

Strategic Management of Information Systems

Coursework by Group T

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1. Introduction (Simran, Sohag, Marco, Michael)

The Freecycle Network is a nonprofit organisation (NPO), established in 2003, and registered in Arizona, US [17]. The network provides an online platform where users exchange items they don't need. As an NPO, Freecycle relies on donors and sponsors, who are imperative to the upkeep of the organisation. Their work relies on volunteers, who are pivotal in ensuring users follow the guidelines. Freecycle has become increasingly popular, with over 9 million members worldwide [11]. However, new entrants have emerged, threatening the platform and its popularity. To provide an in-depth analysis of this, we will be performing a strategic analysis to explore the organisational environment. By doing this, we will be able to propose a strategy to help them make informed decisions about their future, to ensure they remain a prominent NPO.

Current Mission Model Canvas:

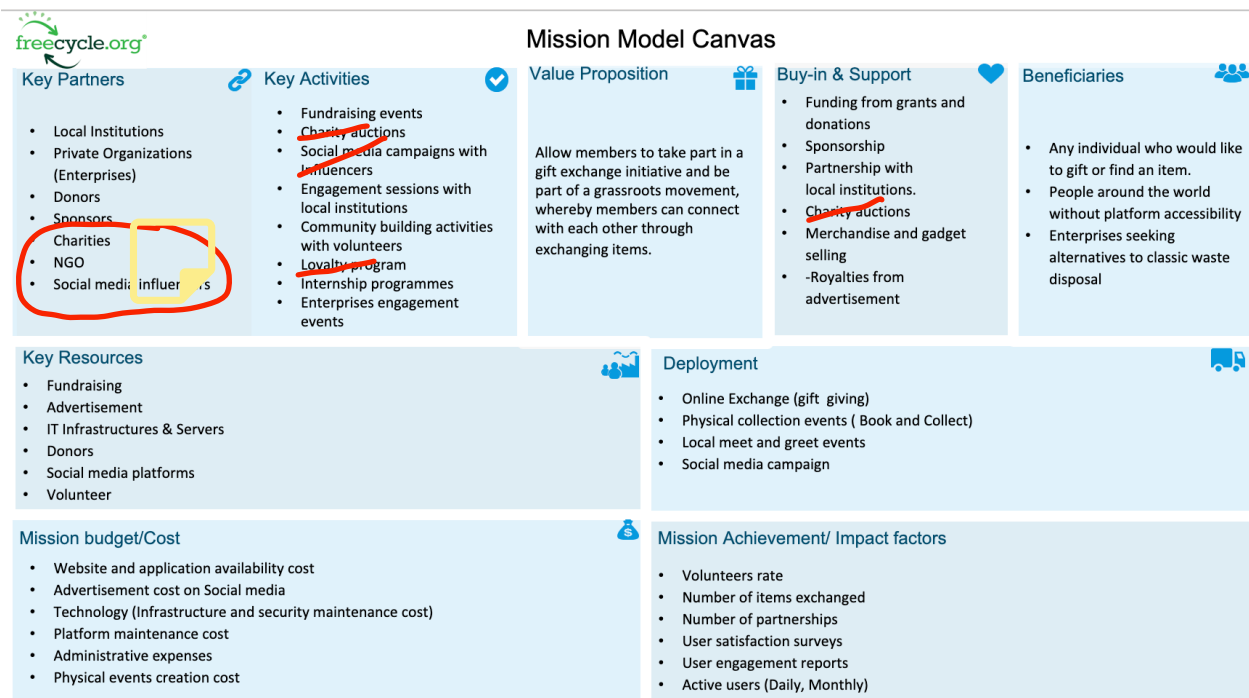
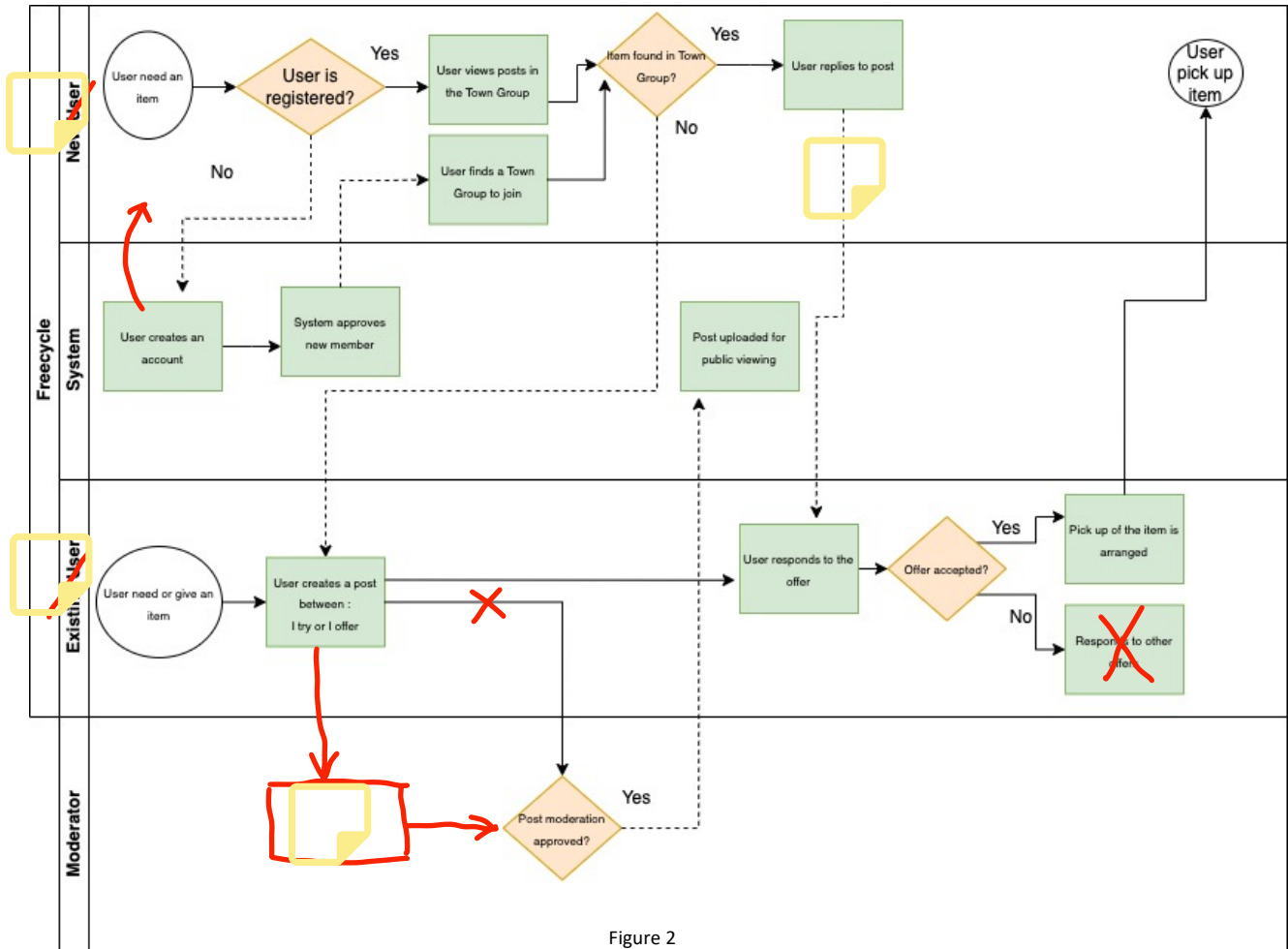


Figure 1

2. Strategic Analysis & Key Findings

2.1. Business Process Model (Simran, Sohag)

The aim of Freecycle is to create a worldwide gift economy connecting individuals from different local groups and decrease consumerism [11]. The business process model shows how Freecycle put their stated vision into practice.



2.2. Micro Analysis (Simran, Sohag, Marco, Michael)

We used **Porter's 5 forces model** to understand the competitive environment and the impact of the forces, which determine the competitive power. Freecycle is a NPO run by volunteers, so we assumed there are no Supplier and Buyer forces [21, 22, 23]. We replaced those forces with appropriate factors:

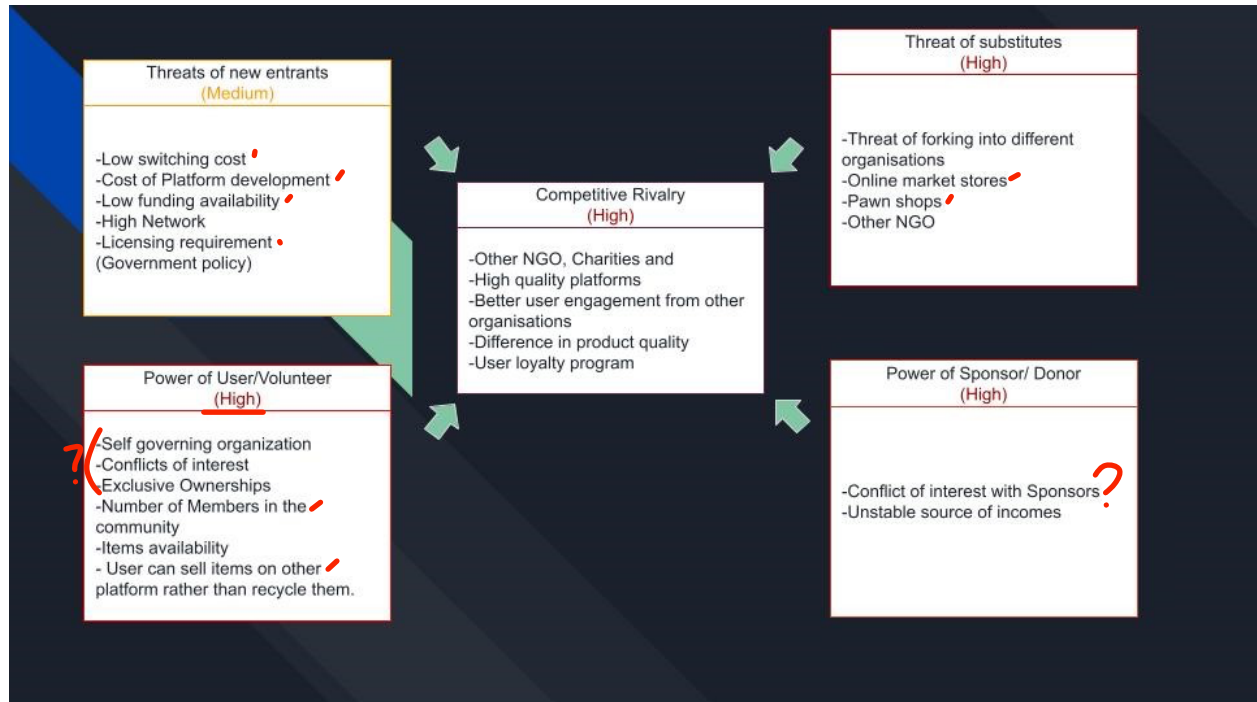
- Threat of substitution
- User / Volunteer Power
- Sponsor/Donor Power
- The threat of new entry

- Competitive rivalry

Porter's 5 forces analysis:

	Freecycle
Threat of new entrants	<ul style="list-style-type: none"> + • Barrier to entry is medium - funding, partnerships and sponsors are already committed to other organisations. - • No switching cost for the user - easy to find alternatives. + • To pursue a similar business strategy, an online platform is required which can be costly. • Government policy can lower/increase entry barriers for new organisations.
Power of Volunteers / Users	<ul style="list-style-type: none"> • The organisation model is informal, self-governing, and voluntary. This can create a clash of interests between the different departments. ✓ • The lack of cohesion and defined power dynamics impacts the decision-making for the organisation. • The core governance problems of the organisation arise from their management having inadequate incentives for volunteers and protection from the strongest forms of regulation found in for-profit businesses, like hostile takeovers, proxy fights, or even independent leadership. • Members have the option to sell their items rather than gift them. ✓
Power of Sponsors/Donor	<ul style="list-style-type: none"> • Freecycle has no lucrative purpose; it is dependent on voluntary work - no source of funding except donations and sponsors. ✓ • Sponsors can impose different objectives on the organisations with the threat of funding. ✓ • The cost of the platforms' availability and management is one of the main expenses the organisation faces.
Threat of substitute	<ul style="list-style-type: none"> • Users can sell the items on online market stores, e.g., Facebook Marketplace ✓ • There are many organisations for lucrative and charity purposes that can follow the same business model ?
Competitive Rivalry	<ul style="list-style-type: none"> • Alternatives to Freecycle that pursue the same mission model, e.g.: Freecycle, Craigslist, Gumtree, Recycle [41]. ✓ • Other organisations can: <ul style="list-style-type: none"> ○ Have high-quality platforms with better user engagement systems ○ Check the product quality ○ Have loyalty programs for the users

Summary:



2.3. Macro Analysis: (Simran, Sohag, Marco, Michael)

We chose PESTLE as it enables us to explore our understanding of the wider macro environment [14, 15]. By understanding Freecycle's current macro-environment, we can respond to such threats in our recommendations.

		Impact analysis	
Category	Factor	Issues/threats	Opportunities
Political	War in Ukraine/ Palestine	Gift-giving services cannot operate in warzone countries.	Set up Freecycle gift-giving service in countries in need.
	Volatile Government	Changes in the political landscape and funding uncertainty	
	Supported by donators [2]	Political issues may arise as donations may influence/bias decisions on a local level.	

	New election in 2025	Parties may introduce legislations in their manifestos that impact Freecycle.	
Economic	High inflation rate [3]		Rising costs may create an increase in users/members as people would be attracted to being gifted items.
	Cost of living crisis	Increasing costs of doing business, such as increased rental payments, and utility bills.	NPOs have become increasingly vital as public service providers.
	Brexit	Leaving the EU means leaving all its institutions and funding streams [16].	
	Economic uncertainty	People may not donate as much on a regular basis.	
	Increasing National living wage		The national living wage has increased. Young people will have more disposable income to buy things, so they may give away more items they don't need.
	Rising unemployment rate	Decrease in the number of volunteers Freecycle has. If volunteers lose their jobs, they may have to spend more time finding a job, instead of volunteering.	Potential increase in people who would sign up to find items they need but cannot afford to purchase.
Social	Social Welfare		Freecycle could educate the younger generation about environmental issues, creating awareness on consumerism.
	Younger consumers		Freecycle's goals would appeal to Gen Z [7]. This demographic is most likely to buy/sell second hand items, avoiding excessive production.

	Impact of Covid-19	People may be worried about using Freecycle as they may be weary as to if items being gifted are disinfected [8]. ✓	
	Rise in fast fashion ✓	Fast fashion promotes throwaway culture [26, 28], making people buy new clothes often. ✓	Opportunity to use this rise in fast fashion trend to promote item exchange rather than buying [26]. ✓
Technological	Impact of AI	Using AI systems can lead to vulnerability to cyberattacks. Freecycle needs to ensure customer data is protected.	Use of chatbots that could answer routine queries, reducing the pressure to find more volunteers and improving customer satisfaction. ✓
	Use of mobile phones over computers ✓		Creation of a mobile app ✓
	AI cybersecurity solutions ✓		Machine learning algorithms can monitor Freecycle's activity [38].
Legal	Freecycle being open to all ages and legal	Freecycle could be used as a vehicle for items that hide an unsafe reality. E.g., Wayfair being used for sex trafficking. ✓	Implementation of a rigid verification process. It is easy to put a fake listing up, creating an unsafe dynamic. ✓
	Data breach that leaked 7 million members' passwords [9, 10]	Could make potential members weary about making an account and shows that Freecycle didn't implement effective measures to prevent a breach. ✓	
	Health and safety	Listed may pose potential risks to health, such as listing faulty items, ✓ creating bad reputation	
Environmental	Global trash crisis [4]		Allows trash to be kept out of landfills as people can give away items they no longer need.
	Climate change (poor waste management)	People may use another environmentally friendly service, such as one of	Potential to become more popular as people are increasingly worried

		Freecycle's competitors [41].	about climate change and the impact it is having.
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2.4. Key findings from the Strategic Analysis (Simran, Sohag)

Challenges:

- **KF1** - Easy for users to find alternatives to Freecycle ✓
 - Freecycle isn't as well-known as its competitors [41] – not as popular as Facebook Marketplace and eBay. On these platforms, members can sell their items, where there's a money incentive.
- **KF2** - Inability to perform gift-giving worldwide due to conflicts.
 - Due to current conflicts, having a global gift economy cannot be achieved as there are countries that cannot participate.
- **KF3** - Product journey challenges
 - People who give/acquire second-hand products, like clothes/kitchen equipment, have some concerns on hygiene, safety, and convenience [19, 35].
- **KF4** - Political uncertainty
 - With the election in 2025, new regulations may affect Freecycle.
 - New parties may implement laws limiting re-use of items considered waste.
- **KF5** - The cost-of-living crisis is having a negative impact on charitable giving.
 - The number of individuals looking for items is increasing, but the number of individuals giving away products is decreasing, creating an imbalance of supply and demand [32]. ✓

Opportunities:

- **KF6** - Rise in fast fashion is having negative impacts on the environment [26] - Freecycle could then promote their message. ✓
 - If individuals were made aware of the effects fast fashion has on the environment, they may look at alternatives [27].
- **KF7** - Freecycle could educate the youth on environmental issues.
 - Events in schools/universities to inform individuals about how to be more responsible consumers.
 - Younger people are more motivated to be environmentally friendly, so they'd be more open to making changes [7].
- **KF8** - Freecycle could establish a gift-giving service in vulnerable countries, to assist those that are victims of conflict.
 - Freecycle could form partnerships with humanitarian non-governmental organisations (NGOs).
- **KF9** - Young adults would use Freecycle as they are affected by the cost-of-living crisis.
- **KF10** - Promote a circular economy framework for the extended lifecycle of products [37]
 - Products' usage time can be lengthened by promoting second-hand consumption [36].

- Order of maintenance, repair, reuse first, and remanufacture and recycle later, rather than direct recycling of an object [37].
- **KF11** - Items posted on Freecycle must be appropriate for all ages
 - They could allow for items with age restrictions to be posted with age verification processes implemented.
 - Could attract a wider audience as there will be various items.

3. Recommendations

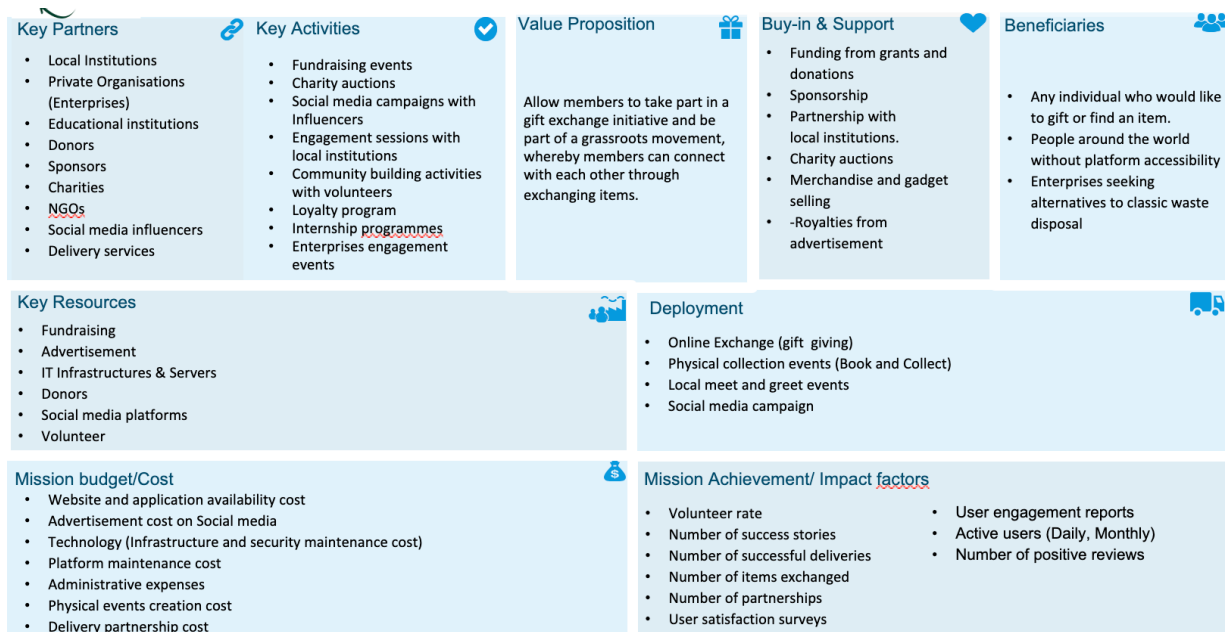
3.1. Business recommendations (Simran, Sohag)

To gain popularity and become a prominent platform, Freecycle should form strategic partnerships:

- **BR1** - Collaborate with well-known sustainable fashion influencers, like, Aja Barber ~~in year 2.~~
 - Aja Barber's goal: Find clothes that can be dressed in various ways that won't need to be replaced frequently, lowering landfill impacts [28, 34].
 - Younger people are more involved with climate change concerns [34] therefore partnering with influencers that have a younger audience could persuade them to make responsible choices with fast fashion [26, 33].
- **BR2** - Freecycle could utilise their collaborations with influencers to host events with them in educational institutions, like schools in year 2.
 - Influencers running these events with the Freecycle team would motivate younger people to attend to hear from such an influential individual.
- **BR3** - Freecycle could work with NGOs to fulfil their aim of coordinating a worldwide network of gift-giving.
 - Currently they cannot operate in countries in conflict, so Freecycle could work with humanitarian NGOs such as Oxfam to provide their services in countries that need basic items.
 - Freecycle users could gift items they don't need, that could be useful for victims of war.
- **BR4** - To create a wider reach on the Freecycle platform, they could allow for a broader variation of items to gift within year 1.
 - Allowing for age restricted items on the platform, like 18 rated computer games.
 - When registering for an account, age verification is carried out and only those who are 18+ can view/share age restricted items.
- **BR5** – Implementation of a commercial NPO model. The organisation is a donative non-profit activity that relies on donations only - implementing activities like charity auctions could raise funds.
- **BR6** - Freecycle to partner with Royal Mail in year 2

- ✓
 - Users can receive their items through a trusted delivery service.
 - This is an optional service - user pays the delivery fee.
 - They may opt to do this from a security perspective - not everyone is comfortable picking up items from strangers.
- **BR7** - Freecycle could include success stories on their platform and to sponsors, to show their impact on the environment. A review system will also be implemented in year 1. ✓
 - This positive communication with sponsors will motivate them to continue sponsoring Freecycle.
 - Stories on their platform could increase the number of users as they can see how beneficial it is to the environment.
 - Reviews from users on the platform (users can post their reviews on the item obtained from a user) informs others on their experiences with a member. ✓
 - The reviews displayed on the user profile will show other members if they are a trusted member to get items from (**BR9**).
- **BR8** - Freecycle could utilise ad revenue, allowing companies that share their goal to promote themselves on Freecycle. ✓
 - A new source of income.
- **BR9** – Loyalty management system in year 2 ✓
 - The user obtains points when they gift/collect an item.
 - Their points will be visible on the platform to others.
 - Users with more points will show them as a trusted member, who users may want to get items from as they are well established in the community.

3.2. Proposed Mission Model (Simran, Sohag)



3.3. Proposed Business Processes (Simran, Sohag)

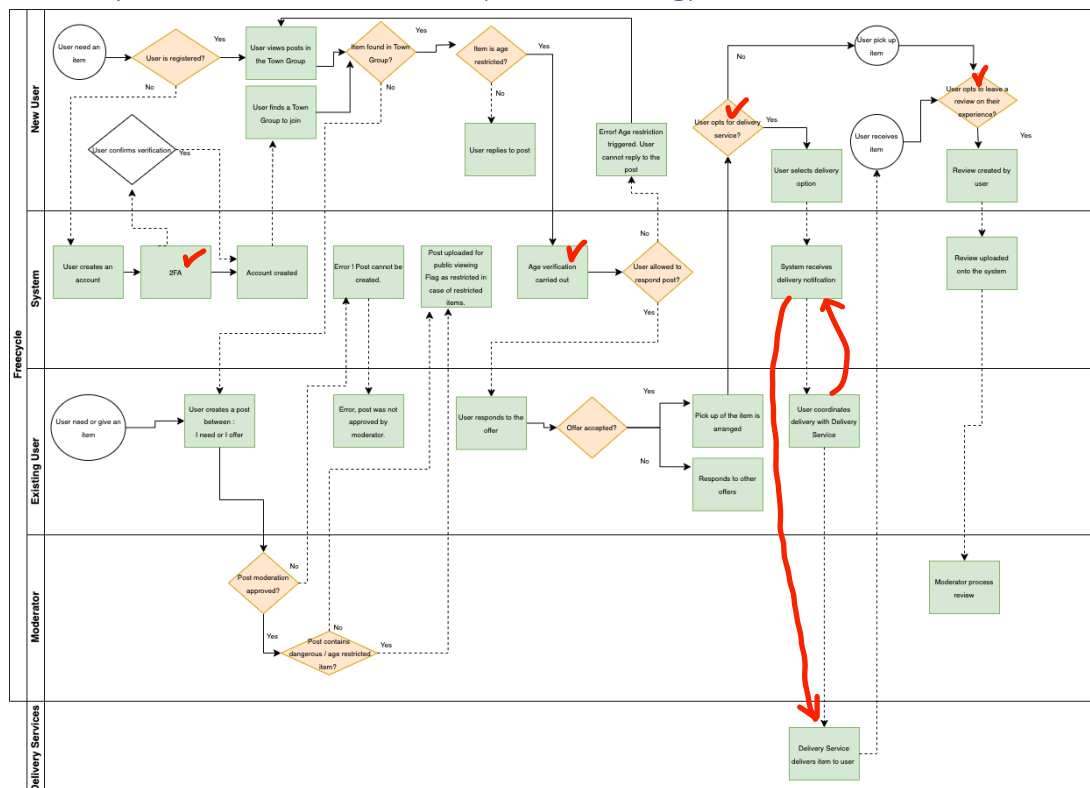


Figure 3

4. Proposed Digital Strategy

4.1. Proposed Digital Applications (Simran, Sohag)

Proposed Objectives

- **OBJ01** - First 3-6 months: the company will improve their social media presence on apps like Instagram and TikTok by 20%.
 - Small amount of the marketing budget will cover the cost of advertising on the platforms.
- **OBJ02** – Year 1: 2FA implementation by using identity access management system, age verification feature.
- **OBJ03** – Year 2: AI chatbots for customer service on the platform [29], which can provide excellent customer service to users and increase customer satisfaction by at least 10%.
- **OBJ04** - First 2 years: Fund the development of a mobile app.
- **OBJ05** - Grow the Freecycle platform so that it will be in the top 10 platforms for second-hand items online marketplace by 2026 (follow BR1, BR2, BR3).
- **OBJ06** – Third year: Implement security measures, using a generative BI platform to detect malware, such as Akkio, so that Freecycle can better predict and respond to malicious activity [9, 10, 38]
- **OBJ07** – Third year: Integrate a dynamic AI code review tool to update the platform and scan the code for bugs and security.

Application Portfolio Matrix:

Strategic <u>!+</u> Investment in marketing ? Creation of a <u>Loyalty program</u> ? Creation of a mobile app ? Delivery system partnership <u>!+</u> Social media management	High Potential ? Customer support via AI chatbot ? Generative BI report ? Website performance report
Key Operational <u>!+</u> Exchanging of items <u>!+</u> Registering on platform ! Post interactions between users ! System to maintain list of moderators ! Volunteer recruitment <u>!+</u> Queries/contact page	Support ! System to maintain list of sponsors/donors <u>!+</u> Website design / redesign ? Ad revenue stream

Key for matrix:

? = potential system

! = existing system

!+ existing system needs improvement

Figure 4

Business Objective Model (BOM):

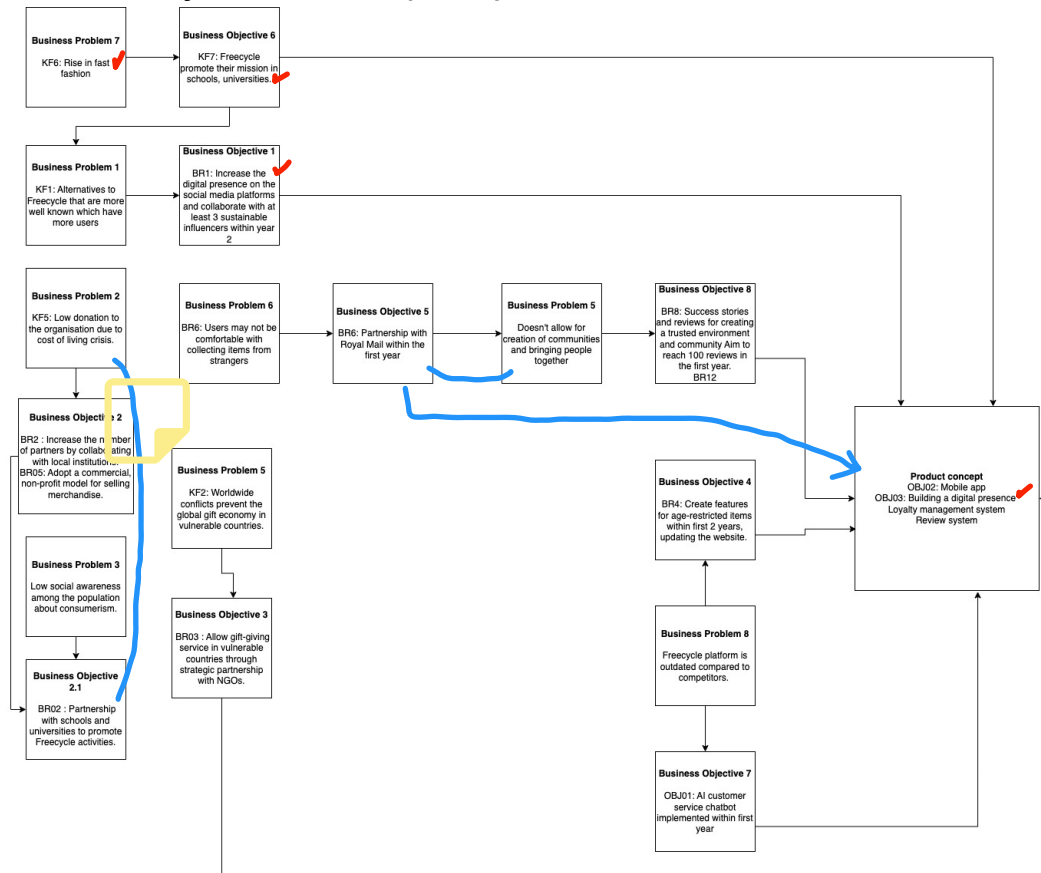


Figure 5

Feature Tree:

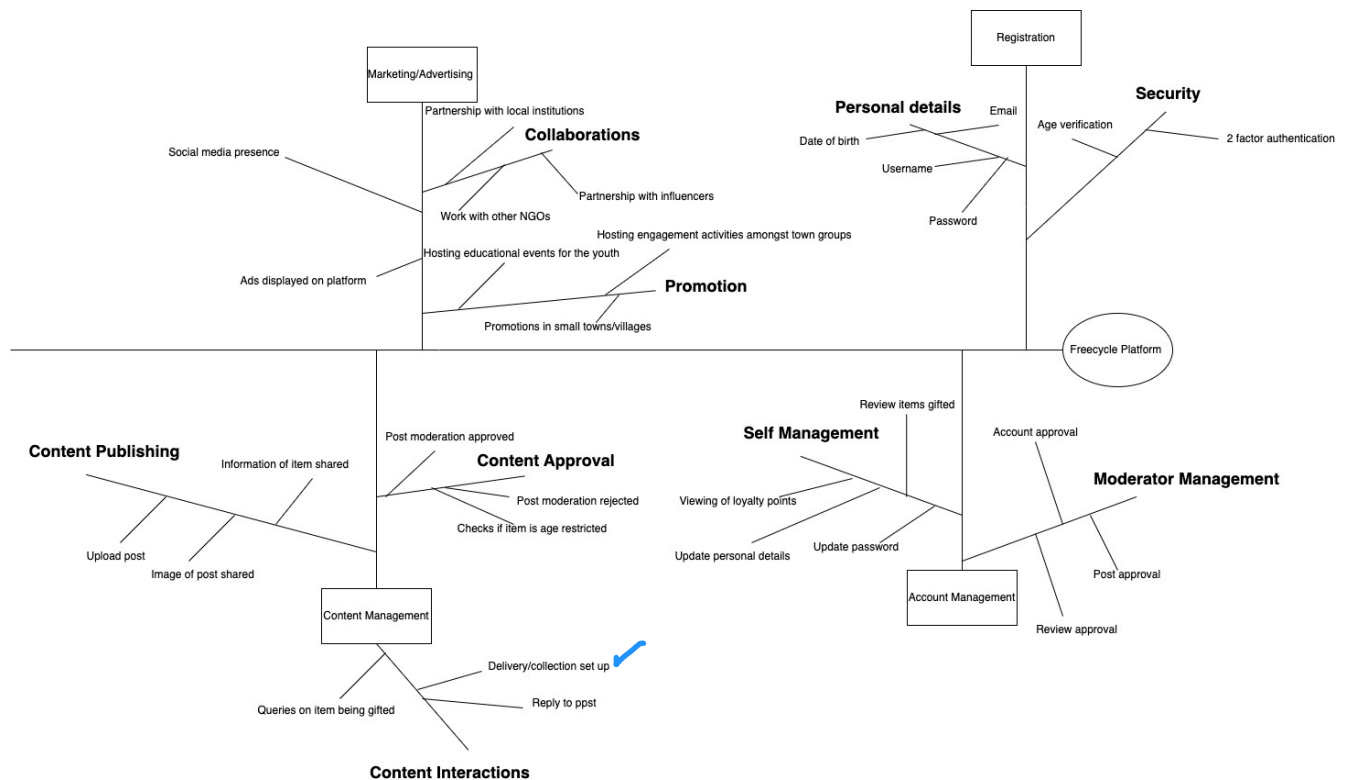


Figure 6

The strategic systems in the matrix are aligned with our business objectives. Creating a loyalty management system aligns with **BR12** and could help overcome **KF1**. Loyalty programmes tend to encourage repeated use and retains members – users are less likely to use another platform if they are building up points on Freecycle. This overcomes the issue of not creating communities, as shown in the BOM. Users get to know the member gifting an item through the number of points they have, and the reviews given to them, creating communities. Creating a mobile app will be proposed as people use their mobile phones more than computers. Referencing **OBJ04**, by creating a mobile app, Freecycle could expand its reach, making the platform more accessible. Applications such as Freegle [41] already have mobile apps, so users may opt to use one of these. We have proposed a partnership with Royal Mail (**BR6**) - by using a trusted delivery service, users may be more inclined to use this service.

Within the key operational category, the systems are imperative for success, yet some require improvement. The exchanging of items service can be improved as the items allowed onto the platform are limited (**BR4**). This limits the reach on the platform as users may not find items on there. Through the feature to gift age restricted items, the platform could become more popular amongst adults. The feature tree highlights the implementation of this - moderators must approve such items and age verification occurs. Referring to the BOM, this may reduce the challenge **KF06** as users could post more items on the platform, increasing the number of items on there. The registration of users would be enhanced to enable age verification and allow for 2FA for security purposes (**OBJ02**). Having an effective customer service system is also paramount as users must be able contact Freecycle for queries. To improve this, the use of a high potential application - a customer service AI chatbot [25], will be used (**OBJ03**). This application is of high potential as some individuals may not like the idea of interacting with a chatbot – some feel they aren't properly being heard when talking to a chatbot [39]. This will assist with overcoming the issue of Freecycle being outdated [25, 29], as shown in the BOM.

4.3. Implementation Plan (Simran, Sohag)

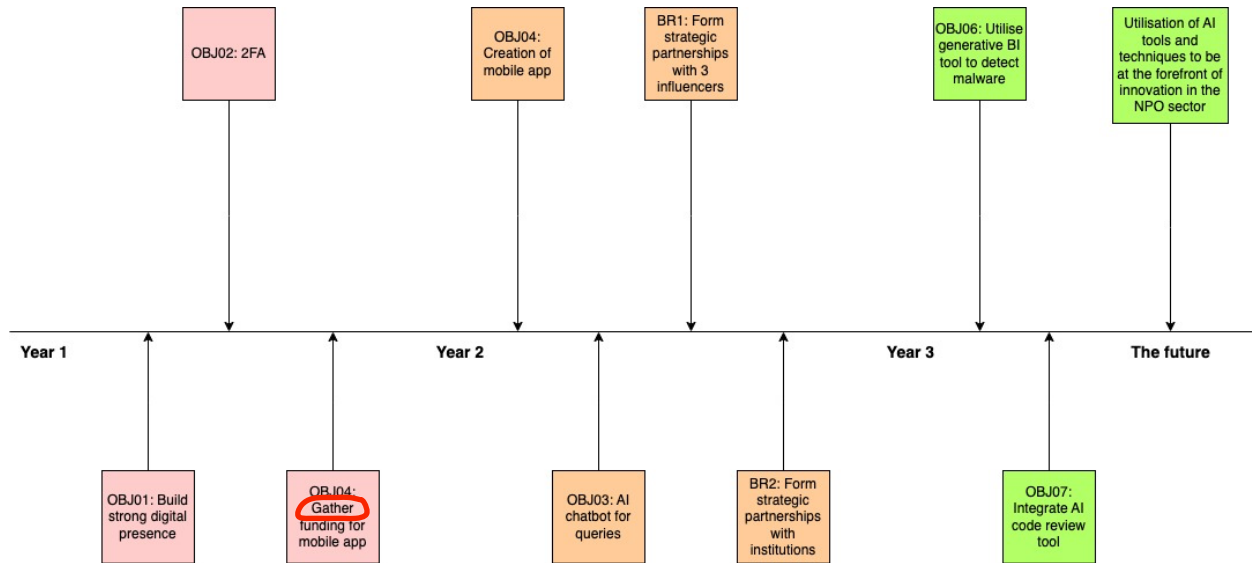


Figure 7

Year 1:

(OBJ01) Build a strong digital presence:

Promote their mission on social media platforms via creating a marketing department and monthly updates on the engagement level. Maintenance of the social media channels would be volunteer responsibility; therefore, Freecycle would need people committed to the upkeep of this. The earlier in the implementation plan we can create the social media presence; the sooner Freecycle can become more prominent and widely known.

(OBJ02) 2-factor authentication:

It is imperative to implement this early in the plan as Freecycle has been subject to cyberattacks [9, 10]. The sooner the platform is secure, the better equipped Freecycle will be while facing cyberattacks. ✓

(OBJ04) Creation of the mobile app:

This will commence in year 1 but continue into year 2. Across year 1 Freecycle will utilise some of its funding to recruit a team of developers, and the app development will take 8 months in year 2. It will be costly to maintain and upgrade, hence we will spend the first-year funding this to ensure we will have enough for the maintenance of the app too. The process will begin in year 1 as it will take a considerable amount of time to find funding for the recruitment of a development team.

Year 2:

(OBJ04) Continuation of the app development will occur during the first 8 months of year 2.

(OBJ03) AI chatbot

This is done at the end of year 2 as we would like the integration of the chatbot to be done on the app and website. ✓ This enables 24/7 customer service availability [25, 29], reducing the need for volunteers

to answer queries. It will be costly to maintain, update and initially integrate, so this will be implemented once the mobile app is complete.

(BR1, BR2) Since Freecycle should've built up their social media presence by this stage, year 2 would be the ideal time to partner with influencers and institutions to further widen their reach.

Year 3:

During this stage the organisation should have a strong presence among the top 10 platforms for second hand items marketplace.

(OBJ06, OBJ07) Technical additions:

- Generative BI tool
- AI code review tool

These tools aren't as crucial as the plans for year 1 and 2 and so they don't need to be implemented early on. These tools don't have a direct impact on the users themselves, whereas the other plans do, therefore these improvements can be done later.

Long Term Considerations and Investments:

As AI is an emerging technology, Freecycle should consider investing their funding into utilising AI techniques. Freecycle could evolve to an AI powered mobile app entirely [25] - they could implement a recommendation algorithm – the user will be recommended items on the platform [29, 40]. AI could be used for image classification, where user can find items based on different categories, making it easier to find similar items [40]. AI powered mobile apps like Google Maps and Duolingo largely utilise AI and Freecycle could do this too.

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