between the board. Encouraging open discussion of any areas of disagreement.	2	2	4
	Miscommunication within the team.	3	3	9	Have clear lines of communication, especially around roles and responsibilities of team members.	3	2	6
	Lack of experience in managing a company.	4	3	12	Find people with experience in areas where current knowledge/experience is lacking to either provide support or join the team full time.	3	2	6
Operational Risk	Food safety	5	3	15	Food hygiene and allergen information to be presented in the app, with a short mandatory course in order to cook for other users.	5	2	10
	Personal safety	5	3	15	Photo verification of all users within the app, and option for users to find other trusted users to attend meals or use a takeaway service.	5	2	10
	Risk from COVID-19 restrictions preventing household mixing	5	3	15	A takeaway service would greatly reduce the impact on TFC.	2	3	6
	App crashes	5	3	15	Software engineers will be contracted to regularly inspect the system. A backup server could also be invested in.	3	2	6
	Development delays leading to a delayed app release date.	5	3	15	Create a schedule, taking into account possible delays.	5	2	10
	Departure of app developer	5	3	15	Ensure the principal developer is excited by the idea of The Food Circle and hire a junior developer to work alongside them to allow work to continue if they leave the company.	3	2	6

B.2: Risk Register

	Not enough users want to cook	5	4	20	Development of a user tracking tool to predict and track user patterns. The tool can then identify periods with low users of a certain type and promotional offers can be sent for these periods. Also, stronger marketing can be designed and implemented.	5	2	10
	Not enough users want to use tokens to eat	5	4	20		5	2	10
	Too many users want to cook	5	4	20		5	2	10
	Too many users want to use tokens to eat	5	4	20		5	2	10
Policy and Legal Risk	Failure to comply with food safety legislation resulting in fines or a full shutdown of The Food Circle.	5	3	15	Ensuring all government guidelines are fully understood. A lawyer will be consulted and potentially a legal team will be brought inhouse if necessary.	5	2	10
	Failure to comply with data protection laws.	5	3	15	Consult a lawyer and bring in a legal team inhouse if necessary.	5	2	10
	Conflict between shareholders.	4	2	8	Shareholder needs should be monitored, and a balance should be found between conflicting demands.	4	1	4

B.3: Risk Register

			Severity				
			Catastrophic	Major	Moderate	Minor	Negligible
			5	4	3	2	1
Likelihood	Almost Certain	5	25	20	15	10	5
	Likely	4	20	16	12	8	4
	Occasional	3	15	12	9	6	3
	Unlikely	2	10	8	6	4	2
	Rare	1	5	4	3	2	1

B.4: Severity Matrix

Appendix C: Market Sizing Calculations

This section shows the market size was calculated for top-down modelling.

Assumptions	Quanity	Units	Comments
Population figures			
These population values are found online, from the survey, or general assumptions.			
Population number	60,000	*people*	These are the amount of students in UoB and UWE (29,000 and 31,000). 10 % increase in student population each year
% of people who cooks at some point during the week	97.8	-	Survey results
% of people who bulk cook, or cook for flatmates/multiple meals at some point during the week	81.9	-	19.1% Never bulk cook.
% Market penetration	5		Market penetration is the amount of people you think will use the app. 10 % Market penetration would probably be the best case. 1 in 10 people use it
Calculations			
This is the section where we combine all our assumptions and figures to size the market.			
How many people will be using our service	2402.946	*people*	

C.1: Diagram showing calculation of market sizing case in Bristol

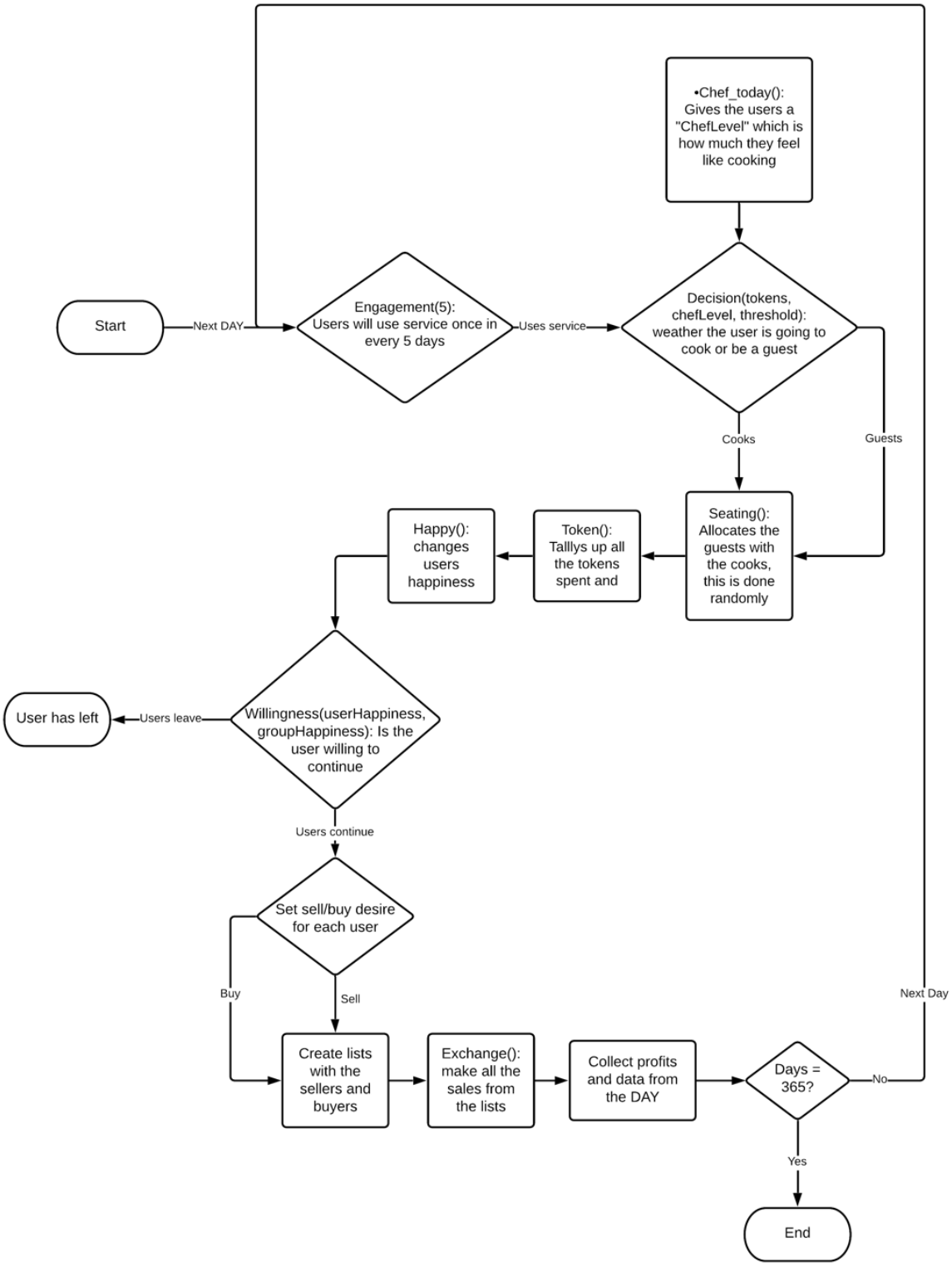
Calculations		
Case 1 - UoB and UWE	**No. of Users**	2,403
Case 2 - Bristol and Bath	**No. of Users**	3,890
Case 3 - Southwest	**No. of Users**	5,835
Case 4 - Southwest + London	**No. of Users**	15,561
Case 5 - SW + LDN + MID	**No. of Users**	18,479
Case 6 - All of UK - Best case	**No. of Users**	53,685
Case 7 - UK + Spain	**No. of Users**	63,022
Case 8 - UK + Spain + Netherlands	**No. of Users**	65,897

C.2: Comparison of market sizes when expanded to other geographical locations.

SW + LDN + MID means Southwest, London, and Midlands areas combine

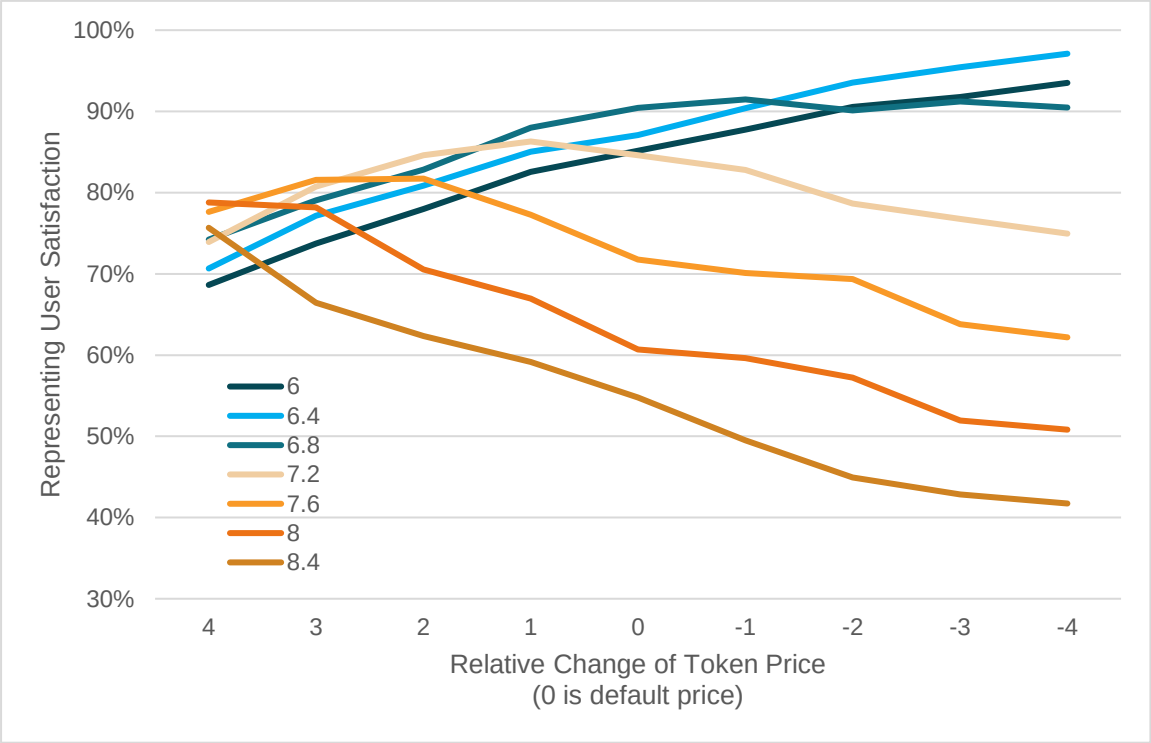
Appendix D: Agent Based Model

D.1 shows a flow chart of the model.



D.1: Flow Chart of Model

D.2 shows how changing the price of tokens (x-axis) effects customer satisfaction (y-axis).



D.2: How Customer Satisfaction Depends on the Price of Tokens, for Cooking Threshold (6 - 8.4)

This is shown for various thresholds, which are shown in the blue and orange lines. The thresholds represent the user base's desire to cook meals, the lower the threshold the more users will want to cook meals. Multiple thresholds are shown here to represent different hypothetical patterns of behaviour of the user base. The X-axis represents changes to the token price; the effect that this has on user satisfaction is shown by the Y-axis. The overall user satisfaction increases when both those cooking and those attending meals are content. Those cooking are happier when they get as many diners as they want, and the diners are happier when there is a space at a meal available to them. If there are too many cooks, the cooks are unhappy because they can't fill their tables, whereas the diners are happy because they have lots of meals to choose from. If there are too many diners then the opposite happens, and there are limited number of seats at the cooks' tables. The overall user satisfaction (Y-axis) combines both cooks' and diners' satisfaction and is only high when a balance is struck where both are happy.

We can see that for cases where lots of users want to cook (lower threshold) the overall user satisfaction is increased by reducing the token price (practically implemented as discounts). Intuitively this is because lower price of tokens means more users will buy tokens and can join the meals.

For higher thresholds, the overall user satisfaction is increased by effectively increasing the token price. This would be done practically by offering more money to users selling tokens to TFC, doing this incentivises users to cook meals, as they can get more for them. As the token price is increased you can see the overall satisfaction user increasing as there are less more cooks making meals.

Appendix E: Primary Research Survey Results

A survey was conducted for market research on TFC as a concept, and validation for the idea. The survey had a total of 103 respondents.

Question	Answer	Percentage
Do you feel like you spend too much time cooking and cleaning up?	Yes	66.0%
	No	34.0%
How many days do you cook per week?	Every day	23.3%
	5 to 6	27.2%
	3 to 4	31.1%
	1 to 2	16.5%
	Never	1.9%
When you bulk cook (as meal prep or for friends etc.) how many portions do you make on average?	2	11.7%
	3	25.2%
	4	33.0%
	5+	12.6%
	I do not bulk cook	17.5%
How often do you consume takeaway from being unmotivated to cook?	Every day	3.9%
	A few times a week	32.0%
	Once a week	19.4%
	A Few times a month	37.9%
	Never	6.8%
How much do you spend each week on food?	<£10	1.0%
	£10-20	10.7%
	£21-30	26.2%
	£31-40	25.2%
	£41-50	9.7%
	>£50	27.2%
Are you content with how much you spend on food?	Yes	52.4%
	No	47.6%
Are you content with the variety of food that you cook?	Yes	39.8%
	No	60.2%
Do you have any food allergies?	Yes	15.7%
	No	84.3%
If your answer to the previous question was yes, would you be put off by other people cooking your food?	Yes	10.3%
	No	89.7%
Would you be comfortable eating meals prepared by others if they had ratings on their cooking standards similar to Uber/AirBnB?	Yes	88.3%
	No	11.7%
Would you be willing to cook meals for other people if in return other people cooked for you?	Yes	73.8%
	No	26.2%
Would you have dinner at another person's house if they had trusted reviews as a cook/host (if they were of similar age and lifestyle)?	Yes	31.1%
	No	9.7%
	Maybe	59.2%
Would you be interested in using this service?	Yes	69.6%
	No	30.4%