WORCESTER POLYTECHNIC INSTITUTE

WORCESTER REPAIR CAFÉ

Creating a stable Repair Café

An Interactive Qualifying Project Report submitted to the faculty of
Worcester Polytechnic Institute
In partial fulfillment of the Degree of Bachelor Science

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Abstract

Our project goal was to investigate and determine characteristics of stable structures to support repair café sessions in Worcester and Ledbury, England. Using interviews, surveys, and personal investigations, we found approximate locations, demographics of interest, and potential strategies for creating the Worcester and Ledbury Repair Cafés. We developed recommendations based upon our research and a flexible formula for developing a successful repair café. Our findings should be useful to our sponsor, the University of Worcester, and the Malvern Hills Repair Café in creating these new repair cafés.

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Co-Creator of the Malvern Hills Repair Café

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Executive Summary

I. Introduction

A repair café is a place where people can bring their old or broken, unwanted items to be used and recycled by others or to potentially be fixed by volunteer experts (see Figure 1) for free. Repair cafés allow people to interact with their community, as well as pass on and gain knowledge about general repairs.

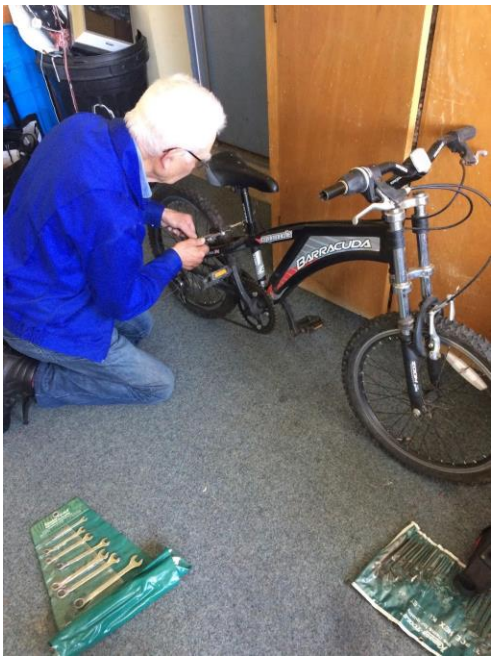

Figure 1: Repairer fixing a bike at the Malvern Hills Repair Cafe on May 16th

Repair Cafés can help people facilitate reduction of waste while learning new skills and relaxing. Repair Cafés are run by volunteers who have a particular specialty of repair. While some repairers are able to do a little of everything, most stick to their main area of expertise. The repair café volunteers offer their services to the community at no cost (About the Repair Café, 2010).

Jan and Chris Dyer, founders of the Malvern Hills Repair Café, and Katy Boom, Director of Sustainability at the University of Worcester, reached out to Worcester Polytechnic Institute's London Project Center. They requested assistance in finding the background information necessary to create two new repair cafés: one in the city of Worcester and the other in the town of Ledbury. We took on the task of finding ideal locations for repair cafés in the city of Worcester and the town of Ledbury, while simultaneously raising awareness of the option to repair items rather than discarding them.

II. Project Goal and Main Objectives

The goal of our project was to investigate stable structures and location(s) to support recurring repair café sessions in the city of Worcester and the town of Ledbury. In order to accomplish our overall goal, we developed four (4) objectives: (1) Research previous repair cafés; (2) Research stable repair cafés' methods, structures, and successes; (3) Identify possible locations for repair cafés using information from the first two steps; and (4) develop marketing ideas for attracting volunteers and attendees to repair cafés and for informing the community of repair café benefits.

For the first step, we asked Chris Dyer, one of the creators of the Malvern Hills Repair Café (MHRC) who we worked with for this project, to help us find other stable repair cafés in England. We identified the Goodlife Centre in London and the Farnham Repair Café as recurring and consistent repair cafés. To accomplish our second step, we conducted participant observation at the London Goodlife Repair Café and the MHRC, and interviewed the founders of all three repair cafés in order to understand how they constructed their respective repair cafés and compare the atmosphere, demographics, and features of each. We then used this information to create surveys to conduct in Worcester and Ledbury.

In order to identify possible locations for the Ledbury and Worcester repair cafés, step 3, we conducted surveys in three (3) areas of Worcester (St. Johns, Crowngate Plaza, and Blackpole), and in the market center of Ledbury. The intent of this survey was to:

- Gather information about people's repair habits
- Gather information about people interested in repair and repair cafés (e.g., age, gender, where they live in the city or town, likeliness to volunteer)
- Inform the community about repair cafés and repair culture

Using the survey data and the list of repair café characteristics developed in step two (2), we identified areas for the Worcester Repair Café and the Ledbury Repair Café. Our final step was to use

the information we found in the first three steps, as well as our participation in the June 4th, 2015, Skills for Tomorrow conference[1], to suggest methods to increase interest and knowledge about repair cafés.

III. Findings and Recommendations

From our research, we assembled a four (4) step outline of how to create a stable repair café. These four (4) steps include:

1. Identify target demographics
2. Identify possible locations for repair café sessions
3. Find volunteers
4. Attract repairees

This four (4) step outline provides the necessary steps we found through our research that could help create a stable repair café. Following the steps, we made recommendations of where a repair café should be located in the city of Worcester and the town of Ledbury.

From our interviews, participant observation, online research and over 200 surveys in Worcester, our team found that residents expressed the highest interest level in repair cafés in the WR2 area (St. John's). **Therefore, we recommend that a repair café be set up in the area of St. John's**. In the town of Ledbury we discovered that the highest interest level was from the Northeast area of Ledbury. However, on our visit to Ledbury we realized it is much smaller than the city of Worcester. Ledbury has a population of 9,900 people and one postcode district, compared to the 98,000 people in Worcester. The smaller size of Ledbury makes it easier to choose a general area for holding repair café sessions. **We recommend that in Ledbury the repair café sessions be held along the street of the Market House, High Street**.

[1] Skills for Tomorrow is a two day conference for 10 to 15 year old school children where they meet businesses and take part in workshops to learn about green careers, the green economy and sustainability skills.

To identify a specific venue within these locations **we recommend organizers consider the criteria in the checklist we developed** (see Figure 2). We developed this checklist after visiting the Malvern Hills Repair Café and built it up over our time working on the project.

Repair Café Checklist

- ❑ Parking
- ❑ Bike Racks
- ❑ Load/Unload Space
- ❑ General Size of Space
  - ❑ Small
  - ❑ Medium
  - ❑ Large
- ❑ Rooms for Categories of Repair
- ❑ Near Public Transport
- ❑ Friendly Atmosphere
- ❑ Music
- ❑ Ten or More Repairers
- ❑ Seating
- ❑ Heating
- ❑ Sense of Community
- ❑ Usable Wifi
- ❑ Animals Allowed
  - ❑ Anywhere
  - ❑ Specified Area
- ❑ Play Area for Children
- ❑ Refreshments
  - ❑ Free
- ❑ Food
  - ❑ Free
- ❑ Environment Feels Safe

Other Notes:

Figure 2: Characteristic Checklist

After researching all three (3) repair cafés we found that the most common characteristics of successful repair cafés were available parking and being near public transport, as well as having a friendly atmosphere, seating, heating, a sense of community, and available refreshments.

Our survey data from 250 respondents revealed that most of the Worcester and Ledbury residents (190) did not know what a repair café was (see Figure 3 below). **We recommend that the organizers of the Ledbury and Worcester repair cafés, advertise the sessions throughout the creation process in order to attract repairers and repairees**.

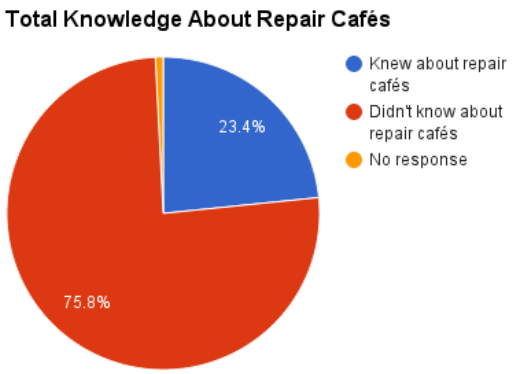

Figure 3: Pie chart showing Worcester and Ledbury's previous knowledge of repair cafes

Overall, we got a very positive response towards repair cafés from Worcester and Ledbury residents, with more than 50% of those who originally would bin or recycle their old, broken items professing interest in repair cafés. **We recommend continued advertisement for running sessions to continue spreading the word about repair and increase attendance.**

IV. Conclusions and Final Recommendations

From these findings, we recommend that in Worcester, the repair café be located in WR2 (St. John's) and that the repair café in Ledbury be located along High Street near the Market House. **We recommend that within these areas, potential locations are judged on the following criteria:**

- **Parking availability or accessibility by public transport.**
- **Atmosphere and sense of community**
- **Seating and accessibility of refreshments**
- **Safety**

We also recommend that the locations chosen are medium sized (room for 50-75 people) and either allow animals, or have a nearby location for people to safely and comfortably leave their animals. Additionally, because of the success of multiple monthly repair cafés, we recommend having repair sessions approximately once per month and on weekends as the FRC and MHRC do. By increasing the quantity of successful repair cafés in England and across the world, we can do our part to reduce waste and fix our broken belongings in the process.

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Chapter 1: Introduction

How many times can you remember having to discard a common household item simply because you lack the knowledge to fix it? Or when you go to a repair professional, having to pay exorbitant repair costs? Sometimes, fixing appliances is not worth it and you have to throw them away and buy new ones. Due to the increase in affordability of new products and technological advancements, it is easier to purchase rather than repair outdated equipment (Alam, 2010). This is a recurring issue that, when tackled deliberately and thoughtfully, can bring positive effects environmentally, socially and economically.

As it is now, when products break, consumers conduct a cost/benefit analysis, perhaps weighing the environmental impact and/or the cost of purchasing a new product against convenience. If you choose the environment, you may save money, but will likely have to go out of your way to find someone who can fix your belongings. If you choose convenience, the result is waste, more commodity production, and a hole in your wallet. Further, research illustrates that consumers are favoring convenience. In a 27 year period between 1979 and 2006, the amount of usable landfills in the United States decreased by over 91% (Eco Evaluator, 2008).

Repair Cafés can help reverse this trend and facilitate reduction of waste. Repair Cafés are meeting places where you can work with and observe a specialist who will repair your items. At the same time, you can gain some valuable knowledge and enjoy a cup of tea or coffee. Repair Cafés are run by volunteers who have a particular specialty of repair, and while some of them are able to do a little of everything, most of them stick to their focus. The repair café volunteers offer their services to the community at no cost (About the Repair Café, 2010).

Repair Cafés offer new choices in how to deal with broken products. Rather than throwing away unwanted or broken products, they can be donated to the café for parts. Additionally, if you

would rather fix the broken items, you can get free assistance from volunteers who are experienced in repairing a variety of household items. Together, these two options reduce landfill volume and lessen the need for new products to be manufactured in factories. As the assistance is free, it lessens the burden to your wallet, only requiring you to buy parts that the Repair Café does not possess.

An additional benefit of involvement in Repair Cafés is the social connection they afford. The fact that the café is volunteer based increases the quality and amount of social interaction between the community members by allowing people who would normally not interact to help each other. Repair cafés are also places where friends can go and get items fixed together. It is not required that you go alone and meet new people. A friendly atmosphere is the optimal environment for a repair café so people can easily work together on repairs.

The University of Worcester, located in Worcestershire County, United Kingdom, is very active in the Worcester community and supportive of the purpose and ideals behind repair cafés. The University asked a project group from Worcester Polytechnic Institute, an engineering university in Massachusetts, USA, to assist them in identifying ideal locations for a repair café similar to the one found in the neighboring town of Malvern Hills.

Repair cafés are fairly new. The first one began in Amsterdam, Netherlands in 2008. Being such a new idea, they can be challenging to open and have successful participation. The University of Worcester wanted us to research the process of establishing a repair cafe, identify optimal locations for them and assist in spreading the word of the new Worcester repair café. Consequently, the goal of our project was to have the general populations of Worcester, England and Ledbury, England be more aware and knowledgeable about Repair Cafes as well as repair culture in general.

In Chapter 2, our Literature Review, we explain the history of repair cafés as well as social, economic, and environmental benefits of having one. We also discuss Worcester and Ledbury's current efforts to be environmentally friendly, and how the repair café would contribute to those

efforts. Finally, we introduce our sponsor, the University of Worcester, and why they have asked us to assist Jan and Chris Dyer in setting out the groundwork for these repair café.

In Chapter 3, we describe our methodological approach to the project. We elaborate our goal of investigating and suggesting a stable structure and location that will support recurring sessions of a repair café in both the city of Worcester and town of Ledbury. In order to achieve our project goal, we developed the following four objectives: (1) identify previous stable repair cafés; (2) research these previous repair cafés; (3) find ideal locations for repair cafés; (4) create materials to inform the local communities about the repair cafés, recruit volunteers and attract potential attendees.

In Chapter 4, we describe our project findings and recommendations. We convey these by creating a four (4) step outline of what we found went into creating a stable repair café. This chapter also included other recommendations we have for future research related to the topic of repair cafés which we were unable to cover within our time working on this project.

In our final chapter of this report we conclude what we achieved throughout our time working on this project and how our work has influenced the positive change repair culture can have on a community. We also explain the impact that spreading information can have on an individual's decision when it comes to repairable household items. Finally, we recommend future actions for our sponsors and future project groups, based on the findings we have had.

Chapter 2: Literature Review

I. Introduction

Technology is evolving at an alarming rate. This evolution is at the expense of irreplaceable raw materials such as oil and metals which are being used in the production of 21st century devices such as cellular phones, computers, and televisions (Smith, S. 2006). These same technologies are largely eliminating face-to-face interactions with nearby community members. Our throw-away society does not put emphasis on fixing things (About the Repair Café, 2010). Instead, consumers resort to simply buying something new rather than attempting to fix something broken. This decision has implications on consumer pocketbooks, economic systems, landfill space, wasted resources, and social opportunities (Knapton, S. 2014).

In this chapter, we begin discussing waste and material consumption as it relates to economic, environmental, and social interaction issues. We explain what a repair café is, and examine the influence this type of establishment has on these three issues. We explore the benefits of a repair café, as well as the Repair Café Foundation. Finally, we introduce our project as defined by our sponsor, the University of Worcester. The University was asked by Jan and Chris Dyer, the founders of the Malvern Hills Repair Café, to assess ideal demographics and locations for Repair Cafés in Worcester, England as well as Ledbury, England.

II. Throw-away society and impacts of technology

As technology advanced and manufacturing industries became more widespread, the perceived value of manufactured goods began to fall (Raghavan, 2010). The new technology spread until it was a common sight in our society. Phones and TVs, electronics with relatively short perceived lifetimes, were counted in hundreds of millions in some countries (Raghavan, 2010). But when these appliances break or perceived as obsolete, many of them are just thrown away, filling up landfills and

releasing potentially harmful chemicals into the environment (Clark, 2004). This is not just limited to electronics either: even objects like chairs, drapes, and clothing can be considered too much effort to repair when they get damaged.

a. Economic

Through most of the 20th century consumers would save what they bought, but the early 21st century's trend is to buy a newer version just because the old one is considered out of date (Raghavan, 2010; Clark, 2004). This "throw-away" approach has increased the use of raw materials, the production of new products and the amount of trash thrown away. This in turn increases the amount of industrial waste produced (Samuelson, preface, 2009). Even people who try to recycle, and who live in recycling conscious countries such as the United Kingdom may not be fully informed of all their recycling options (Raghavan, 2010; Tonglet, 2004). This causes an endless cycle that hurts both the consumer and the environment.

Currently, many consumers concentrate more on the fact that there is a newer version of a product than the fact that their current version has a life expectancy of several more years (Raghavan, 2010). Whether it is that the cooler, newer model came out with the perfect new feature or that their friends have pressured them into buying it, people throw away and replace it with a new one. While for many objects there are efforts to convince people to recycle them in specialized ways, some people may not realize all the options there are for a given item and just throw it away instead (Worcestershire City Council, Herefordshire Council; Raghavan, 2010). While this is beneficial to the manufacturers who make the replacements, it hurts not only the consumers' wallets, but also the environment (Clark, 2004). The world economy uses approximately 60 billion tons of resources each year in order to produce the goods and services consumed (SERI, 2009). If a larger portion of that was recycled or reused, the total amount of resources used each year would decrease.

b. Environmental

Many industries including the food, textile, semiconductor, and wood production industries produce industrial waste as byproducts. (Samuelson, 2009). Whenever these industries produce something, the process yields industrial waste; the more they must make, the more waste is produced as well. Food production yields chitin and chitosan; textile production leaves non-absorbed dyes and sewage sludge rich in heavy metals as seen in Figure 4; power plants can produce red mud and fly ash (Samuelson, 2009). These wastes can fill up space, or even have negative environmental impacts. For example, mercury is a textile byproduct and can harm delicate ecosystems (Samuelson, 2009). Mercury is bio accumulative, which means that organisms can absorb it much faster than they can remove it from their bodies. The mercury is eaten by organisms which brings the mercury into the food chain and eventually back into humans through the food they eat (Samuelson, Industrial Pollution Management: A Sustainability Perspective, 2009). Once in the human body, mercury can cause damage to important organs as well as developing fetuses (Samuelson, Industrial Pollution Management: A Sustainability Perspective, 2009). Many of these byproducts need not enter the waste stream. Rather, many products can be recycled or reused.

Figure 4: A sewage plant releasing waste into the water

(Photo is in public domain)

In a 2010 survey of 6,500 people that included residents of the United Kingdom and 12 other nations, Nokia found that the United Kingdom was one of the more recycling aware nations, with regards to phones (Raghavan, 2010; Tonglet, 2004). Despite this, the survey revealed that 20% of survey respondents from the United Kingdom were unaware that cell phones could be recycled. This

means that as recently as 2010, 1 in every 5 respondents would throw their old cell phones in the trash rather than recycling them. Part of this may be because of the unusual way they are recycled. Nokia for instance, set up thousands of recycling centers around the world specifically for recycling their cell phones (Raghavan, 2010). These centers are a good step towards promoting recyclability, but people who do not know about them would just act as if there were no special options in the first place. There are a lot of other items that require special recycling conditions, including asbestos, batteries, hazardous chemicals, and glass (Worcestershire City Council, Herefordshire Council). If people do not realize that there are specific methods for recycling these items and that there are environmental ramifications for not following proper disposal methods, they may recycle potentially hazardous materials normally, recycle incompatible materials together, or even throw them away. Together with the general disregard for the hidden costs of replacing old belongings, this has a detrimental effect on both the consumer's financial situation as well as the environment (Raghavan, 2010; Samuelson, Preface, 2009).

Human effort in producing goods and services for our own convenience has resulted in generation of all types of waste-liquid, solid and gaseous (Emmanuel, 2011). England accumulates about 177 million tons of waste each year (Government UK, 2013). Part of this waste accumulated is waste from electrical and electronic equipment (WEEE) such as computers, TV sets, refrigerators and cell phones. WEEE is one the fastest growing waste streams in Europe; approximately 9 million tons of WEEE were generated in 2005 (European Commission, 2015). There are ten different categories of electrical and electronic equipment of WEEE ranging from large household appliances such as refrigerators to medical devices and cell phones. (The European Parliament and the Council of the European Union, 2003).

WEEE is a mixture of materials that if not properly disposed of or recycled can cause major environmental and health problems. The WEEE is expected to grow to more than 12 million tons by

2020 (European Commission, 2015). The European Union (EU) is taking measures to prevent the generation of WEEE and promote reuse and recycling to reduce the quantity of WEEE waste (Europa, 2010).

Figure 7: Overflowing landfill in England

(Photo is in public domain)

As of the year 2009, humans use approximately 50% more natural resources than 30 years ago, about 60 billion tons of raw materials each year (SERI, 2009). According to the United Nations Population Fund, in 2011, the Earth's population reached the 7 billion mark, and is expected to climb over 9 billion by the year 2050. Given the current large population and the expected increase over the next 39 years the extraction of natural resources could increase to 100 billion tons by 2030 (SERI, 2009). Europe is the continent with the highest natural net-import of resources. With these excess materials being used, it contributes to the landfills being overfilled (Figure 5).

Landfills are no longer considered an effective option for waste disposal, with skyrocketing costs, environmental concerns, and land shortages making landfills a problematic option (U.S. Science & Technology, 2009). The landfills like the English one shown in Figure 5 are currently being overfilled. Products that are not biodegradable or are slow to decompose can stay in landfills for years, often emitting gases that are harmful to the environment. Landfill statistics show that in 1979, approximately 18,500 landfills were available to receive trash all across the United States (U.S.). In 2006 the number of landfills available had drastically decreased to approximately 9% or 1,745 of the amount of landfills available in 1979 (Eco Evaluator, 2008).

In 2008, The European Union revised the landfill directive which aimed to prevent and reduce possible negative effects on the environment from disposal of waste in landfills. The revisions

introduced requirements for landfills to set targets for the reduction of biodegradable municipal solid waste going to landfills. Municipal solid waste (MSW)-more commonly known as trash or garbage-consists of the everyday items people use and discard such as furniture, clothing, bottles, appliances and food scraps (Environmental Protection Agency, 2012). The fraction of MSW in 2008 was 55% in the United Kingdom (Municipal Solid Waste Resource in England, 2013). Landfill sites in Europe are becoming increasingly full. As a result of this, heavy metals and toxins are leaking into the surrounding groundwater and soil (European Commission, 2000). Due to the negative effects landfills can have on the environment, Europe has taken a range of actions to improve recycling and waste collection from households.

UK households produce approximately 22.9 million tons of waste each year (Recycling Guide UK, 2010). The UK government wants to increase the amount of reusable and recyclable materials recovered from various waste streams and decrease the amount currently being deposited in landfills (Defra, CIWM, 2013). In 2013, the UK announced the Waste Prevention Programme for England to promote the reduction of waste (Government UK, 2013). The need to recycle has been recognized by the UK government. The Landfill Directive states targets for reducing the amount of waste in landfill sites in the UK. The targets are:

1. By 2013, the waste sent to the landfills should be 50% of that sent in 1995
2. By 2015, the waste sent to landfills should be 35% of that sent in 1995

In order to achieve this directive, "Waste Strategy 2000" introduced the following targets for waste recovery:

1. 30% of household waste should be recycled or composted by 2010
2. 33% of household waste should be recycled or composted by 2015

(Recycling Guide UK, 2010)

The average household's recycling rate has steadily increased from 2002 to 2012, achieving a household recycling rate of 42% in 2012 compared to just 12% of household waste recycled in 2002 (Defra, 2012). The recovery of materials from domestic and commercial waste streams not only addresses the environmental impacts of disposal, but also reduces the costs and energy of producing new products from raw materials (Defra, 2012).

Making new products requires raw materials and energy. Raw materials have to be extracted from the earth, the product must be made and then transported to the location it will be sold. As a result of this, reduction and reuse are the most effective ways to save natural resources, protect the environment and save money (United States Environmental Protection Agency, 2015). Seattle, Washington economist Jeffrey Morris estimated that manufacturing one ton of office and computer paper with recycled paper stock can save nearly 3,000 kilowatt hours over the same ton of paper made with virgin wood products (Stanford, 2014).

The overproduction of materials, the resultant waste, pollution of water and air caused by excess energy use can negatively impact communities and our environmental health. These environmental issues can have a negative effect on society, especially as we become more dependent on digital technology.

c. Social

Digital technology, or digital equipment and devices recently developed through scientific knowledge, has taken over so many aspects of everyday life that it seems impossible to avoid: taxes, work, mapping (google earth), online shopping, communication (e-mail and messaging), entertainment media, and even books have all been converted to digital mediums. Because of the 21st century being so focused on multimedia technologies, there has emerged a movement away from physical social interaction that can be harmful to communities (Siegel, 2008).

Not only does the use of interconnected digital devices decrease face to face interactions, such use also creates a global divide between those that have access to modern technology and those who do not (Katz, J., & Rice, R., 2002). Although technology creates a divide between groups of people, there are social benefits of interconnected technology that people utilize together. One of these technologies is wifi.

Simply put, wifi is a local area network that allows devices such as smartphones, computers and other digital technologies to connect to the internet or even each other's devices wirelessly. Wifi is generally free to use in public spaces that make it available and is a perk in places where people can socialize in-person even though the technology they are utilizing lets them do so digitally (Hampton, K., & Gupta, N., 2008). Also, there are certain ways in which technology can be used to create a sense of community and bring people together while often being productive in work or study.

Lee Siegel, an esteemed writer for *The New Yorker* and Columbia graduate, sums up how socialization has waned with the introduction of recent digital devices and also points to cafés as an ideal environment for bringing people together. "The old-fashioned café provided a way to both share and abandon solitude, but sitting in your screen world is a whole other story. You are socially and psychologically cut off from your fellow caffeine addicts" (Siegel, 2008).

Today's generation of youth are growing up during a complicated period of time. Technology is becoming so advanced that fixing appliances and gadgets no longer only requires simple logic but in-depth instructions. "Unlike previous generations who would 'make do and mend', the 21st century's youth throw out faulty appliances and buy new ones" (Knapton, S. 2014). Our current throw-away society means that younger generations are not learning how to fix problems related with physical items and are instead falling back on instructions readily available through digital mediums, such as iFixit.

The complex interweaving of technology into the household, workplace and global trade market does not seem to be stopping anytime soon. Humans have to figure out how to embrace these new technologies and the benefits they offer while being conscious of the detrimental effects they can have on human sociology (Heath, C., Knoblauch, H., & Luff, P., 2000).

III. Efforts to mitigate the environmental and economic problems of technology

While the advance of the industrial world and its necessary technologies has caused social, environmental, and economic issues, there are efforts being made to fix them (Raghavan, 2010). There are alternatives to throwing goods away; there are ways to give the environment and your wallet a break.

a. Reduce, Reuse, Recycle

The concept of "reduce, reuse, recycle" is applied by reinventing items after their initial life and avoiding additional waste of materials. Recycling is turning products considered as waste into a valuable resource (Bushnell, Harpster, Simchuk, Manckia, Stevens, 2009). Reduce refers to consumers making a conscious attempt to make smarter choices when buying new products. For example, reduce can refer to researching what type of light-bulb lasts longest while producing the least waste. The most effective way to reduce waste is not to create it in the first place. The benefits of reducing and reusing include:

1. Reducing pollution created by the need to harvest new raw materials
2. Saving energy
3. Reducing greenhouse gas emissions that contribute to global and climate change
4. Helping sustain the environment for future generations
5. Saving money

6. Reducing the amount of waste that will need to be recycled or sent to landfills and incinerators
7. Allowing products to be used to their fullest extent

(United States Environmental Protection Agency, 2015)

Currently, in 2015, there are large scale incentives in the EU for recycling. The European Union has created incentives and fines for reaching specific goals within an allotted timeframe (Clark 2004). Similarly, many bottles and cans encourage recycling by giving small amounts of money if returned to specific locations. iFixit is also a great example of reusing and recycling common items as well as reducing material consumption by repairing broken goods.

b. iFixit and Environmental Policies

iFixit and environmental policy are just some of the ways that humans have attempted to combat harmful actions that are dangerous to the environment on small and large scales respectively. Sometimes, for one reason or another, you cannot use something anymore. Maybe it is broken, or maybe its pattern has faded. Maybe you cannot fit into, or onto, it any more. Whatever the reason, you are then faced with the decision of what to do next. One thing people may not know about is iFixit. iFixit is an online organization that sells cheap, niche parts and tools for a wide-range of devices while hosting a forum that allows users to create repair guides for fixing specific items (IFixit, 2015). This encourages users to become thriftier and fix their belongings themselves. Repairing old, broken items reduces the carbon footprint required to create new ones, and takes monetary burden off of the consumer.

Electronic waste poses a unique disposal problem because the technologies required to reduce the waste have large costs and require renovations of existing systems. To try and solve this problem of waste of electrical and electronic equipment (WEEE) two legislations were put in place. The first WEEE Directive (Directive 2002/96/EC) was enforced in February 2003. This provided collection

schemes where consumers can return their WEEE free of charge, which increases the recycling of and/or reuse of WEEE. The European Commission revised the Directive in December 2008, in order to tackle the increasing waste. The new legislation became effective on February 14, 2014 (European Commission, 2015).

Another attempted method to reduce the negative effects of consumerism is repair cafés. A repair café is where people can bring their old or broken, unwanted items to be used and recycled by others or to potentially be fixed by volunteer experts for free. "Repair Café" is a general term used to refer to organizations that are part of the Repair Café Foundation. The Repair Café Foundation encourages and helps communities to start their own repair cafés, in order to spread their green ideals (About the Repair Café, 2010).

IV. Repair Café Foundation

The Repair Café Foundation is an organization that recognized these economic, environmental, and social problems that were quickly developing from overconsumption, production of potentially avoidable new goods, and digital technology becoming more prevalent in day to day life. The Repair Café Foundation wanted to do something to combat these problems. The current efforts represented by political policies and recycling methods to mitigate these problems are not useless but new approaches can accelerate the progress (About the Repair Café, 2010).

Figure 12: Two volunteers from the May, 2015 Repair Café in Malvern Hills, England

Repair cafés, such as the one shown to the left in Figure 6, allow people to interact with their community, as well as mentor or learn repair

techniques from others. The items that can be repaired at a repair café include: clothes, furniture, electrical appliances, bicycles, crockery, appliances, and toys. Repair Cafés are often held in multiple hour sessions in public spaces like community centers, churches, and parks (About the Repair Café, 2010).

The idea of the repair café and its implementation began eight years ago in Northern Europe. The Repair Café was originally thought of and created by Martine Postma in 2007. Since then, she has been contributing to local events that promote sustainability. Ms. Postma organized the very first Repair Café in Amsterdam, on October 18, 2009. It was so successful that she decided to start what is now the Repair Café Foundation. The foundation was officially conceived on March 2, 2010. Ever since, they have been happily supporting international and local people who wish to start their own branch of Repair Café in their geographical area. (About the Repair Café, 2010).

The Repair Café Foundation makes the startup process simple and easy through their website: www.repaircafe.org. There is a "start your own" link on the homepage. Following this link makes it easy to find information on how to specifically start your own repair café. There is also a basic tool kit from iFixit (Figure 7) that can be purchased at a discounted price; this includes tools that the foundation has found especially helpful in the past sessions of repair cafés (About the Repair Café, 2010).

Figure 7: The iFixit Repair Tool Kit

(Photo in public domain)

In terms of advertising, once the startup package is purchased the foundation will help you create a Facebook page to put out location and time information, as well as relay that information to

their site's locations section to help get the word out about your newfound repair café. (About the Repair Café, 2010).

The recruited volunteers are experienced and/or professional in their respective fields and at the very least, willing to give up their time to try and help fix whatever item comes through the door. Volunteers can be professors or students as well as community members that want to better the community with their time for no monetary compensation. Volunteering is also a great observing and contributing opportunity for people who want to learn repair skills for free (About the Repair Café, 2010).

Repair Cafés are a great place where professionals and tinkerers can spend their time helping the community and refining their craft. The sessions are often held in churches and community centers on the weekends so children with broken items or nothing to do can go learn how to fix items and participate in a community effort. But, there is no specific target audience at sessions; everyone is welcome.

V. City of Worcester and Town of Ledbury

The City of Worcester is located in the county of Worcestershire, England. Worcestershire is very active about recycling: there are 11 major recycling centers in Worcestershire alone (Worcestershire City Council, Herefordshire Council). The city of Worcester encourages the reduced use, reuse and recycling of materials. As of 2014, Worcester recycles approximately 37% of household waste, this is a 21% increase from when the curbside recycling services were first introduced in 2003 (Worcester City Council, 2014). Residents of Worcestershire County can buy a compost bin in order to transform garden and food waste into compost to fertilize plants. The city of Worcester has put in place many policies to ensure waste is properly disposed or recycled.

Ledbury is a market town located in Herefordshire, England. Herefordshire is also very active with its recycling and has similar recycling practices as the county of Worcestershire. There are five

(5) additional recycling centers in Herefordshire, similar to the ones in Worcestershire (Worcestershire City Council, Herefordshire Council). In 2014, Herefordshire and Worcestershire Councils adopted a joint strategy to plan how to manage future waste. One of the main objectives of this plan is to minimize the use of landfills as a means of final disposal of waste while at the same time, promote better waste reduction habits through opportunities that relate to 'reduce, reuse, recycle' (Herefordshire Council, 2015). Even without this plan, the waste produced by Herefordshire has been reduced by 15% over the past decade, down to about 85,000 tons in 2013 ("waste and recycling").

Worcester and Ledbury, being in England, are also affected by environmental movements on a national scale. England wants to move to a "zero waste economy" (Government UK, 2013). The "EU Waste Framework Directive" provides legislative framework for the collection, transport, recovery and disposal of waste (Government UK, 2013). The recovery and disposal of waste requires a permit under EU legislation with the principal objective of preventing harm to human health and the environment.

The Counties of Worcestershire and Herefordshire encourage recycling to the point that they have a list of the correct procedure to dispose of many items that, if not given clear instruction, people might just throw away. This list shows how and where to dispose of hazardous materials including chemicals, asbestos, and computers. It also shows how to dispose of less hazardous but still troubling items such as invasive plants and rubble (Worcestershire City Council, Herefordshire Council). The University of Worcester's efforts to be green complements the city of Worcester and town of Ledbury's desire to be a more sustainable communities.

The University of Worcester has been confirmed as UK's second (2nd) greenest university in the 2015 People & Planet University League. The position of 2nd out of 151 universities illustrates their continuous effort to be a green university, with environmental sustainability and biodiversity a key priority across the institution (University of Worcester, 2015). In their effort to be a greener

campus the University of Worcester wants to establish a Repair Café following the model developed by the Malvern Hills Repair café.

VI. Local Repair Cafés

a. The Malvern Hills Repair Café

The Malvern Hills Repair Café opened its doors in December, 2012 (Malvern Hills Repair Café, 2012). Since opening, the Malvern Hills Repair Café has been running monthly repair cafés at their local community center as seen in Figure 8, The Malvern Cube (Malvern Youth and Community Trust Limited, "About us", 2014). Repairers at the Malvern Cube are mainly retired engineers and community members who volunteer their time to help people fix their belongings. While many repair cafés serve their own refreshments, this one instead has a partnership with the Malvern Cube's own café (2015).

Figure 8: The Malvern Cube where repair café sessions are held. Taken by us before the May 16th session.

The founders of the Malvern Hills Repair Café, Jan and Chris Dyer, have recently received funding to create two additional repair cafés in Worcestershire and Herefordshire. After looking at the possibilities, they decided on the city of Worcester and the town of Ledbury as their best options for pursuing future repair cafés (2015).

b. The Worcester and Ledbury Repair Cafés

Figure 929: University of Worcester campus

(Photo taken by Chris Allen)

Our sponsor, the University of Worcester (Figure 9) has reached out to Worcester Polytechnic Institute's London Project Center seeking assistance in development of two repair cafés; one in Worcester and one in Ledbury. As of 2015, the University of Worcester was confirmed as the United Kingdom's second (2nd) greenest university (People & Planet University League, 2015). Being one of the most sustainable universities in the United Kingdom, Katy Boom feels that a repair café is an innovative new way to promote recycling (2015). The University, more specifically, Katy Boom, Director of Sustainability, ran a trial repair café for their students with volunteers from Malvern Hills during Green Awareness Week in April, 2015. For this trial run, materials and tools were also donated from the Malvern Hills repair café (2015). The positive response to this trial, along with the support from Jan and Chris Dyer, encouraged them to make the repair café a more permanent part of the Worcester community. As such, they have requested that we assist them in creating a foundation for a sustainable and convenient repair café loosely based on the Dyers' successful repair café in Malvern Hills located in Malvern's local community center, the Malvern Cube (About us, 2014).

The new repair cafés in Worcester and Ledbury will allow students at the University of Worcester and year-round Worcester and Ledbury residents to participate in repairs for themselves and others. The cafés will allow members of the community to come together to fix their belongings

and learn important life skills (About the Repair Café, 2010). While a portion of the audience is the University's students, the Dyers hope to involve the entire communities of Worcester and Ledbury in the two new repair cafés they will be creating (2015).

The University of Worcester and the Dyers are asking for information and analysis to maximize success for recurring repair cafés in Ledbury and Worcester. Consequently, the goal of our project was to create a better understanding of what is needed to create a successful repair cafe, as well as finding ideal locations for these cafés within the respective city or town limits based on likeliness of success and interest. In the next chapter, we discuss our methodological approach to accomplishing our project goal and objectives.

Chapter 3: Methodology

I. Introduction

The goal of our project was to investigate stable structures and location(s) to support recurring sessions of a repair café in the city of Worcester and the town of Ledbury. We conducted surveys in the city of Worcester and the town of Ledbury to help us identify the ideal location for optimal repair café attendance. For this purpose, we developed four (4) objectives that helped us achieve our overall goal. We organized these objectives and the tasks that will be required to complete them in Appendix A (Table 1, below).

Objectives	Tasks/sources

1. Identify Currently stable repair cafes within England	• Observe and collect information from past repair cafés
	  • Repair café slips
	  • Checklists
	• Visit other repair cafés
	  • Goodlife centre
	  • Farnham Repair Café

2. Research obstacles and benefits of structures of currently stable repair cafés	• Interview creators of currently active repair cafés • Visit other repair cafés • Perform risk assessments at the Malvern Hills Repair Café

3. Identify possible locations for Worcester and Ledbury Repair Cafés	• Survey Worcester/Ledbury residents
	  • In places where people gather (community centers, supermarkets)
	• Analyze interest level
	• Repair café criteria checklist
	  • Malvern Hills
	  • London Goodlife Centre
	  • Farnham
	• Worcester
	  • St. John's
	  • Crown Gate
	  • Blackpole
	• Ledbury
	  • Town center market

4. Develop marketing ideas for Worcester and Ledbury in order to find good ways to attract volunteers and attendees to repair cafés as well as informing communities of their benefits	• Handout fliers for the Malvern Hills Repair Café • Explain purpose and benefits of Repair Cafés to people we survey • Attracting interest from younger people • Skills for Tomorrow Exhibition Booth

Table 1: Objectives and tasks to achieve our goal

In the following sections we describe our objectives as well as how we completed them to achieve the overall goal of the project. All interviews, surveys, risk assessments and other data collection methods were prefaced with a preamble, provided in Appendix B, before the interaction so participants could volunteer only once they are fully informed of the research, relevant risks and benefits.

II. Objective 1: Identify currently stable repair cafés within England

Our first objective, chronologically, was to discover repair cafés that are currently stable so we could investigate them further. For the purpose of this project, we defined a successful, stable and established repair café as one that has run multiple events over the past year and has a solid base of both volunteers and attendees. At the beginning of the project, we were aware of the Malvern Hills Repair Café (MHRC), run by Jan and Chris Dyer. This was the repair café that the University of Worcester originally wanted us to base the Worcester Repair Café on. However, once we were informed that our goal had expanded from just creating a repair café in Worcester to include Ledbury and possibly future repair cafés, we decided that it would be better to try to get a broader understanding of what works in different towns and why, so we could apply this knowledge to future repair cafés and use their specific locale as an advantage. We discovered the repair cafés that we focused on by talking with Jan and Chris Dyer, Katy Boom and also by looking on the locations page of the Repair Café Foundation website.

The first repair café we located was the MHRC, both because the original plan was to base the Worcester Repair Café on it and because this project had us working closely with both Jan and Chris Dyer who run the MHRC. We participated in the MHRC on May 16. At the Repair Café, we performed a risk assessment, which can be found in Appendix C, and observed the repairers. We also

Figure 10: Criteria Checklist for Stable Repair Cafes

assessed the environment and structure using a comprehensive checklist of potential factors that might affect the stability and success of a repair café. We provide the checklist in Figure 10.

In order to gain more first-hand information about which repair cafés worked better than others, we interviewed Chris Dyer about his experiences with others in the repair café world (Appendix D). Based on his recommendations, we decided to look into the Farnham Repair Café and the London Goodlife Center Repair Café. These two repair cafés were also stable, but had somewhat different structures that would contrast with the MHRC and give us the ability to analyze how the differences affected the customer base and success.

III. Objective 2: Research obstacles and benefits of structures of currently stable repair cafés

The next step towards creating a successful and optimal repair café is to discover what makes a repair café successful and stable. Therefore, our second step was researching current repair cafés and finding out what made them succeed, as well as how they were able to attract the members of the community and get them to attend.

One way we did this was by visiting successful repair cafés, observing their operations and talking to volunteers and participants about the overall process and experience they had. We also interviewed the organizers of established repair cafés in England, including the Malvern Hills Repair Café (MHRC) and the London Goodlife Centre Repair Café (LGRC).

One successful repair café is the MHRC, an event that is held on the third Saturday of every month in the town of Malvern Hills at their local community center. Jan and Chris Dyer, the leaders of this event, wanted us to work directly with them to achieve our project goals. With them, we started collecting information on common obstacles of a repair café as well as what benefits motivated them to start such a project. On May 16th, 2015 we traveled by train from Worcester to Malvern Hills to attend the MHRC. Once there, we conducted risk assessments to analyze what the volunteers seemed to view as issues with current operations. We also spent time observing what types of items were being repaired as well as what general demographic attended.

On May 20th, 2015 we interviewed Chris Dyer (see Appendix E for interview questions). One purpose of this interview was to find the motivations behind his and his wife's efforts as well as to see if there were any changes planned for the future of the MHRC. On May 31st, 2015 we took a train from Worcester to London to attend the LGRC to expand our knowledge and viewpoints on how repair cafés are run and set up. The city atmosphere of London is different than that of a small countryside town like Malvern Hills. We wanted to see if this difference influenced the two repair

cafés in terms of demographic and relative location. On June 16th, 2015, we conducted a Skype interview with the leader of the Farnham Repair Café to get his perspective on how a repair café should run to be successful (See Appendix E for interview questions).

Finally, we interviewed Katy Boom, Director of Sustainability at the University of Worcester, about the trial repair café that she set up and held on the university's campus (see Appendix F for interview questions). We conducted this interview to evaluate the level of interest in a repair café from the general university age range (18-22) as well as further observing common problems and successes of recent repair cafés.

We then used the information we gathered to create simple interest gauging and informative surveys for several locations, including Crown Gate, St. John's, and Blackpole (sections of Worcester).

IV. Objective 3: Identify possible locations for Worcester and Ledbury Repair Cafés

In order to have a successful repair café in the future our team had to identify the ideal locations for optimal repair café attendance in the city of Worcester and the town of Ledbury. We visited the Malvern Hills Repair Café (MHRC) and the London Goodlife Repair Café (LGRC), in order to conduct semi-structured interviews with managers of both repair cafés. In order to determine common characteristics of repair cafés we developed a checklist (see Figure 10 in Objective 1) that had a list of criteria that we thought would be useful for repair cafés. The goal of this checklist was not to rate the repair café on how many criteria it met, but compare the results of each checklist to the environment the venue was in, to best determine what criteria should be present at the repair cafés in Worcester and Ledbury. Finally, we conducted surveys, in the city of Worcester and the town of Ledbury, in order to raise awareness about repair and help identify possible locations for repair café sessions. Our research was not to find exact locations for repair cafés but to provide a general area

for possible locations of repair cafés sessions in Worcester and Ledbury and also, to provide specific criteria that exact locations should have when found in the future.

Our first task in helping us identify optimal locations for repair café sessions was interviewing Chris Dyer, one of the founders of the MHRC, on May 20, 2015 (see Appendix D for interview questions). We then visited the LGRC on May 31, 2015 to conduct a similar interview with the manager of LGRC, Alison Winfield-Chislett. Our team also conducted a skype interview, on June 16, 2015, with Martin Charter from the Farnham Repair Cafe (FRC). Our semi-structured interviews included topics such as: how and why they picked the café location; how they secured volunteers; and how they advertised sessions of the repair café (see Appendix E for interview questions).

In order to obtain potential repair café attendee information, we distributed surveys (see Appendix G for surveys) to the residents of Worcester and Ledbury. We conducted surveys throughout the city of Worcester in three (3) areas: Crowngate, St. John's and Blackpole. Ledbury was a much smaller town and only one area, the market in the town center, needed to be surveyed. Our surveys included topics such as: what respondents do if their belongings are broken, have they ever heard of a repair café, if they would go and where they might go for a repair café session. The surveys conducted in Worcester and Ledbury helped us obtain information indicating possible locations for recurring repair café sessions and also the most common age range of people interested in these sessions.

Finally, our team analyzed the data collected from the interviews and surveys in order to help us identify some of the optimal locations for a repair café in Worcester and Ledbury, based on interested demographics. By identifying the best locations for a repair café in both areas we were then able to start developing marketing ideas for repair cafés in Ledbury and Worcester.

V. Objective 4: Develop marketing ideas for Worcester and Ledbury in order to find good ways to attract volunteers and attendees to repair cafés as well as informing communities of their benefits

Repair cafés are a good way for the community to get together, learn new life skills, save money, and decrease their ecological impact. Going to a repair café is an enjoyable experience, with the added benefit of fixing an appliance or belonging that really needed it. But to people who have never heard about a repair café, there is no reward because they do not even get a chance to benefit.

This is where our fourth and final objective comes in. In order to benefit from a repair café, people must first know about its existence. While the fact that the Worcester and Ledbury Repair Cafés would not start until September did not allow us to directly gather volunteers and attendees, we were still able to research the most effective methods to do so and raise general awareness.

On the 4th and 5th of June, 2015, the University of Worcester held an event called Skills for Tomorrow. This event was aimed at children between the ages of 11 and 14 to help them make connections with professionals, discover career paths and opportunities, and also to learn about ways in which we can make the planet a better place, whether it be through environmental efforts or having a career you enjoy. Our team was fortunate enough to have a booth in the exhibition hall of the event where we promoted repair culture, repair cafés, and let the students know of the potential new cafés opening in the Worcester and Ledbury areas.

During our time surveying (June 2, 3, 8-12), we informed individuals about repair cafés if they had not heard of them, as well as handing out MHRC (Malvern Hills Repair Café) fliers to anyone interested. If, during the survey, they showed interest in attending repair cafés, we asked them if they would like to volunteer as a means of potential recruitment down the line.

Chapter 4: Creating a Stable Repair Café

I. Introduction

Through interviews, surveys, content analysis of Repair Café participant receipts and participant observation, we identified several characteristics that should assist in creating a stable repair café. While our time constraints prevented us from piloting a repair café using the characteristics we identified, our findings reflect the experiences of those who have created and run repair cafés. We discuss each step in detail in the sections below.

II. Step 1: Identify Target Demographics

While not necessary, finding the interest levels of assorted demographics in the city/town you plan to create a repair café in can increase output and likelihood of success for the repair café. Depending on whether you want a repair café to promote repair to an uninformed area or act as a popular gathering place for an already interested area, it may be beneficial to hold the café in different places. Depending on the interested age and gender distribution of a given area, advertising can be focused towards different groups. The age groups interested can also affect the optimal manager for these repair cafés. Finally, by going out and talking to people about their interest in repair cafés, it inherently increases knowledge about repair cafés. The survey used to solicit information is available in Appendix G.

a. Introductory Information on the Towns of Malvern Hills and Ledbury and the City of Worcester

Our project had us researching the area of Malvern Hills, Ledbury and Worcester.

Figure 11: The town of Malvern Hills

Malvern Hills is a town located in Worcestershire and Herefordshire, England (see Figure 11). Malvern Hills has an area of approximately 12 square kilometers (km^2) (England and Wales Census, 2011). According to the 2011 census of England and Wales, Malvern Hills had a population of 74,631 people with 51% of the population being female and the other 49% was male (England and Wales census, 2011). The average age of people in Malvern Hills is 45 years old, while the median age is slightly higher at 47 years (England and Wales census, 2011).

The town of Ledbury is located in the county of Herefordshire. With one postal district, HR8, Ledbury is the smallest of the three (3) locations. The population of Ledbury, according to the 2011 census, was recorded to be 9,636 people, with approximately 52% females and 48% males. Similar to Malvern Hills, Ledbury had an average recorded age of 45, with a median of also 45 years old (England and Wales census, 2011).

Figure 12: The city of Worcester

The city of Worcester (Figure 12) had the largest population recorded of the three (3) locations. Worcester occupies approximately 33.28 square kilometers (km^2). The 2011 census recorded Worcester to have a population of 98,768 people, made up of approximately 51% women and 49% men. All three locations have almost identical male to female ratios. The average

age of people in Worcester was 38, while the median age was 37. This age was much lower than the recorded average ages of Malvern Hills and Ledbury.

As we mentioned previously in our literature review the counties of Herefordshire and Worcestershire are very active about recycling (see chapter 2: literature review for more detailed information). Worcestershire has 11 major recycling centers and Herefordshire has five (5) additional recycling centers (Worcestershire City Council, Herefordshire Council). In 2014, Herefordshire and Worcestershire Councils adopted a joint strategy to plan how to manage future waste. One of the main objectives of this plan is to minimize the use of landfills as a means of final disposal of waste, and to promote better waste reduction habits (Herefordshire Council, 2015). Malvern Hills, Ledbury and Worcester being located in the counties, follow these and many more environmental directives. Due to the close proximity to Malvern Hills, similar demographics and the environmental practices, Jan and Chris Dyer thought it would be good to expand the concept of repair cafés to the city of Worcester and the town of Ledbury.

b. Location

The most important factor to identify is what area of the city (or town) is most interested in repair cafés. The primary reason for this is to decide where to run the repair café. Even people interested in repair cafés may be unwilling to travel long distances for them. By identifying the areas with the highest interest and running the café nearby, the café will have a solid repairer base to begin with.

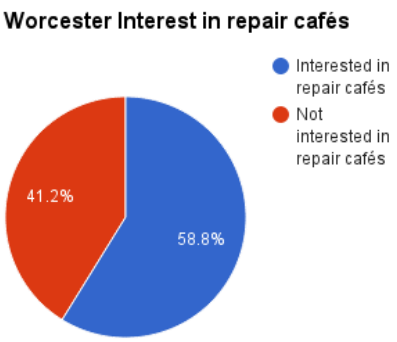

Figure 343: Interest in repair cafés in Worcester

Alternatively, some repair cafés are established with the intent of increasing the local population's interest in repairing. In such situations, the manager must identify the area with less knowledge, in an attempt to increase the interest.

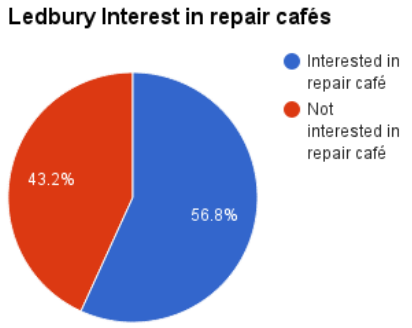

Figure 354: Interest in Repair Cafés in Ledbury

We used surveys (Appendix G) to gauge interest in repair cafés in both the towns of Worcester and Ledbury. Surveying in three parts of Worcester for a total of 206 responders and Ledbury for 44 responders, we gathered information on a variety of subjects, including knowledge of repair cafés, interest in repair cafés, age, and the area where survey respondents lived. As can be seen in Figures 13 and 14 the total interest in repair cafés for both Ledbury and Worcester was somewhere between 55 and 60%.

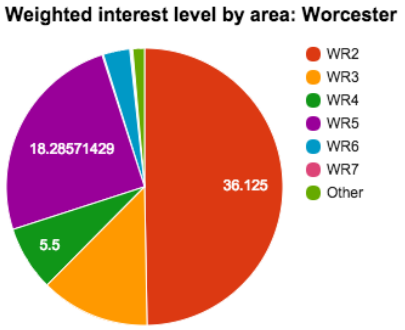

Figure 1536: Weighted interest in repair cafés by post code for Worcester

By weighting[2] the number of interested respondents by the percentage of respondents interested, we were able to create recommendations for the most promising repair café locations in each town. As can be seen in Figure 15, the area with the highest interest in repair cafés in Worcester was postcode WR2, followed by WR5. Two of the larger interest areas in Figure 16, HR8 and Malvern Hills, were non-influential towards the location of the Ledbury Repair Café, as HR8 was a "general Ledbury" address, and Malvern Hills, the location of the Malvern Hills Repair Café

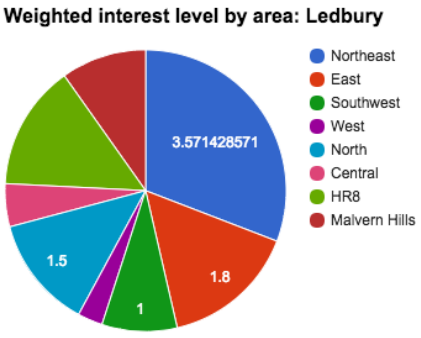

Figure 16: Weighted interest in repair cafés by part of town for Ledbury

[2] Weighting takes into account both the number of respondents from each area and the percentage of people from each area interested in repair cafes. By multiplying these two values, the result better reflects the actual interest while mitigating small sample sizes to the best of our ability.

(MHRC), is not part of Ledbury. Considering this, the most interested areas in Ledbury were the north, the east, and the northeast. Figure 17 is an accompanying postal code map of Worcester and a general map of Ledbury with indications of where we surveyed.

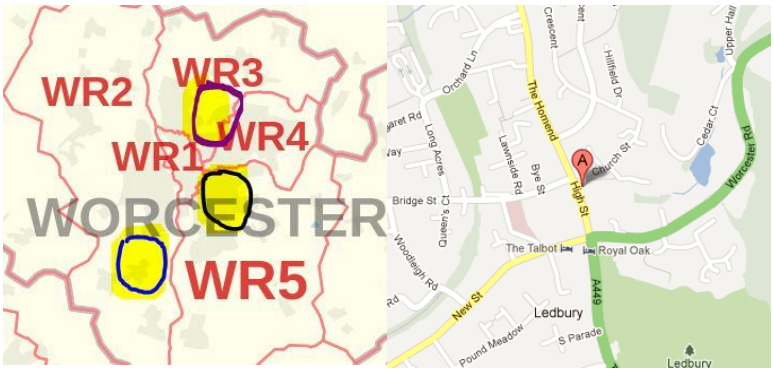

Figure 17: A map of Worcester's post codes (left) and Ledbury (right)

Recommendation: Because the current intent of Jan and Chris Dyer is to start the repair cafés in parts of Worcester and Ledbury with the highest degree of interest, we recommend that they locate the Ledbury repair café in the North, East or Northeast. We recommend that the Worcester repair café be placed in the WR2 or WR5 postcodes.

c. Age range

Another important demographic to consider is age. From talking with the organizers of the MHRC, LGRC and the Farnham Repair Café, we found that the attendance of specific repair cafés is heavily weighted towards an older age group. Different age ranges are likely to be attracted to an event by different things, and the objects they bring to be repaired are also likely to vary. As such, it is important to understand the age range a repair café is likely to attract, and to aim the advertising accordingly. For instance, in 2011, 32.2% of people living in Malvern Hills were over the age of 60. That is 10.6% higher than the national average of England (2011 Census, 2013). Additionally, different age ranges may wish to repair different types of items, so searching for repairers could be simplified by analyzing the individual age ranges further. Finally, if the repair café is ultimately intended to increase the number of people in an age range that are aware of and use repair cafés, the concentration of that age range in a particular section of the city could affect the final choice of location for the café.

While we did not examine the specific types of items different age groups were likely to bring into a repair café, we observed the distribution of age over different parts of Worcester. As can be seen in Figure 18, in Worcester, the population with the greatest interest is the 41-60 age group, with 34.2% of the interested population (41 respondents); followed closely by those aged 21-40, with 33.3% of the interested population (40 respondents). The age group with the least interest were those younger than 21, making up only 6.7% (8 people) of the interested population. This shows a larger interest in repair cafés in the older populations of Worcester.

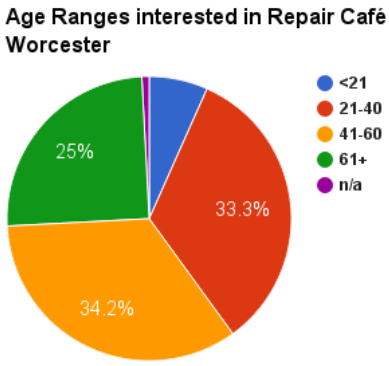

Figure 18: Percentage of interested respondents in each age range for Worcester

Additionally, Figure 19 shows that the two most interested areas in Worcester, WR2 and WR5, are composed of different age ranges. In WR2, the primary audience is mostly those aged 41-60, with those aged 21-40 and 61+ following. WR5, however, showed a larger population aged 21-40 that were interested. The overall interest shown in WR2 was almost twice as large as that shown in WR5, making it a more promising location for a repair café. However, because of the general lack of younger generations in repair culture, the younger demographic may be valuable to attract and make up for the lower interest of WR5.

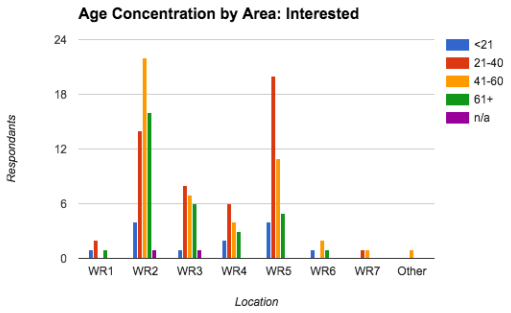

Figure 19: Relative ages of interested respondents by post code

In Ledbury, we found that the interested populations heavily sided towards the older age ranges. Figure 20 shows

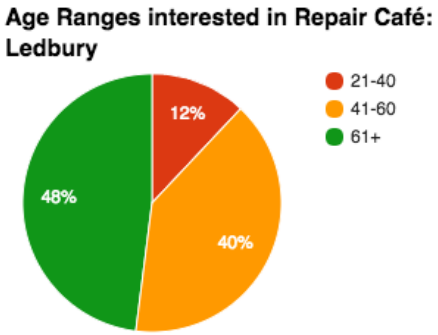

Figure 20: Percentage of interested respondents in each age range for Ledbury

the proportions of each age range among the interested people, while Figure 21 shows the distribution of the population across the town. The age range for the more interested areas in the northeast follow the city's overall trend of primarily 61+, closely followed by 41-60, with no large interest among the younger people. Because of the lack of particularly large differences in the overall data, the age ranges should have little effect on the eventual choice of location in Ledbury: the northeast continues to have the most potential as a location for a repair café.

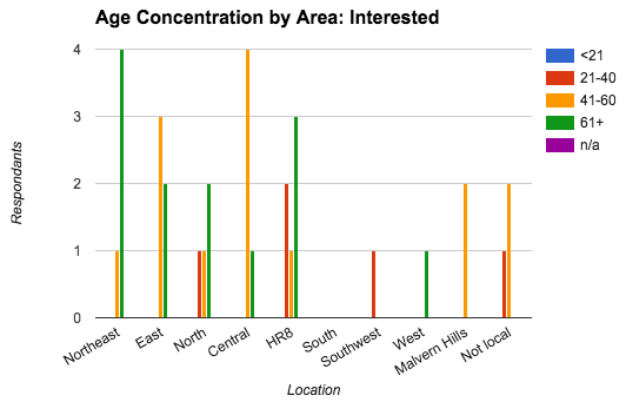

Figure 21: Relative ages of interested respondents by post code

Recommendation: We recommend that the Ledbury Repair Café be located in the Northeastern part of the town. However, because of Ledbury's small size, it would also be feasible to have it in the center near The Ledbury Market House (where we conducted our surveys).

d. Interest in volunteering

A third factor that is good to look at while deciding where to run a repair café is the local interest in volunteering. Repair cafés are volunteer organizations, and from talking with Jan and Chris Dyer from the MHRC, finding volunteers with the necessary skills can be tough. By making sure that the location of the café is near enough for volunteers to regularly attend and help out, volunteer interest can increase. While not all volunteers will have repairing skills, the survey results gives an understanding of how interested the community is in being part of the repair café culture. Additionally, from attending the MHRC, we found that volunteers without repair skills can still be valuable and used for greeting, assisting the repairers, and helping with refreshments.

At first, we did not include a volunteer interest question in our survey, as the anticipated repair cafés would likely not start until September at the earliest. However, several people mentioned their interest in volunteering, so we added the question, "would you be interested in volunteering?" to the survey. As such, the first 100 surveys from Worcester have a lower rate of volunteer interest when compared to the 44 Ledbury surveys and the additional 106 later Worcester surveys.

In Worcester, the interest in volunteering was high with 6.0% (6 of 101) of respondents expressing an interest in volunteering without being asked. After we added the question to the survey, that number increased to 9.71% (20 of 206) throughout the city of Worcester. As can be seen in Figure 22, interest in volunteering was spread through most of the postcodes. The two focus postcodes, WR2 and WR5, had a total of 11 potential volunteers, 55% of the total potential volunteers, reinforcing the idea that they would be ideal locations for repair cafés.

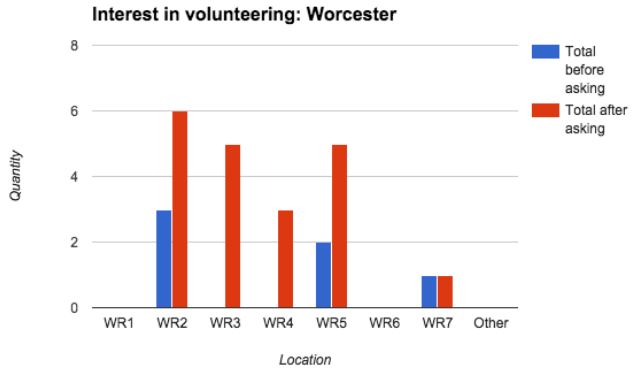

Figure 22: Interest in volunteering before and after adding volunteering question

Similarly in Ledbury, there was a 13.6% (6 of 44) interest in volunteering among respondents, or a 23% interest in volunteering among those interested in going to repair cafés. Being a much smaller town than Worcester, locations in Ledbury would not affect attendance as much, but that high interest in volunteering indicates that the community would be very open to both going to and participating in repair cafés.

One thing to note is that, despite having similar relative interests in repair cafés, a much larger percentage of interested people in Ledbury are also interested in volunteering than in Worcester. Part of this may be because of the fact that the interested population in Ledbury is older, and therefore more likely to have skills needed for repair. Another possibility is that the people willing to take

surveys in Ledbury were also the people more willing to volunteer. There are other possibilities that can be further researched in the future.

e. General Knowledge of Repair Cafés

The last factor we will be discussing is the proportions of people who are interested in repair cafés compared to how many know about repair cafés. Whether or not they are interested in repair cafés, if people are unaware of the existence of repair cafés, they will not go to them. Because of that, a key factor of eventual attendance is how much the general populace knows about repair cafés, and the proportions that are interested in an area. Using this information, it is possible to determine how much advertising must be done, as well as a little bit about what people must do to find out about repair cafés.

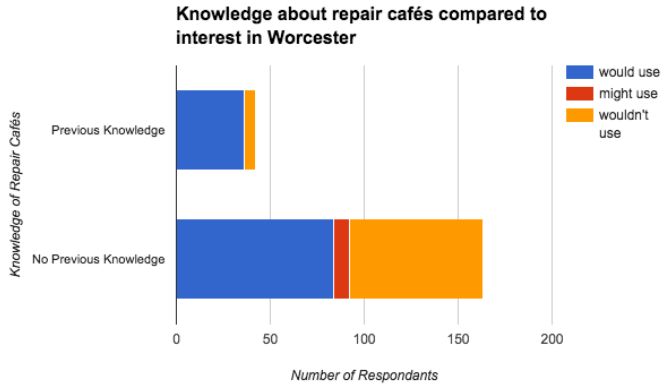

Figure 23: Knowledge about repair cafés compared to interest in Worcester

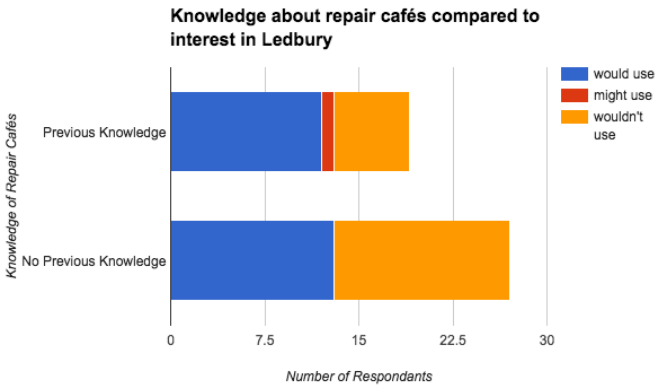

Figure 24: Knowledge about repair cafés compared to interest in Ledbury

In Worcester, less than 25% of respondents (42 of 206) knew about repair cafés prior to taking the survey (Figure 23). While a large proportion of those unaware of the existence of repair cafés were either uncertain or uninterested in repair cafés, just spreading information could more than triple the amount of people interested in going to repair cafés. This is because the people in our data who did not know about repair cafés, but were interested after talking with us, would not have originally attended. Interest in

repair cafés in Ledbury was lower than that in Worcester, but even so, increasing knowledge of them could double interest (Figure 24).

For both Worcester and Ledbury, the proportion of those interested in repair cafés was much higher for those who already knew about repair cafés compared to those who had no previous knowledge of them. This indicates that repair cafés are the type of thing that requires active effort to become aware of; those who are interested in the subject are more likely to find out about them. But because of this, repair cafés must advertise their existence in order to make a larger proportion of the population aware of and curious about them.

Recommendation: We recommend that, while it is worthwhile for repair cafés to try to attract those who are not currently interested in repair, at this stage it is more efficient to increase the general knowledge of repair cafés without focus, in order to attract those who are interested but not aware.

III. Step 2: Identify locations

The next step is to use any information previously gathered in order to identify the best location for the repair cafés. There are two parts to identifying an ideal repair café location: finding a general area to locate the repair café, and finding a specific location within that area.

a. General area for repair café based on population interest

The city of Worcester is divided into the postcodes WR1-WR7. From the surveys we distributed in the city of Worcester, of the three (3) areas: Blackpole (WR3), St. John's (WR2) and Crown Gate (WR5), we found that the area with residents most interested in repair café sessions was WR2 (see Figure 15 in section 2).

The postcode WR2 is known as the St. John's area, which has a total of 29,799 residents (England and Wales Census, 2011). According the England and Wales census of 2011, the city of

Worcester has a higher population of women than men, this may account for why we found that there were more females than men interested in repair cafés (see Figure 25).

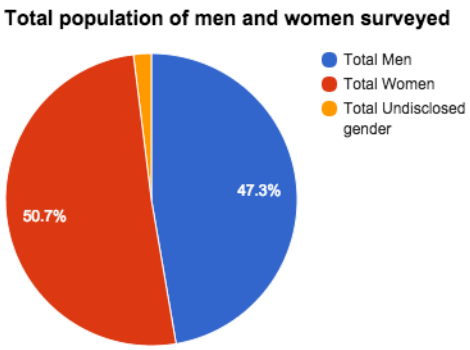

Figure 25: Comparing genders of those surveyed

Recommendation: We recommend from these results that repair café sessions be held in the St. John's area (WR2) in the city of Worcester, due to having the most positive responses from our surveys in that area.

The town of Ledbury is much smaller than the city of Worcester, with a population of 9,636 people and one postcode district HR8 (England and Wales Census, 2011). The smaller town makes it easier to choose a general area for holding repair café sessions. From our survey data, we found that the residents with the greatest interest in repair cafés lived in the Northeast of Ledbury (see Figure 16 in section 2 above). The largest concentration of people at any one time is around The Ledbury Market House (Figure 26). **Recommendation: Due to the fact that it is such a small town we recommend that if there is a repair café in Ledbury in the future that it is located along High Street near the town's Market House.**

Figure 26: Ledbury Market House

(Photo taken by David Cumberland)

b. Finding a specific location for repair café sessions

The next step towards finding the ideal repair café locations is identifying a specific location. We developed a matrix (see table 2) for the three repair cafés we evaluated. Due to our short seven week time-frame, we were unable to find a specific location to hold repair café sessions in Ledbury and Worcester.

Repair Café organizers can use this matrix in the future, to look for available spaces for possible repair café sessions.

Checklist Matrix	Malvern Hills	London Goodlife	Farnham
Parking	X	X	X
Bike Racks	X	X	
Load/Unload Space	X	X	
Relative Size	Medium	Small	Medium
Separate Rooms	X		
Near Public Transport	X	X	X
Friendly Atmosphere	X	X	X
Music		X	
10+ Repairers	X		X
Seating	X	X	X
Heating	X	X	X
Sense of Community	X	X	X
Usable Wifi	X	X	
Animals Allowed	X	X	X
Area for children	X		
Food (Free or Paid)	Paid	Free	Paid
Drink (Free or Paid)	Paid	Free	Paid
Noticeable Safety Precautions	X	X	X
How often is it held	monthly	bi-yearly	monthly
Tools Owned	X	X	

Table 2: Matrix of the checklist results from three repair cafés

Recommendation: We recommend that once a general area is decided on, the café organizer look for a venue with the characteristics of available parking, bike racks, near public transport, seating, allows animals, provides refreshments, allows music, and relatively well-known within the respective community. After finding repair café locations the process of finding possible volunteers can start next.

IV. Step 3: Find Volunteers

The third step in creating a repair café is finding local, willing, and qualified volunteers to help with the "repair" part of the "repair café". As we were not actively creating a repair café, we were not

tasked with the direct recruitment of volunteers, but through a combination of asking the recruiting tactics of currently active repair cafés and our surveys, we were able to get a base understanding of how to find interested people to volunteer, as well as where more interested populations lived.

a. Finding Volunteers

When we surveyed the creators of repair cafés (Appendices E & F), we found that they tended to find volunteers from their personal, professional, or political social networks. The creators of the MHRC were part of and found some of their volunteers from the United Kingdom's Green Party (GP). The GP is a political party in Britain which promotes sustainability as one of their aims (Kemp). Because people who are involved in the GP are more likely to want to reduce trash and live sustainability, they are more likely to be interested in alternatives such as repair cafés as well; the MHRC session we attended was notable evidence of this. Many of the MHRC repairers knew about the Malvern Hills Repair Café because of Chris and Jan Dyer's contacts in the GP. The London Goodlife Centre Repair Café (LGRC), however, developed volunteer connections through the business that the owner runs in the same venue. The volunteers at the LGRC were generally people who were tutors for the assorted "do it yourself" classes they offered. The Farnham Repair Café, on the other hand, found most of their volunteers from social networking sites such as Twitter, or from other social interactions.

Currently, other than its Facebook page, the MHRC's primary forms of advertisement are word of mouth and using fliers like the one in Appendix I. The LGRC advertised using its classes and their website. They also occasionally have newspaper articles that publicize the location and its events. The Farnham Repair Café used e-marketing, the local social network, Streetlife, and Twitter as well as word of mouth communications to advertise.

b. Volunteer Reliability

According to the survey we distributed, many of the people were concerned about the reliability of the repairers (Figure 27). While the reasons were mostly evenly spread, the largest portion did not trust either the concept or the repairers themselves.

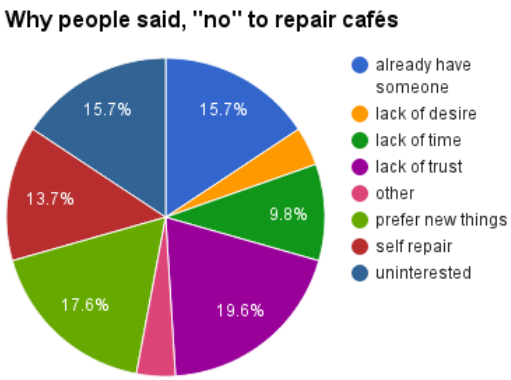

Figure 27: Reasons people expressed disinterest in repair cafés

Who the repairers are and the skills they offer depends on the specific repair café's location and needs. The MHRC, for instance, tries to attract retired professionals as they are more likely to have the required skills and free time. This is possible for them because of the large amount of people over the age of 60 in Malvern Hills as stated in section 2 above. Using the large number of repairers and their varied skillsets, they are able to match up individual repairs to the repairer most likely to be able to fix them. Additionally, for all electrical tools and repairs, the MHRC repairers perform Portable Appliance Testing (PAT) in order to make sure that the equipment is running safely and efficiently.

The Goodlife Centre's repairers were generally workers, students, or teachers in Alison Winfield-Chislett's shop and classes, who volunteered extra time to help people fix things. Because there is a sign-up sheet, the repairers can plan out what they will be working on and when.

Farnham volunteers were mainly skilled professionals who wanted to give back to their community by helping others learn how to repair their belongings. They work with community members who come in with broken items - to fix their belongings, helping them repair their products. There is a 'creative upcycle' area where attendees reuse, augment, and repurpose some of their old, worn items/belongings, such as turning old clothes into shopping bags.

Some ways to improve confidence in repair cafés is to spread knowledge about the kinds of people who volunteer. While surveying, 21 people mentioned they would hesitate to attend a repair café because of a lack of knowledge in the repairer's credentials or methods. If people are more aware of the skillsets of volunteers in a particular area, they could be more likely to be willing to trust repairs to them. Some ways to do this would be to post short biographies on the specific repair café's site, or to interview some repairers for a newspaper. Currently the MHRC occasionally publishes an article about a repair they have done recently in order to interest their community. One of the more recent repairs, a dollhouse (Figure 28), was taken home by a repairer for a few months to completely restore it back to a brand new condition. He slowly transformed the dollhouse from being warped and ill-fitted into a proud display piece.

Figure 28: Repairer fixing a dollhouse at the Malvern Hills Repair Café

Risk	Danger of Risk	Number of Times mentioned (14 Repairers Assessed)
Electrical Equipment	Electrocution	10
Cutting Tools	Sharp Edges	8
Needles	Pricked Fingers, Blood	3
Hot Drinks	Burns	2
Soldering	Burns	2
Chemicals	Skin Exposure	2
Cleanliness	Germs	2
Other	Other	11 Other Risks Mentioned 1 Time Each

Table 3: Summary of risk at Malvern Hills Repair Café on May 16th

As repair cafés become more common, organizers are concerned that they are on the precipice of regulatory oversight. Additionally, potential repairers are interested in the safety of the work area, and a risk assessment would most likely help assuage their worries. Foreseeing these issues, Chris and Jan Dyer, the creators of the MHRC, asked us to perform a preliminary risk assessment for the MHRC. As can be seen in table 3, according to

the repairers present at the May 16th, 2015 session, the most common risks were electrocution and sharp edges with electrical risk being mentioned 10 times and risk of cutting tools being mentioned 8 times. However, because of the experience and precautions taken by the repairers, these risks had been largely eliminated. A more detailed version of the risk assessment is available in Appendix H.

All repair cafés are different in terms of location, population, type of items being repaired and the level of associated risk. This risk assessment is specifically for the MHRC, where most of the volunteers were retired professionals in their field. As such, they all knew what precautions to take for each risk. In other repair cafés, where the repairers, broken items, and layout are different, different risks may arise. While this risk assessment could be used as a starting point for protecting against risky behavior for the Worcester and Ledbury Repair Cafés, every repair café should perform an individual risk assessment to account for their own, unique circumstances.

Recommendation: We recommend that because of the varying characteristics of every repair café and the difference in people attending and items being brought in, every repair café should conduct their own individual risk assessment once they have successfully ran a session smoothly.

V. Step 4: Find Repairees

a. Informing the General Population of Worcester and Ledbury

The next step in creating a successful repair café is making sure there is an audience that knows the purpose, location and timing of the repair café. We found that the majority of the populations of Worcester and Ledbury did not know what a repair café is. (Figures 29 and 30)

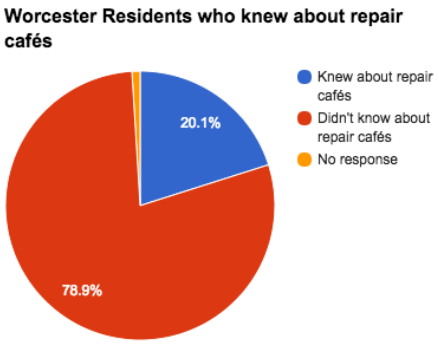

Figure 29: Previous knowledge of repair cafés in Worcester

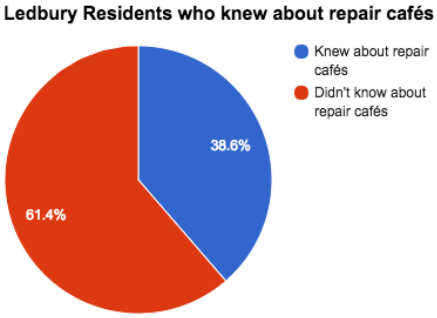

Figure 30: Previous knowledge of repair cafés in Ledbury

A large step in making a repair café successful is having a reliable flow of attendees wanting their items fixed. Throughout our research, we found that an efficient way to inform people is to incorporate the promotion into other steps of creating a repair café. While surveying for locations, we asked if people knew what a repair café was. If not, we provided them with a brief description and handed out a promotional flier for the MHRC. We have put the flier (created by Jan and Chris Dyer) in Appendix I. Fliers allow the information to spread among friends and family with ease while having to only start this flow of information by handing them out. Designing and handing out fliers for an upcoming repair café event is a great idea even for already stable repair cafés. As well as explaining what a repair café is, future event dates and times can spark interest if the reader does not have any plans.

Recommendation: We recommend that promotion and informing be interwoven with other processes of repair café creation to further increase knowledge and awareness of repair culture and repair cafés while not taking up too much time.

b. Educational Events

As stated in section 2 above, there is a lack of interest in repair cafés with the under 21 age group. On the 4th and 5th of June, we attended the Skills for Tomorrow exhibition, as can be seen in Figure 31. While children between the ages of 11 and 14 filtered through our booth, we were able to inform them about the various benefits of repair cafés as well as offer fliers to those interested. These

types of events are both fun and educational and may help increase interest in repair cafés to younger age groups.

Figure 31: The Worcester Repair Café group at the Skills for Tomorrow conference

Recommendation: We suggest that when these new repair cafés become functional in Worcester and Ledbury, the leaders get in contact with local educational institutions. Getting involved with school events would be a great way promote repair cafés and repair culture.

VI. Things to Look Out For and Other Recommendations

a. The Restart Project

The Restart Project is a London-based charitable organization that has essentially the same goals and motivations as a repair café. The big difference is that the restart shops focus almost exclusively on electronics (The Restart Project). The Restart Project is concerned with the growing stream of electronic waste in many countries, including the United Kingdom. The Restart Project encourages people to use their electronic devices and electrical equipment longer by teaching them how to repair their own electronic devices.

Recommendation: We recommend looking further into this project, to see how similar the ideals of the Restart Project are to those of the Repair Café Foundation. If they are similar, one possibility would be collaborating with this organization to spark more interest in the London area which could potentially be a good marketing method in the future.

b. Non-recurring Repair Cafés

During our time searching for stable repair cafés to gather information from, as well as speaking directly to Jan and Chris Dyer, we found that there have been England based repair cafés that have run only one session. Because of time constraints, we did not explore the reason these repair cafés did not continue their operation. However, it may be useful to contact the organizers of these one-time events to figure out what went wrong. If nothing did, then why did they stop? Although this information will not contribute to what makes a good repair café, it would allow future leaders to avoid mistakes or risks that may not have paid off for others.

Recommendation: If possible, it would be useful to get into contact with the creators of these unsuccessful repair cafés, in order to see why they failed. While this report focuses on factors that can lead to successful repair cafés, it does not discuss those that lead to unsuccessful ones.

c. The University of Worcester Trial Repair Café

On February 13, 2015, the University of Worcester held a trial repair café, working with the Malvern Hills Repair Café to spread repair culture. Several Malvern Hills repairers visited campus to help staff and students fix their broken belongings. They were joined by a volunteer from the University staff. Throughout the session, they fixed 15 items, including vacuums and irons.

The repair café was advertised for three (3) weeks to staff, but only one (1) week to students, and was held in the Pear Tree Café on campus. By asking Katy Boom about the session (Appendix F), we were able to gain an understanding of the success of the repair café. Though there were only 15 repairs, and the number of students attending was small compared to the number of staff, Katy Boom feels that the repair café was a successful test. She mentioned that if the date had been on a more convenient day of the week than Friday, the session would have been a lot larger.

Recommendation: If another repair café is held on campus, we recommend scheduling it for a day when more students are available. One option would be to have a survey about when students are available. Additionally, we recommend advertising more than a week in advance for students. By giving more time for the idea to get out, more attendees will come, both because more are aware of the existence of the repair café and because more people who have broken their belongings will realize that there is an option other than replacing it.

d. Fundraising Opportunities

Although repair cafés are free, donations are welcomed to help fund the venue, spare parts, and refreshments. From speaking to organizers of the repair cafés we visited, we found that sometimes these donations are not enough to support a stable repair café. Starting to charge for repairs would defeat the purpose of a repair café but having separate fundraising events could be a potential solution. Fundraising events can differ based on the environment of the community but there is also online fundraising. Sites such as gofundme.com are crowdfunding sites that allow users to donate to a specified cause. There are many options when it comes to fundraising and researching them to find the optimal platform for repair cafés would be a valuable process that would help them become popular. In addition, these events/websites inherently raise awareness of the cause and would contribute to the spread of information about repair cafés.

e. Goodlife Centre

Despite running successfully for several years, we were told by Alison Winfield-Chislett, the owner of the London Goodlife Center that she was planning to stop running repair cafés after her May 31, 2015 session. The main reason for this was that the number of attendees dropped, down to

about 6 from their usual 10-20. Another part was that she felt that her help in starting the Restart Repair Shop (part 6a above) was enough to fuel the repair culture of London.

Recommendation: If more research was done into the details of why she stopped, it would help prevent similar closings in the future. Alternatively, the reasons could be found to be irrelevant to other locations or styles of repair cafés. Either way, it would clarify the staying power of a regularly run repair café.

Chapter 5: Final Recommendations and Conclusion

After achieving our project objectives and analyzing our data, we have come up with some final recommendations that we believe will help the process of forming repair cafés in Worcester and Ledbury. We believe our suggestions will help find the optimal venues and marketing demographics for the forming the repair cafés. The following chapter offers recommended sections of Worcester and Ledbury to search for venues, as well as the optimal criteria those venues should have.

a. Recommendations for Worcester

Through our collection of data and analysis of survey results, we found that the postcode area of WR2 holds the most interest in repair cafés. The area of St. Johns, one of our survey locations, is located in WR2, as well as a portion of the University of Worcester campus. Having the repair café near the campus could attract people under 21, as well as catering to the older population already interested in repair. One such location could be the Arena, which satisfies a number of qualifications deemed important in our checklist (Table 2 above). The area of WR5 would be our next suggestion. This area consists of the heart of the city of Worcester and despite having a very different environment than that of WR2, was also very interested in repair.

b. Recommendations Ledbury

Although there was a heavy interest in the Northeast of Ledbury, the town is so small that the city center holds a great amount of traffic that comes from all parts of the city. As such, we feel that any location in the northeast or center of the town would be an acceptable location for the repair café. In order to find the ideal location, we recommend a new survey for Ledbury which asks the residents for locations that match the criteria rated in the checklist (Table 2 above).

c. Conclusions

From our research of repair cafés we found that the motivation behind starting repair cafés was to promote the option of repairing items in order to reduce the amount of waste going in landfills and to reduce the amount of natural resources being used in production of new materials. In Chapter 2, we broke down the benefits of a repair café in the three (3) categories: (1) economic, (2) environmental, and (3) social. During our interviews with repair café organizers, we confirmed that the motivation many organizers had for setting up repair cafés was to help those three aspects.

Many people think that the best option is to buy a new version when the old one breaks (Figure 27 in above chapter). However, just our survey alone made 60 people switch from throwing things away or recycling them to wanting to repair them (Figure 32 below).

Not all repair cafés are successful, but those that are do a great deal to help their community. Stable repair cafés pass on repair skills to younger generations and help get people involved in repair. We believe this project has helped mold the path for new repair cafés, as well as offer thoughtful suggestions for locations in Worcester and Ledbury for currently planned repair cafés.

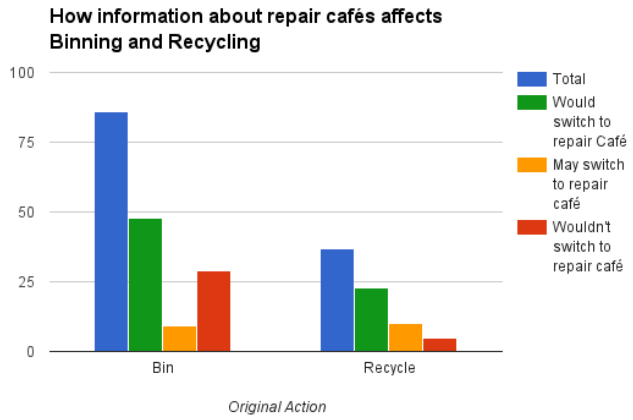

Figure 32: Comparing those who would originally bin or recycle broken items (blue) to those who would switch to repair cafés (green), those who are uncertain (yellow), and those who would not switch (red)

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Appendices

Appendix A - Methodology Table

Objectives	Tasks/sources

1. Identify Currently stable repair cafes within England	• Observe and collect information from past repair cafés
	  • Repair café slips
	  • Checklists
	• Visit other repair cafés
	  • Goodlife centre
	  • Farnham Repair Café

2. Research obstacles and benefits of structures of currently stable repair cafés	• Interview creators of currently active repair cafés • Visit other repair cafés • Perform risk assessments at the Malvern Hills Repair Café

3. Identify possible locations for Worcester and Ledbury Repair Cafés	• Survey Worcester/Ledbury residents
	  • Other Worcester/Ledbury residents
	  • In places where people gather (community centers, supermarkets)
	• Analyze interest level
	• Repair café criteria checklist
	  • Malvern Hills
	  • London Goodlife Centre
	  • Farnham
	• Worcester
	  • St. John's
	  • Crown Gate
	  • Blackpole
	• Ledbury
	  • Town center market

4. Develop marketing ideas for Worcester and Ledbury in order to find good ways to attract volunteers and attendees to repair cafés as well as informing communities of their benefits	• Handout fliers for the Malvern Hills Repair Café • Explain purpose and benefits of Repair Cafés to people we survey • Attracting interest from younger people • Skills for Tomorrow Exhibition Booth

Appendix B - Preamble to Surveys

This is an example preamble for our surveys. Depending on the content of the surveys, small details may be changed.

We are the **Worcester Repair Café** Interactive Qualifying Project group from Worcester Polytechnic Institute, Massachusetts. We are gathering information about repair cafés, the people who go to repair cafés, and potential attendees aged 18 and above. The following questions are for statistical use in our report and promotional materials; we will not use them to identify specific individuals. You are free to stop at any time if the questions make you feel uncomfortable. Additionally, there is no requirement to answer every question.
If you would like additional information, feel free to go to the Malvern Hills Repair Café website at _____. A copy of our final report can be found at _____, and we will send the link through the mailing list once it becomes available.

Appendix C - Risk Assessment Template

What are the hazards?	Who might be harmed and how?	What is currently being done?	Does more need to be done?	How can this be done?

Appendix D - Chris Dyer Other Repair Cafés Interview

1. What repair cafés would you recommend looking into?
2. How active are these repair cafés?
3. Do you know when the next session will be run?

Appendix E - Running a Repair Café Interviews

1. In your experience, what goes into creating a Repair Café?
2. What were your reasons for wanting to establish a repair cafe?
3. What goes into setting up for a repair café session?
4. What went into choosing the location for the repair cafe?
5. Do you repair items yourself?
    a. If not, what do you do during the sessions?
6. What was the process in recruiting volunteers?
7. Was it more or less work than you anticipated?
8. Do you have plans to make changes to the current repair café?
9. How often do you hold repair café sessions?
10. How long does setup and breakdown take?
11. What are the repair café's demographics?

Appendix F - Katy Boom Repair Café Interview

1. What was the exact date of the repair café?
2. How many students attended the repair café?
3. How many people participated as repairers?
4. How many people participated as repairees?
5. What kinds of repairs were needed?
6. What advertising was done for the repair café?
7. How long before the repair café did you start advertising?
8. Where was the repair café held?
9. What kinds of skills did repairers have?
10. Did you think this was a successful repair café session?
11. What changes would you make for future repair café sessions?

Appendix G – Surveys

Name of Surveyor: **Date:** **Survey# _____**

(Script preamble/welcome/invitation)

1. If a household item stops working or you break or damage it, what's the first thing you would generally think to do with it?

Check the warranty? ☐

Bin it? ☐

Recycle it? ☐

Repair it? ☐

2. If you wanted to repair the item would you know who or where to go to? YES/NO

3. Have you heard of Repair Cafes? **Yes** ☐ **No** ☐ **What's that?** ☐

A Repair Cafe is a friendly, relaxing and social meeting space where people of all ages and from all backgrounds can bring their broken, damaged or torn household and personal items for repair advice or repair free of charge, but donations are requested and purchase of refreshments keeps the service going. The types of items include electrical appliances, electronic gadgets, furniture, toys, ceramics, jewellery, garments and furnishings, clocks, garden equipment, tools and bicycles and much more.
+ MHRC flyer

4. Do you think that you would use a Repair Cafe if one opened in your area?

Yes ☐ **No** ☐ **Maybe** ☐

If NO – why not?.....

5. Which area do you live in?.....

6. Your age group is? **<21** ☐ **21-40** ☐ **41-60** ☐ **61+** ☐

7. (Interviewer to complete but not ask) Male/Female

8. Interested in volunteering?.....

Appendix H - Detailed Risk Assessments

Dangers of risk	What is being done currently	What else can be done	Methods to improve	Type of issue	Number of times mentioned
Electrocution, shock	Experience, Common sense, PAT testing, Circuit breaker trips/Residual Current Detector (RCD) ,electrical safety procedures, personal and specialized tools that repairer is familiar with, unplug power, being careful about insulation, making sure repairees are careful and understand risks	Regular testing of electrical equipment, more tools, better labeled tools, more tools to help hold things, having help	Preparatory testing before repair cafe sessions, order more tools, help organize tools	Electrical, mechanical, sewing	10
Sharp Edges	Experience, common sense, waterproof gloves antiseptic wipes,	n/a	n/a	Sewing, electrical, woodwork, sharpening, mechanical	8
Bleeding, pain	Waterproof gloves, thimble, being careful, antiseptic wipes	n/a	n/a	Sewing	3
Burn	Allocated area for Hot Drinks	n/a	n/a	Food/Drink	2
Burns	Experience, common sense	n/a	n/a	General repairs	2
Dangerous chemicals/ elements (beryllium)	Gloves, being careful	Warning?	n/a	Electrical, cleaning	2

Cleanliness	Gloves, being careful	n/a	n/a	Sewing	2
Injury from a fall	Being careful, putting things away when possible,	Extra sockets for electricity, wires across non-walked-through areas	Convincing community center that an extra socket would be worth the cost	General	2
Sparks from tool sharpener	Safety guards, goggles, experience	n/a	n/a	Sharpening	1
Grit from tools being sharpened	Safety guards, goggles, experience	n/a	n/a	Sharpening	1
Drinks are made in an Art Supply Room	Regular washing of equipment and hands touching the equipment	n/a	n/a	Food/Drink	1
If item is repaired incorrectly	Experience, common sense, PAT testing	Background checks on repairers skills	Formal interviews with repairers	General repairs	1
Hot Surfaces, Sharp Knives, etc.	Only professionals are allowed to make food and work in the kitchen areas	n/a	n/a	Food/Drink	1
Sticking hazard, gets everywhere	Being careful	n/a	n/a	Mechanical	1
Horseplay around dangerous equipment, wanting to use dangerous equipment	Nobody under 18 can use machinery, must ask Jan before use	n/a	n/a	Sewing	1

Torque	Common sense, being careful, wearing safety equipment (glasses)	n/a	n/a	Electrical, mechanical	1
Breaks	Knowing materials, being careful, applying experience	n/a	n/a	Electrical/mechanical	1
Magnetron	Verbal warning, be very careful, don't go near magnetron	More warnings, making sure everybody knows issues	Written, verbal,	Electrical	1
Laser radiation	Don't work with risky parts that involve the laser	n/a	n/a	Laser, electrical	1

Appendix I - Malvern Hills Repair Café Flyer

A community project to inspire repair and re-use

Malvern Hills

Repair Café

Now into its third successful year!
Not yet visited the Repair Café? Come and see what we do!

Enjoy coffee and homemade cake while you sit and work with a friendly and skilled repairer who will help you fix your furniture, electrical and electronic appliances, children's toys, tools, garden and household equipment, garments and many other household and personal possessions.
Tool and knife sharpening are also available

Repairs and advice are free but donations are invited to keep the service free for all at the point of delivery

Be inspired - No job is too small or too challenging!

Malvern Cube, Albert Road North from 10.00am to 2.00pm
Saturdays 16 May, 20 June and 18 July 2015

Malvern Hills District Council
www.malvernhills.gov.uk

http://www.facebook.com/MalvernHillsRepairCafe
Email: themalvernhillsrepaircafe@gmail.com

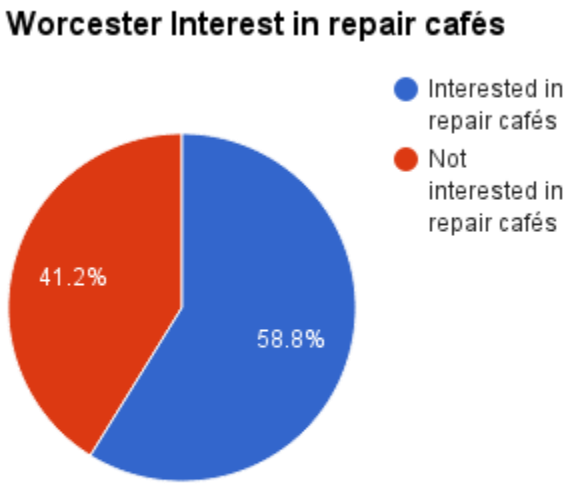
www.repaircafe.org

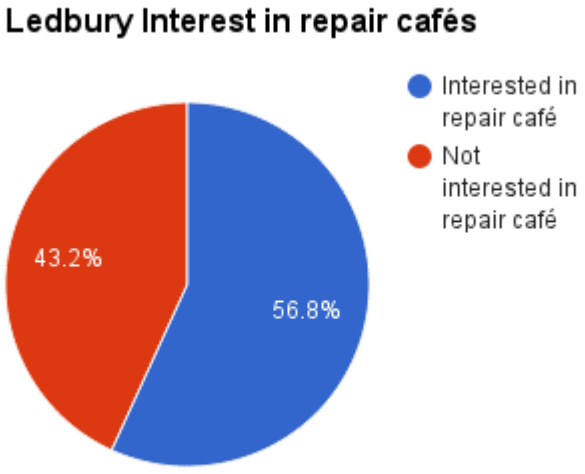
Waitrose

Appendix J - Filled Out Checklist Matrix

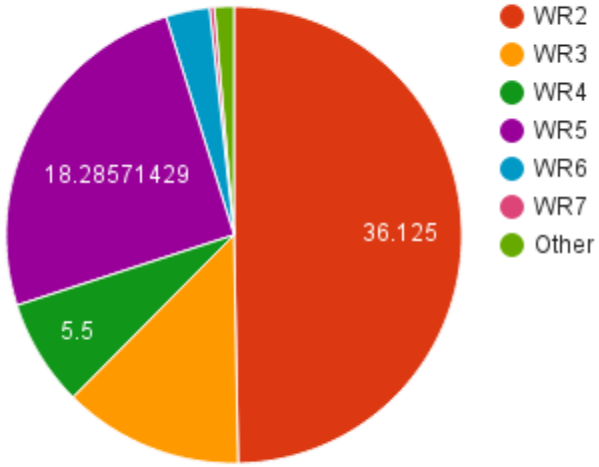
Checklist Matrix	Malvern Hills	London Goodlife	Farnham
Parking	X	X	X
Bike Racks	X	X	
Load/Unload Space	X	X	
Relative Size	Medium	Small	Medium
Separate Rooms	X		
Near Public Transport	X	X	X
Friendly Atmosphere	X	X	X
Music		X	
10+ Repairers	X		X
Seating	X	X	X
Heating	X	X	X
Sense of Community	X	X	X
Usable Wifi	X	X	
Animals Allowed	X	X	X
Area for children	X		
Food (Free or Paid)	Paid	Free	Paid
Drink (Free or Paid)	Paid	Free	Paid
Noticeable Safety Precautions	X	X	X
How often is it held	monthly	bi-yearly	monthly
Tools Owned	X	X	

Appendix K - Survey Result Graphs

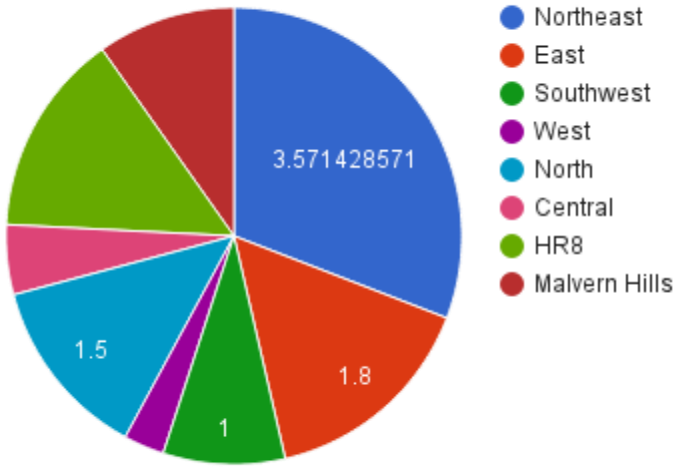


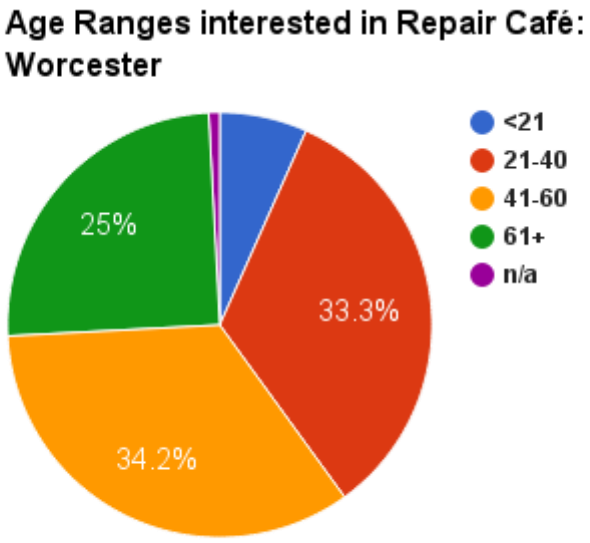


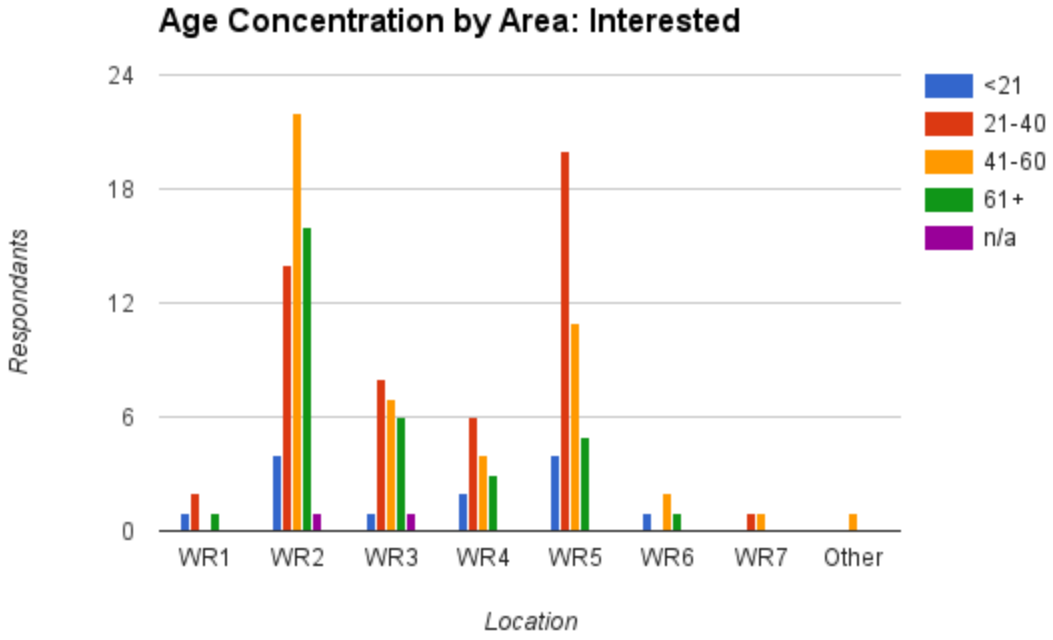
Weighted interest level by area: Worcester

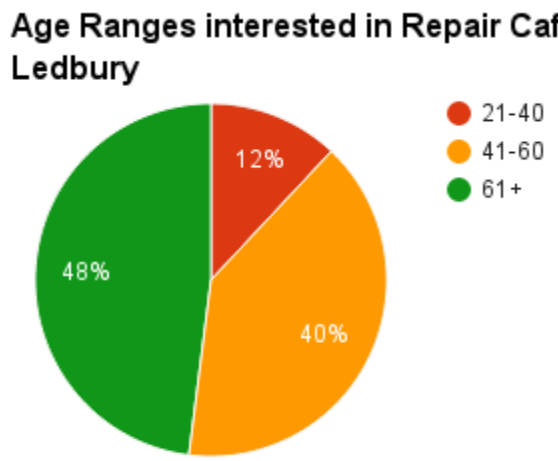


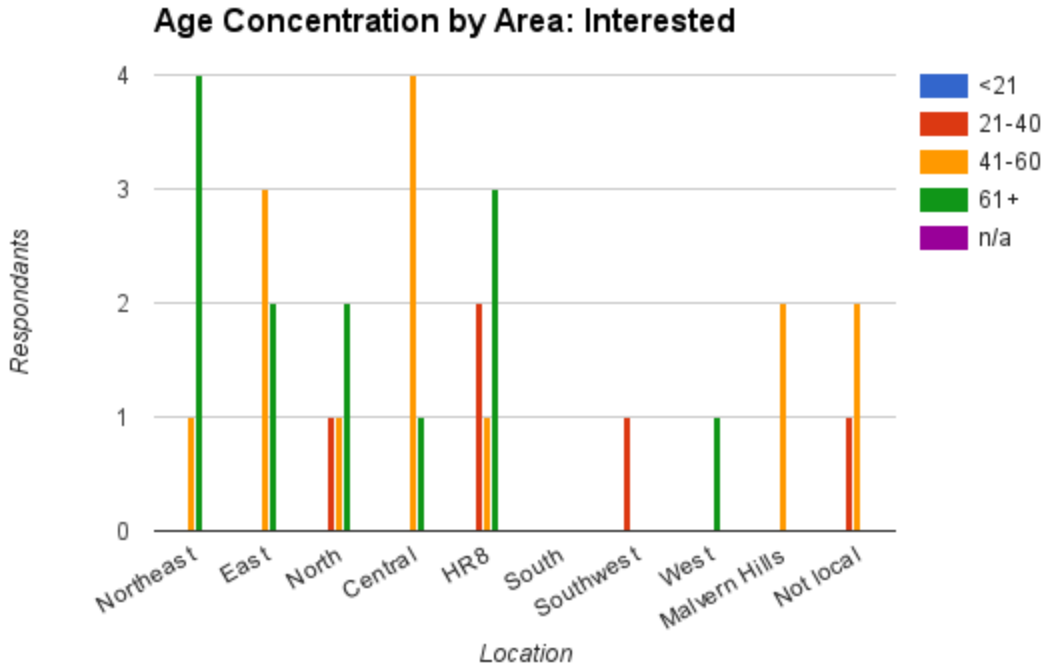
Weighted interest level by area: Ledbury

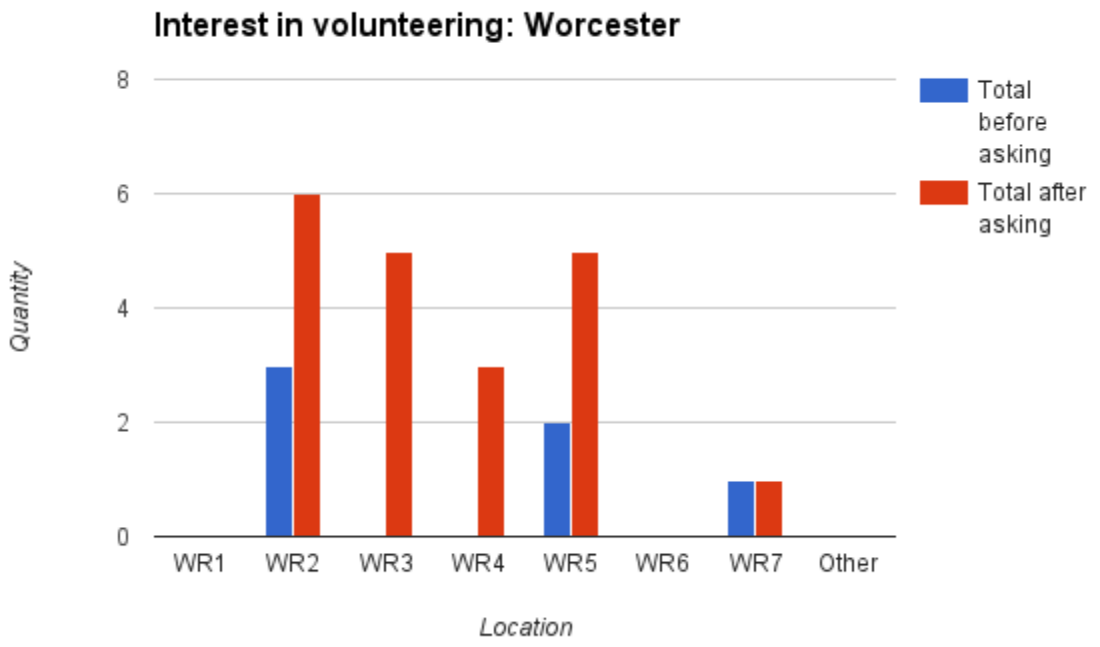


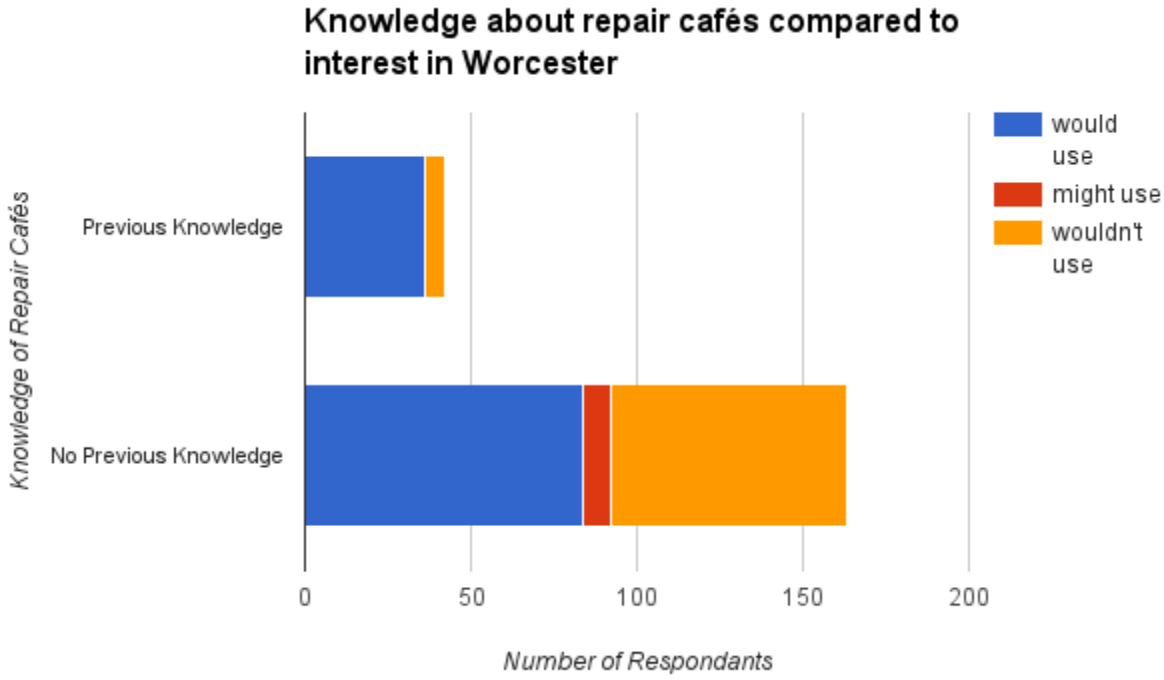

Age Ranges interested in Repair Café: Worcester
<21
21-40
41-60
61+
n/a
25%
33.3%
34.2%

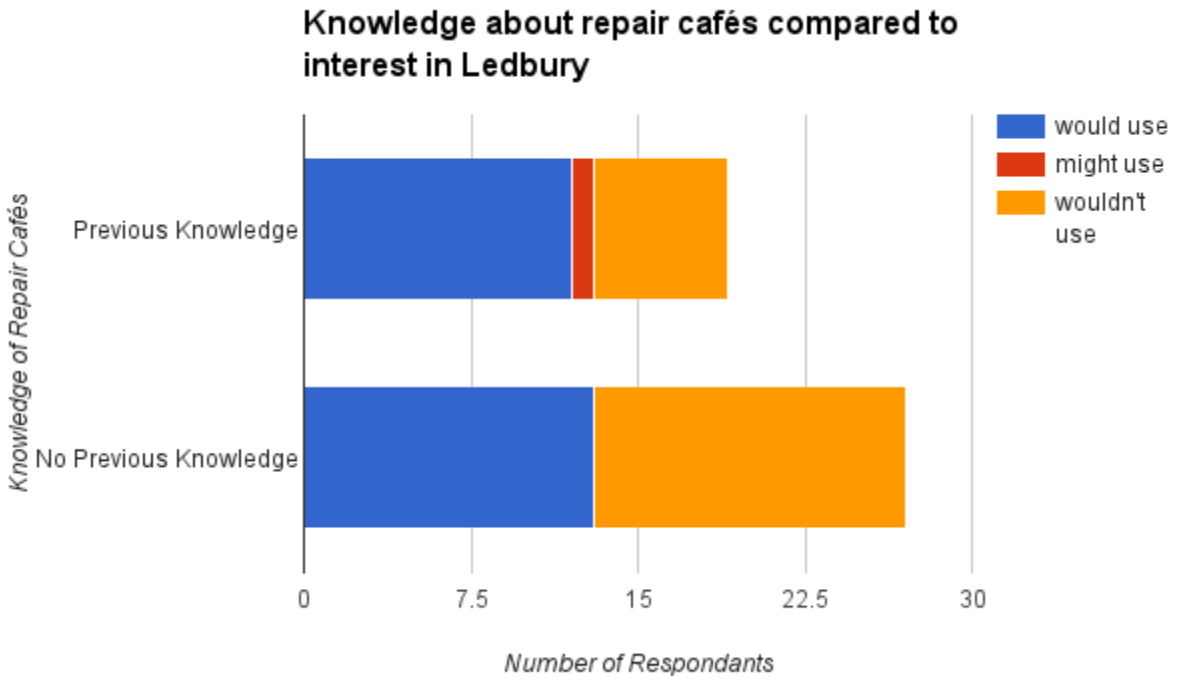

Age Concentration by Area: Interested
Respondants
24
18
12
6
0
WR1
WR2
WR3
WR4
WR5
WR6
WR7
Other
Location
<21
21-40
41-60
61+
n/a

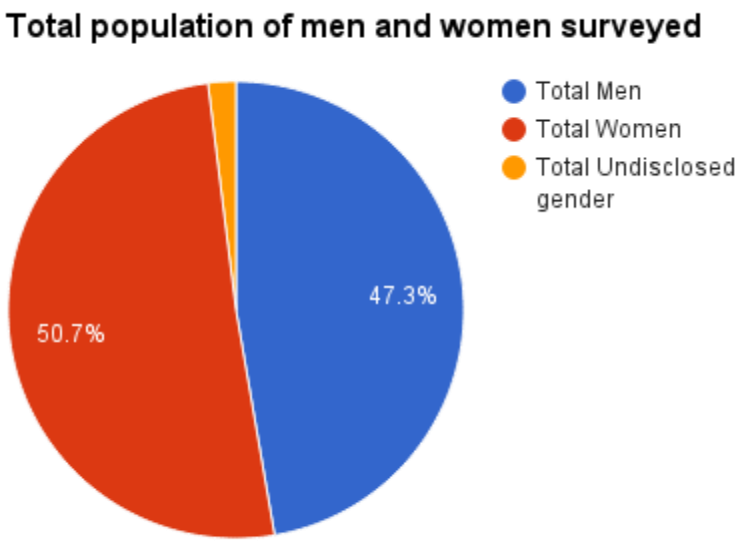

Age Ranges interested in Repair Café: Ledbury
12%
40%
48%
21-40
41-60
61+


Age Concentration by Area: Interested
Respondants
0
1
2
3
4
Northeast
East
North
Central
HR8
South
Southwest
West
Malvern Hills
Not local
Location
<21
21-40
41-60
61+
n/a

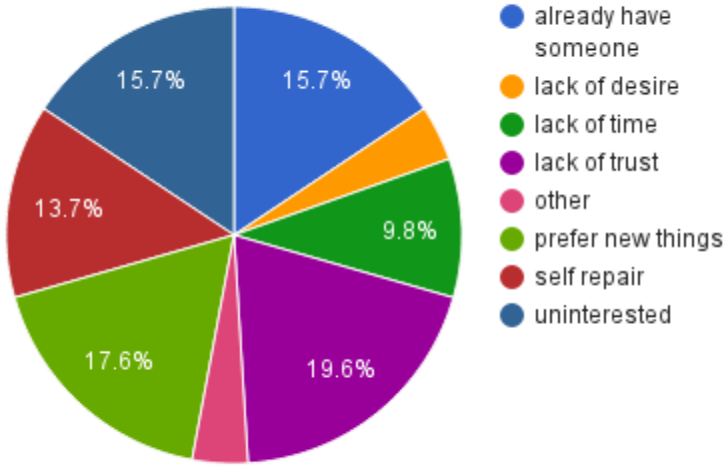

Interest in volunteering: Worcester
8
6
4
2
0
Quantity
WR1
WR2
WR3
WR4
WR5
WR6
WR7
Other
Location
Total before asking
Total after asking


Knowledge about repair cafés compared to interest in Worcester
Previous Knowledge
No Previous Knowledge
Knowledge of Repair Cafés
0
50
100
150
200
Number of Respondants
would use
might use
wouldn't use

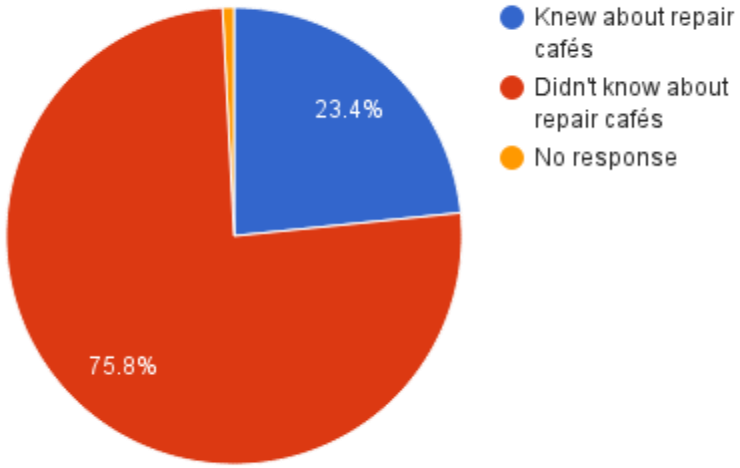

Knowledge about repair cafés compared to interest in Ledbury
would use
might use
wouldn't use
Knowledge of Repair Cafés
Previous Knowledge
No Previous Knowledge
0
7.5
15
22.5
30
Number of Respondants

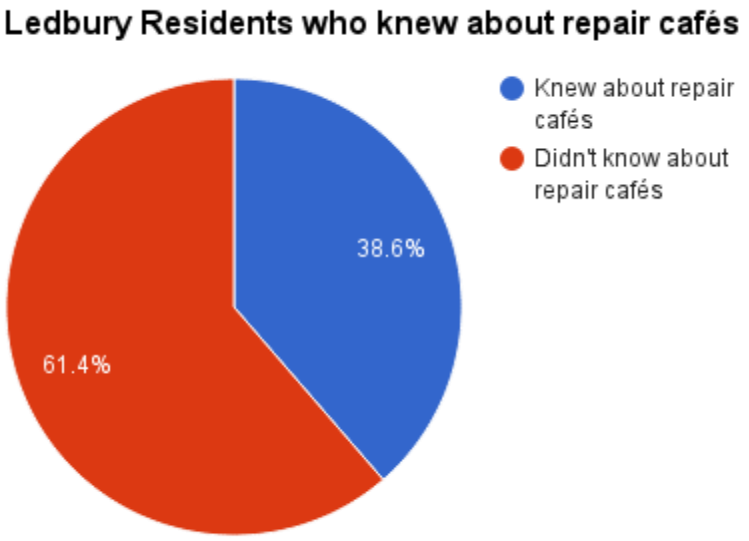

Total population of men and women surveyed
Total Men
Total Women
Total Undisclosed gender
47.3%
50.7%

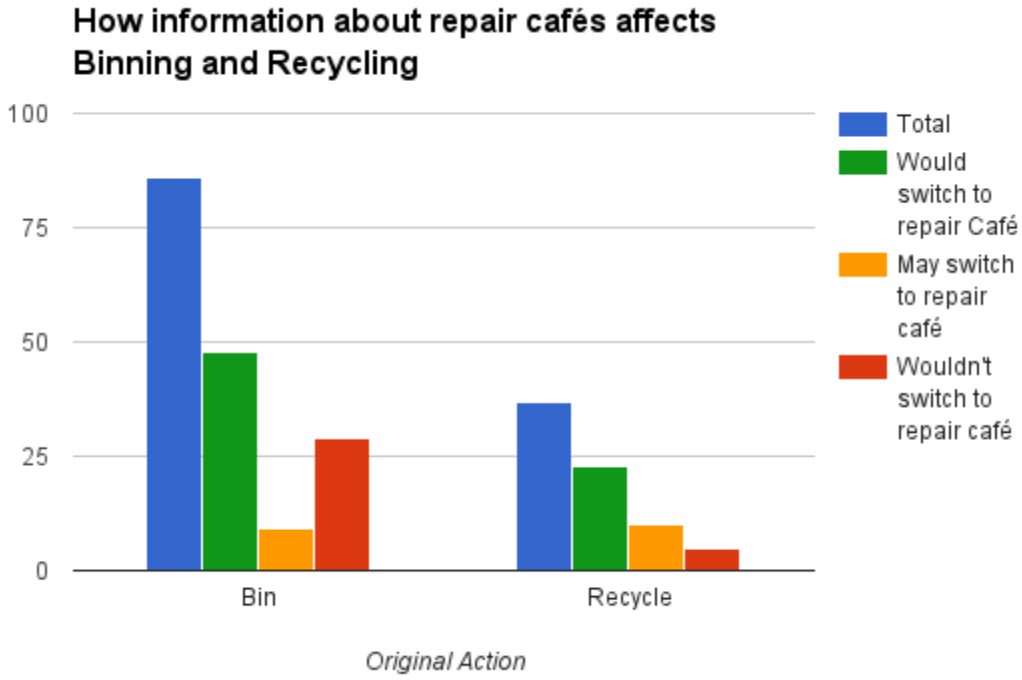
Why people said, "no" to repair cafés



Total Knowledge About Repair Cafés




Ledbury Residents who knew about repair cafés
Knew about repair cafés
Didn't know about repair cafés
38.6%
61.4%


How information about repair cafés affects Binning and Recycling
100
75
50
25
0
Bin
Recycle
Original Action
Total
Would switch to repair Café
May switch to repair café
Wouldn't switch to repair café