

Capabilities, Opportunities, and Motivations to Repair: A Study of Participants in Repair Cafés in Aotearoa New Zealand

2024 Research Report





Capabilities, Opportunities, and Motivations to Repair: A Study of Participants in Repair Cafés in Aotearoa New Zealand

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Birkenhead Repair Cafe

Blenheim Repair Cafe

Cashmere Repair Café

Christchurch Tūranga

Doughnut Economics

New Zealand, Repair Café (Wish Café)

Epsom Sewing Repair Café

Mangere Bridge Repair Cafe

Nelson Repair Café

Newtown Central Repair Cafe

Ponsonby Repair Café

RepairED: Hopper Repair Café

Richmond Repair Riverlution

Wanaka Repair Café

Wellington Sustainability Trust

Repair Cafe

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Executive Summary



Repair cafés were established to reduce the waste brought about by today's throw-away culture. This research examines the factors that encourage and inhibit repair behaviour in Aotearoa New Zealand. Specifically, it explores the capabilities, opportunities, and motivations towards repair of those who either volunteer at or use the services of repair cafés. Around 40 repair cafés operate throughout Aotearoa New Zealand. They provide regular community repair events, staffed by volunteers, and invite visitors to bring their possessions to be repaired for a small donation. In this study, 'volunteers' are those who donate their time and expertise to repair objects brought to repair cafés, and 'visitors' are those who bring their possessions to the cafés for repair. The results are based on over two years of fieldwork including observation, secondary data, and interviews with 23 volunteers and 20 visitors to repair cafés across New Zealand.

Participants in the study experience many impediments to repair that constrain their capability for repair. For visitors these are a lack of tools, parts and supplies, and repair services. When repair is available in the marketplace, visitors believe the service is not affordable and fear that unauthorised repair may invalidate product warranties. They also describe feelings that they lack the skills or expertise for self-repair. Volunteers also experience impediments both generally and during repair café events. They describe annoyance that many items cannot be repaired, as they cannot be opened to access the damage, and that tools or parts are not available. During repair café events, some volunteers describe frustration that they may not have the tools or materials at hand or sufficient time to fix items.

Despite these constraints over sixty percent of items are able to be repaired at repair café events. Repair cafés provide a positive social experience that allows visitors to meet others in their community and be part of a community event. Participating in the repair café provides visitors with affordable access to repair and valuable information about the reparability of their possession. Overall, visitors describe a positive and rewarding experience at repair café events and this motivates their participation.

For volunteers, the repair café provides a positive social opportunity to support their local community, meet like-minded people, feel appreciated, and share their knowledge of repair with visitors. Volunteers enjoy the pleasure of doing something they enjoy, and the satisfaction they experience when they successfully repair a damaged item. Their participation in repair cafés is motivated by a desire to ensure items maintain their functional and sentimental value and to care for those who bring items for repair, and by societal issues like keeping items out of the waste stream and being part of a circular economy.

Using the COM-B theory of behaviour and the Behaviour Change Wheel, this report suggests a range of interventions that can be used to influence capabilities, opportunities, and motivations to encourage repair behaviour. Recommendations are provided for policy makers including national and local government, manufacturers and others involved in marketing products (e.g., retailers), and for repair cafés in Aotearoa New Zealand.

1. Introduction



1.1 Growth of repair culture and repair cafés

Electronic and textile waste challenges municipalities across the world (Degenstein et al., 2021). In Aotearoa New Zealand, approximately 180,000 tonnes of clothing and textile waste are disposed in landfills every year (Moayyed, 2023). Approaches to reduce these forms of waste include designing products that last longer or that can be mended or repaired. Increasing product lifespan is one of the most effective strategies to combat environmental wastage and therefore repair is an essential component of the circular economy approach that aims to keep products and materials in use for longer (Jaeger-Erban et al., 2021; Laitala et al., 2021). However, currently many impediments exist that frustrate consumers' ability to repair the products they own (Sims & O'Sullivan, 2023; Svensson et al., 2018). Consumers need access to parts, tools, diagnostics, schematics, and repair documentation. They also need the right the right to repair without invalidating product warranties (Ozanne et al., 2021).

Around the world, consumers increasingly demand the right to fix the products they own (Hielscher & Jaeger-Erben, 2020) with growing consumer movements supporting repair and advocating for the "right to repair" through legislation (Harrabin, 2019; Hernandez et al., 2021; Madon, 2022; WasteMINZ, 2020). For instance, policy advocates and others in Aotearoa New Zealand call for products to be more repairable, to be labelled with a repairability index, and for

retailers to offer spare parts and repair services to enable DIY and commercial repair (RCANZ, 2022; Sims & O'Sullivan, 2023; Zaw, 2022a). A recent survey in the UK showed that an overwhelming majority (81%) of consumers support the right to repair for electronics, including design for repair, access to spare parts and repair documentation (Restart, 2021). In Ireland, 89% believe that manufacturers are most responsible for making products repairable, and 87% believe products should have repairability labels (Environmental Protection Authority, 2022). Along with legislation, self-repair is also supported by a number of initiatives, including online repair sites (e.g., American - www.ifixit.com), social enterprises and Restart parties (e.g., UK-based, The Restart Project), non-governmental organizations (e.g., Consumer New Zealand) and recent television programmes (e.g., UK produced *The Repair Shop*) (Ahnfelt, 2016; Charter & Keiller, 2016; Graziano & Trogal, 2017).

In addition, given the challenges of repair, and challenges and impediments to self-repair in particular, the repair café movement began as a way to help consumers repair their possessions, and as a practical approach to prevent unnecessary waste (Charter & Keiller, 2016; Meißner, 2021). It is estimated that there are now over 2,000 repair cafés around the world, and currently around 40 across Aotearoa New Zealand (RCANZ, 2024). By making repair more visible, repair cafés help to transform the social norms around this practice, making it more acceptable, accessible, and mainstream (Madon, 2021).

Repair cafés usually take the form of community events which may be regular or pop-ups. Visitors are often asked for a small donation in return for the assistance provided. Some repair cafés encourage visitors to fix or mend their own goods with the guidance of experts on hand to assist (Ahnfelt, 2016; Repaircafé.org, 2021; Rosner, 2013). In New Zealand, most community repair cafés are part of the Repair Café Aotearoa New Zealand (RCANZ) association which supports organizers with marketing assistance and enables them to use best practices and share expertise. RCANZ sits within the context of the International Repair Café movement (RCANZ, 2023a).

1.2 Literature on repair

The literature conceptualizes repair as a spectrum of interventions through which people seek to affect the capacities of objects in ways that “correspond to their material readiness to enable routinized patterns of action” (Godfrey et al., 2021, p. 2). However, a sociological view considers repair as fundamentally more about relationships rather than consumers simply working on an object to ensure its function (Niskanen et al., 2021). From this perspective, repair encompasses relationships within communities, and is often expressed through collaborative forms of repair (McLaren, 2018), like repair cafes.

A recent survey of consumers in Norway found that a large proportion of repairs are conducted by consumers in the home through self-repair. The main barrier hampering repair is the low price of new products, which means consumers are more likely to buy new rather than repair current products (Laitala et al., 2021). Jaeger-Erben and colleagues find that the behavioural and financial costs for repair are perceived as high and that social and physical environments are more likely to impede rather than enable repair. They also found that novelty-seeking behaviour, the desire for new products, is an important predictor for non-repair (Jaeger-Erben et al., 2021). Self-repair of clothing was found to be the most common form of repair, with women being more highly engaged in self-repair practices, which also increases with age (McQueen et al., 2022).

In a survey of repair cafés, the most common items brought for repair include small kitchen appliances, lighting, clothing, bicycles, and DVD/CD players (Charter & Keiller, 2014). Participants are motivated to participate in repair cafés to keep items out of the waste stream, to support the local community, and to meet others who care about the local community (Charter & Keiller, 2016). A recent review found that visitors to repair cafés want to prolong the lifespan of their existing products in order to avoid buying new and to reduce waste (Moalem & Mosgaard, 2021).

1.3 Theory of behaviour – COM-B

In this report, the Capabilities-Opportunities-Motivations-Behaviour model (COM-B model), a framework for understanding behaviour, is used to understand repair behaviour (McLeod et al., 2015; Michie et al., 2011). The COM-B model reveals possible factors that facilitate or impede a particular behaviour by considering the capabilities, opportunities, and motivations to undertake the behaviour. Thus, a particular behaviour (B) requires the capability (C – an individual’s psychological and physical capacity to perform the behaviour of interest), the opportunity (O – social and physical, external factors that facilitate or impede the behaviour), and the motivation (M – reflective and automatic, internal factors that energize or direct behaviour) (Kropf et al., 2021). Table 1 defines the factors that make up the COM-B model.

Table 1: COM-B Definitions

| COM-B Component | Definition |
|--------------------------|--|
| Capability | An individual’s psychological and physical capacity to perform the behaviour of interest |
| Physical Capability | Physical skill, strength or stamina to perform the behaviour |
| Psychological Capability | Knowledge or psychological skills to perform the behaviour |
| Opportunity | Social and physical, external factors that facilitate or impede the behaviour |
| Physical Opportunity | Opportunity afforded by the environment involving time, resources, locations, cues, physical ‘affordance’ |
| Social opportunity | Opportunity afforded by interpersonal influences, social cues and cultural norms that influence the way that we think about things |
| Motivation | Reflective and automatic, internal factors that energize or direct behaviour |
| Reflective motivation | Reflective processes involving plans (self-conscious intentions) and evaluations (beliefs about what is good and bad) |
| Automatic motivation | Automatic processes involving emotional reactions, desires (wants and needs), impulses, inhibitions, drive states and reflex responses |

(Source: Kropf et al., 2020)

In addition, the COM-B model when combined with the Behaviour Change Wheel (BCW) suggests interventions and policies that can be used to encourage the behaviour of interest. The BCW is a synthesis of 19 frameworks of behaviour change identified in a systematic literature review (Michie et al., 2014; Michie et al., 2011). A key benefit of the BCW is that it details the full range of options available for achieving behaviour change (Michie et al., 2011; Michie & West, 2013).

The BCW consists of three layers. Using the COM-B model, the hub of the wheel identifies sources of the behaviour that could prove to be fruitful targets for intervention (i.e., capabilities, opportunities, and motivations). Surrounding the COM-B hub is a layer of nine intervention strategies that can be used to address deficits in one or more of the COM-B factors (e.g., education), and the outer layer of the wheel provides policies that can enable the intervention (e.g., marketing) (See Figure 1). Thus, the BCW provides a framework to select the intervention function or functions most likely to be effective in changing a specific target behaviour (Michie et al., 2011).

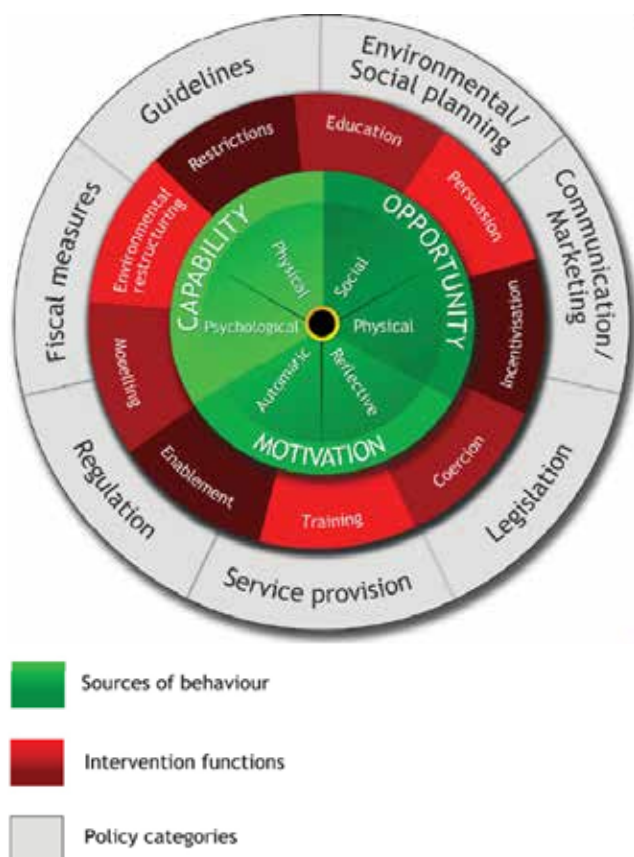


Figure 1: The Behaviour Change Wheel (Source: Michie et al., 2011)

1.4 Research objectives

Despite the recent interest in repair and repair cafés, repair is underexamined in the literature (Moalem & Mosgaard, 2021; Niskanen et al., 2021). Limited research explores visitors to repair cafés and their ability to participate in repair. There is also limited research examining those who offer their skills and time as expert volunteers at repair cafés. The COM-B model of behaviour reveals the capabilities, opportunities, and motivations that facilitate and impede repair behaviour for visitors and volunteers. Combined with the Behaviour Change Wheel, this report provides marketing and policy implications to encourage repair and participation at repair cafés based on the findings.

Specifically, the following research questions are addressed:

- ▲ How do capabilities, opportunities, and motivations affect visitors' behaviour toward repair and participation in repair cafés?
- ▲ How do capabilities, opportunities, and motivations affect volunteers' behaviour toward repair and participation in repair cafés?
- ▲ Using the COM-B model and the Behaviour Change Wheel, what factors can be used to encourage greater participation in repair and repair cafés?



2. Methods



In order to address these research questions, a qualitative approach including semi-structured interviews and participant observation was used. The Repair Café Aotearoa New Zealand (RCANZ) played a pivotal role in introducing the author to the repair café community, which enabled access to both visitors and volunteers. The research received ethical approval from the Human Subjects Ethics Committee at the University of Canterbury, Christchurch, New Zealand (Ref: HEC 2021/30).

Twenty visitors were interviewed from six repair cafes across the country. Twenty-three expert volunteers were interviewed from eight repair cafés across New Zealand. The interviews occurred between November 2021 and March 2024. Given COVID restrictions in New Zealand during part of the data collection time frame, the interviews were conducted using both face-to-face and online settings (e.g., Zoom). To minimize misunderstandings due to this mixed approach and to allow participants to elaborate on their experiences participating in repair cafés, a semi-structured interview guideline was prepared in advance. The interviews ranged in length from 20 to 90 minutes. Participants were offered a koha for participation in the interviews (e.g., Westfield Mall gift voucher). The interviews were audio-recorded and transcribed.

Interview transcripts were systematically coded, sorted and analysed with the aim of identifying common patterns, themes and subthemes both within and across the interviews in a thematic analysis. Participants' names have been anonymized to protect their identity. This analysis was conducted manually to facilitate greater immersion in the data when compared to computer-based analysis tools (Shaw et al., 2017; Wood & Kroger, 2000). The COM-B model was then used to organise the themes and the BCW to make recommendations for policy and marketing.

3. Findings

3.1 Participants

Of the repair café visitors interviewed, 13 were female and seven were male. Visitors had a range of experiences with the repair café, from one to six visits, but the majority had only attended one event (45%). Visitors ranged in age from 33 to 82 years old. Seven of the visitors were retired. Twelve were New Zealanders and eight were expatriates.

Expert volunteers with a range of levels of participation were interviewed (1 to 10+ sessions) to capture a variety of experiences. Of the 23 volunteers, 13 are male and ten are female. Participants range in age from 23 to 74 years old. Ten of the participants are retired. Participants bring a range of skills to share including woodworking, sewing, bicycle repair, small appliances, computers, and electrical.

3.2 Visitors

First, the findings for visitors to the repair café are provided. These include the items brought for repair before discussing capabilities, opportunities, and motivations to repair, and their perceptions of visiting repair cafés.

3.2.1 Items brought to be repaired

Across the 20 visitors interviewed, 33 items were brought for repair. These include a range of items, but the majority were either electrical (e.g., heaters, toasters, coffee machines) (45%) or clothing (29%). A majority of these items were fixed on the day (64%). Most of the items had practical applications, but a few were considered more sentimental in nature by participants. When items were not fixed, visitors were generally very understanding. However, when the item was of a sentimental nature, visitors expressed a degree of disappointment, and many indicated they would likely keep the item despite it not functioning. Some indicate that they might pursue other means to get the item fixed. For instance, Kay explains that she will try and get her radio fixed by other means:

I need to find some little LED lights and finding that I'd probably get the wrong thing, but I would still need somebody to fix it. I'll try a repair shop and see. (Kay)

3.2.2 Visitor capabilities

A capability is an individual's psychological and physical capacity to perform the behaviour of interest. Lack of capability creates an impediment for participants to perform repair as shown in the data. Participants primarily discuss psychological rather than physical capabilities (See Table 2). For instance, they discuss a lack of knowledge or psychological skills to perform repair. For instance, Samantha discusses that she does not know how to complete certain repairs, so coming to the repair café enables her to get her possession repaired by someone who does have the skill. Others point to a lack of procedural knowledge that inhibits their ability to undertake specific types of repair (e.g., mending, electrical).

Table 2: Capability to Repair – Visitors

| COM-B Component | Subtheme | Quote |
|---------------------------------|------------------------------|--|
| Capability | | |
| Physical Capability | Lack of physical ability | "I didn't know whether I could unscrew it or whether I would kill myself!... And it's just that tiny little thing that holds you up from fixing something." (Tessa) |
| Psychological Capability | Psychological skill | "I'm not very good at sewing, so I thought, well, zips, are not really easy." (Jill) "...you can get it done or know what needs to be done. Sometimes you don't know what needs to be done." (Samantha) "or the knowledge or all the expertise. I'd rather get someone who knows what they're doing." (Rebecca) |
| | Lack of procedural knowledge | "You know, people with sewing experience look at things and know how to fix them. I don't have the sewing experience." (Margot) |

3.2.3 Visitor opportunities

An opportunity is a social or physical external factor that facilitates or impedes behaviour. The environment in Aotearoa New Zealand creates a substantial number of impediments that constrain visitors' opportunity for repair. Most critically, the physical environment creates many impediments that constrain repair opportunity (See Table 3). Specifically, visitors point to a lack of tools, time, repair service, and lack of parts and supplies. Visitors also indicate that they feel repair is not affordable, they fear invalidating warranties, and sometimes they find a lack of expertise in the marketplace inhibits repair. Participating in repair cafés allows visitors to overcome many of these impediments and potentially get their possessions fixed.

Although the physical environment creates many impediments to repair, the setting during repair café events creates a social environment that fosters a sense of community that visitors enjoy. For instance, visitors appreciate meeting others in the community and being involved in community events. Thus, the convivial environment facilitates participation in repair cafes for visitors and the potential for visitors to get their possessions fixed thus facilitating repair.

Table 3: Opportunity to Repair - Visitors

| COM-B Component | Subtheme | Quote |
|-----------------------------|-------------------------------|---|
| Opportunity | | |
| Physical Opportunity | Lack of tools | Also, the pockets for my pants because those, for those things I need a sewing machine, which I don't have." (Samantha) I don't have a sewing machine so I can't do it myself." (Jim) |
| | Lack of time | "I'm a single mum and I'm raising them myself and I just couldn't get this thing off that you had to wrap, you know? And I thought, oh, I'll just take it down (to the repair café)." (Fran) "I don't really have the skills or the time generally." (Rebecca) |
| | Repair is not affordable | "...it's gotta be affordable (the repair) but people's time seems to not make it affordable." (Fran) "Wouldn't be worth it. It's not economically viable, is it? It could cost me \$200 and I can buy another one for \$150." (James) |
| | Limited repair services | There's not much in the way of repair places out there." (Kay) "But that small thing they (repair service) have not been interested in. So it is a relative expensive dehydrator, but not so expensive that I want to spend \$300 getting it fixed, cause that's what it cost." (Adam) |
| | Lack of parts and supplies | "These days, they don't supply a lot of spare parts for small things. You've gotta buy a whole unit or a whole circuit board and so on." (James) "I think they build in obsolescence into the products so they can't get parts." (Kay) |
| | Invalidating warranty | "And also, it forfeits the warranty." (Rebecca) |
| | Lack of marketplace expertise | "...another guy couldn't find that. It is extremely difficult with printed circuit boards. You've got so many components and things ..." (James) |
| | Social opportunity | Participating in community |

3.2.4 Visitor motivations

A motivation is a reflective or automatic internal factor that energizes or directs behaviour. Visitors discuss a number of reflective factors that motivate their desire to repair their possessions and bring them to the repair café when they cannot fix them themselves (See Table 4). This obviously includes the desire to fix the item and save money. More importantly many visitors discuss how repair reflects their values such as the desire to not throw things out. All participants discuss the environmental benefits of repair such as not contributing to the waste stream and extending the product's life. Sometimes items cannot be repaired at the repair café, however visitors still appreciate that they gain valuable information about their possessions. This may include that the item is not fixable, or they could be directed to another service that may be able to fix their possession.

Automatic motivations are the emotions experienced from the behaviour, which might be expressed as fun, happiness, or gratitude. A range of these are expressed by visitors to the repair café. For instance, they express feelings of gratitude towards the repair café and the repairers. They also express a sense of fun in participating in the event and excitement and happiness that their possessions are fixed.

Table 4: Motivation to Repair - Visitors

| COM-B Component | Subtheme | Quote |
|-----------------------|------------------------|--|
| Motivation | | |
| Reflective motivation | Fixing items | <p>"I mean, we, we've brought up with the, the resources very valuable in the ways that we trying to fix it as much as possible." (Alex)</p> <p>"I guess just to get things fixed to make your life easier." (Margot)</p> |
| | Saving money | <p>"And then you can save us some money (if repaired)." (Meg)</p> <p>"...take it to EB Games probably but, you know, it's like \$100, you know, not a hundred but it'd cost a bit to fix it." (Fran)</p> <p>"and it just worked just fine, and it saved me sort of a \$100 or \$200." (Rebecca)</p> |
| | Reflects values | <p>And try not to throw things out and try not to be part of the whole consumer nightmare because not only do you get the thing, you get all the packaging and all the instructions.... You should be able to fix them." (Jane)</p> |
| | Environmental benefits | <p>"...with appliances, I didn't want to throw them away." (James)</p> <p>"you don't really want to throw it away. That is kind of a waste." (Meg)</p> <p>"I think it diverts some things from rubbish in a landfill." (Jill)</p> <p>"instead of just discarding filling up landfill, a waste of manufacture and limiting its life use, I would much rather it could be repaired to not be extra waste." (Rebecca)</p> |
| | Extending object life | <p>"if you can fix it and extend the life a bit, I think that's always a good thing." (Jill)</p> |
| | Getting information | <p>"we would like to know how to get more information rather than just we just leave it and just throw it away." (Alex)</p> <p>"he really couldn't repair it. And so he suggested a place in Simon Street." (Rebecca)</p> <p>"to find out if I need to throw them away or can they still be used, or do I need to replace something inside it." (Samantha)</p> <p>"And you tell me what to do.... So he looked up the part and found where I can get it, so I'm pretty good with a soldering iron, so I can fix it myself now!" (Adam)</p> |
| Automatic motivation | Feelings of gratitude | <p>"...they sacrifice the time. For people like me. And then do the repair. They bring their own gear. And they supply the material. I would say we appreciate what they've done. (Albert)</p> |
| | Fun occasion | <p>"it's a fun occasion with, with morning tea and chat." (Rebecca)</p> |
| | Happiness | <p>"they fixed it, tidied it up and gave it a good clean and everything else. So that was very exciting." (Vanessa)</p> |

3.2.5 Repair café experience

During interviews visitors were also asked about aspects of the repair café experience they appreciate and aspects they felt could be improved (See Table 5). Most visitors discussed the positive aspects of the repair café experience and had difficulty thinking of issues they would recommend for improvement. Visitors discussed how the repair café events were well organized and provided the tools and expertise to conduct the repair in a welcoming manner. Some visitors discussed the need to more widely advertise the events and provide more specific information about what could be repaired on the day.

Table 5: The Repair Café Experience

| Issues | Quote |
|------------------------------------|--|
| Positive aspects | <p>“And this is well set up too. I mean, which is well organized.” (Albert)</p> <p>“It was great! So, it’s actually quite nice because they’re all, they’re very friendly and so they’re very helpful.” (Jill)</p> <p>“it’s great to see you’ve got a place you can take stuff and people were there and they’ve got tools and the wherewithal to do the repairs.” (Clyde)</p> |
| Issues to consider for improvement | <p>“I think it has huge benefits, but I don’t think it’s advertised enough. It’s not regular enough if they had it every two weeks.” (James)</p> <p>“Advertised. Right. If I knew that I probably would’ve bought something.” (Jill)</p> |

3.3 Expert volunteers

Next, the report discusses the findings for expert volunteers or those who provide their time and expertise to fix items at the repair café events. These include volunteer capabilities, opportunities, and motivations for repair and participation at repair cafés.

3.3.1 Volunteer capabilities

Some volunteers indicate that they feel they do not possess the necessary skills to fix items on the day of the event (See Table 6). In particular, volunteers discuss the lack of psychological skills rather than physical skill or ability. For instance, Mel struggles to put in a zip for a visitor as she believes she is a good seamstress but not a professional. Rob describes that the experience on the day means they can be confronted with just about any type of item which is a challenge as he is not an expert.

Table 6: Capability to Repair – Volunteers

| COM-B Component | Subtheme | Quote |
|--------------------------|---------------------|--|
| Capability | | |
| Physical capability | | We did not identify any factors related to this factor. |
| Psychological capability | Psychological skill | <p>“...above the skills that I’ve got. I’m a good amateur, smart sewer, but I’m not a tailor.” (Mel)</p> <p>“...because we’re generalists, right, but just people bring in this random stuff.” (Rob)</p> |

3.3.2 Volunteer opportunities

Despite the goal of repair cafes to minimise the challenges of repair, a number of physical impediments exist for repairs undertaken at repair cafes as discussed by the volunteers (See Table 7). First, some volunteers point to not having time or the necessary tools to fix items. For instance, Mark sometimes gets frustrated because he does not have all the materials or tools he might have at home in his workshop. Whereas Gina points to working in an unfit setting with a lack of tools. Carl discusses the lack of parts that impede repair in New Zealand more generally. Given these physical impediments, some volunteers suggest ways that the repair café can be run more effectively and managing expectations of what can be accomplished during the event. For instance, Mark suggests that “there doesn’t seem to be a process for items that for, you know, that can’t be finished... needs to be a process for managing people’s (e.g., visitor’s) expectations”.

A large number of the volunteers describe frustration with modern manufacturing in terms of items not being repairable, which creates a physical constraint that impedes volunteers' opportunity for repair (See Table 7). This might be because the item cannot be opened, or opening may damage the item, or parts cannot be obtained. As some items might not be able to be fixed given the time, tools or facilities at the repair café event, repairers strive to give visitors advice if they believe the item may be able to be fixed by a commercial repairer or given the correct parts, as Albert explains below:

Even if the ones that we weren't able to fix, if we've explained to them, whatever things that needs to be done or like they need this specific part they seem pretty positive, um, that, you know, at least we gave it a go.
(Albert)

Although the physical environment creates impediments to repair for volunteers, the setting during repair café events creates a social environment that fosters a sense of community that volunteers enjoy (See Table 7). For instance, volunteers appreciate being able to contribute to their community and meeting other people through involvement in the repair events. Other volunteers describe their enjoyment at teaching repair skills to visitors. In addition, many of the volunteers discuss how they feel appreciated by both visitors and the organisers of the repair events. Thus, similar to visitors, the social environment at the events facilitates repair and participation in repair cafes for volunteers.

Table 7: Opportunity to Repair - Volunteers

| COM-B Component | Subtheme | Quote |
|-----------------------------|------------------------------------|---|
| Opportunity | | |
| Physical opportunity | Lack of time, tools, and materials | "I find it frustrating not to have the time or the materials to fix something" (Mark). "...the repair cafe doesn't have lots of tools or is set up for you to work." (Gina) |
| | Lack of parts | "And here there's nothing like that (parts stores). So you run out of luck. One they're really expensive, the parts here." (Carl) |
| | Items cannot be repaired | "...(products are) cheap enough to be functional for a while, but they are not built to be taken apart. ...they are either glued together or they're clipped together in such a way that they are never designed to be opened or opening them is destructive." (Luke) |
| Social opportunity | Supporting community | "I came to the age I need to give something to my community. I know it's a time to give back that that's the way I'm doing it." (Gina) |
| | Meeting people | "...everybody was just beavering away. It was a really nice atmosphere. I really enjoyed it.and its a good way to get to know people." (Sue) "- the chance to meet some, meet some more like-minded people... So it's that social connection that's created by people coming together." (Linda) |
| | Educating others in repair | "Yeah. It was really nice to be able to teach someone that." (Ian) "And maybe they can fix it themselves. That's why I do it." (Gina) |
| | Being appreciated | "I get a lot of positive feedback for doing the jobs too, and that's, that's nice too." (Mark) |
| | Setting boundaries for repair | "...we don't make things. We repair. But the visitor asked but you could make it couldn't you?" (Fran) |

Some of the volunteers feel that it is necessary to indicate clear boundaries around the use of their time and skills at the events. They do this by only working during the allotted time of the event, not taking items home with them, and indicating when they do not have the time, skills, equipment, or parts. For instance, Fran describes her regret at not adhering to these boundaries when she agreed to make an item for a repair café visitor, "...we don't make things. We repair. But the visitor asked but you could make it couldn't you?". Volunteers also appreciate that the events are governed by certain rules to ensure their repair work stays within these boundaries (e.g., not taking things home to fix, repair not making). As Ian explains, "There's very clear boundaries. I'm available at this time."

3.3.3 Volunteer motivations

Volunteers discuss many factors that energise, direct, or motivate their desire to participate in repair cafés (See Table 8). Many recognize a need to care for both the functional and sentimental value of the objects brought to be repaired (Meißner, 2021). Repairing someone’s possession enables volunteers to feel like they care for the needs of the owners of the item. Volunteers also participate to support the needs of the wider community. For instance, some volunteers see giving their time and expertise as a small way they can offer assistance to the organizers of the repair café. Others see assisting at the repair café, as a way of helping and giving back to the wider community.

Almost all the repairers recognize broader societal issues as a reason why they participate in repair cafés, such as minimizing waste, protecting the environment, and supporting a circular economy (Meißner, 2021; Niskanen et al., 2021). For instance, Linda discusses her feelings, “I get a lot of personal pleasure from having a small footprint”, and repairing at the event allows her to meet her own personal needs of living a more sustainable lifestyle. Sue explains how she wants to help keep items out of the landfill, and Mel describes the importance of being part of the circular economy:

Volunteers also discuss automatic motivations that direct their participation in repair café events. For instance, they are energised to take part in the repair café as repair is something they are good at and enjoy doing. Volunteers also describe experiencing positive feelings when they repair an item and bring it back to useful life. In addition, some even talk about the excitement they feel from fixing something.

When volunteers are asked if monetary payment would motivate them to participate, none of them indicate that they would like to be paid. For instance, Claire indicates that payment is not important to her, and indicates that being paid would change the nature of her participation making it feel more like work, which is not something she would appreciate.

“Money is it important, but not that important to me...I just do the thing when people is happy and, and, and I, I, I still can be a useful person. That’s the main thing.”
(Claire)

Table 8: Motivation to Repair - Volunteers

| COM-B Component | Subtheme | Quote |
|------------------------------|--|--|
| Motivation | | |
| Reflective motivation | Protecting the functional and sentimental value of items | “Her mom got it for her years ago. And she loves it so much and she wants to keep it forever. And now it’s got a new lease on life kind of thing.” (Erin) “Whereas this is, this is about getting it going again, getting it to function again.” (Rob) |
| | Caring for others | “And I just make people happy when I make things work for the people who care about their belongings.” (Hazel) “She was absolutely stoked. So we’ve managed to repair it. So that was really cool.” (Ian) |
| | Societal issues | “The main motivation is to keep things out of the landfill really. We just need to keep and reduce.” (Sue) “Knowing that it aligns with my values of contributing to a circular economy and not having waste.” (Mel) |
| Automatic motivation | Satisfaction from repair | “My primary motivation is you might say selfish and I’m doing something I like doing... I get a lot of intrinsic satisfaction from the job (e.g., repair).” (Mark) “It’s a very good feeling to revive something.” (Hazel) “Satisfaction I felt when I fixed it was priceless.” (Gina) |
| | Excitement of repair | “you know, bit of an adrenaline rush” (fixing the item). (Mark) |

4. Discussion, recommendations, and conclusion



4.1 Discussion

The findings of this research point to numerous factors that impede repair behaviour in Aotearoa New Zealand. First, issues that constrain the capability for repair are discussed. These predominantly relate to psychological capabilities or feelings that visitors do not have the skills or expertise to undertake repair. Visitors also discuss numerous factors that impede their opportunity for repair. These relate to a lack of tools, time, parts and supplies, and repair services. When repair is available in the marketplace, visitors believe the service is not affordable and fear that unauthorised repair may invalidate product warranties. Along with impediments, visitors also describe factors that motivate their desire to repair their possessions facilitating their behaviour. These include fixing the item and saving money by not having to purchase a new product. They experience feelings of gratitude, fun and pleasure when a damaged item is repaired, which motivates their participate in repair cafés. Also, visitors appreciate that repair reflects their values and provides a number of environmental benefits such as extending product life and keeping items out of the waste stream.

Given the physical impediments constraining repair, visitors bring their broken possessions to the repair café. Visitors bring a range of items to be repaired, with over sixty percent of items able to be repaired at events. However, data from RCANZ found that 73% of items across 160 repair events were fixed (RCANZ, 2023b). In addition, the repair café provides a positive social experience that allows visitors to meet others in their community and be part of a community event. Participating in the repair café provides affordable access to repair and often information when items cannot be repaired or may need repair service from other providers. Overall, visitors describe a very positive experience at repair café events with some suggesting they be run more frequently and be advertised more comprehensively in terms of the repair services available at events.

Volunteers who provide repair services at events also point to issues that constrain their psychological capability for repair. These include a perception that their skills are not sufficient for the items that will be brought for repair. More significantly, volunteers enumerate various issues that impede their opportunity for repair both generally and during repair café events. Generally, volunteers describe annoyance that many items cannot be repaired, as they cannot be opened to access the damage, and that tools or parts are not available. During repair café events, volunteers describe frustration that they may not have the tools or materials at hand or sufficient time to fix items.

However, the repair café creates a positive social opportunity where volunteers can support their local community, meet like-minded people, feel appreciated, and educate visitors about repair. In addition, like visitors, volunteers discuss motivations that inspire their repair behaviour and participation in repair cafés. Volunteers enjoy the satisfaction of doing something they enjoy, and the pleasure they experience when they successfully repair a damaged item. Their participation in repair cafés is motivated by a desire to ensure items maintain their functional and sentimental value, to care for those who bring items for repair, and societal issues like keeping items out of the waste stream and being part of a circular economy.

4.2 Recommendations

In this section, recommendations based on the findings are discussed. These include recommendations for repair cafes in terms of suggestions for running and marketing of repair events, recommendations for policy makers including national and local government, and recommendations for manufacturers and others involved in marketing products (e.g., retailers) in Aotearoa New Zealand. The Behaviour Change Wheel suggests various types of interventions that can be used to influence capabilities, opportunities, and motivations, and encourage behavior (Michie et al., 2011). Combined with the specific findings from this study, this provides the basis for a systematic analysis of interventions that may be effective in changing behaviour, in this case repair behaviour (Michie et al., 2011) (See Table 9).

To encourage physical capability for repair, training, which is the process of imparting skills, should be a key intervention. To accomplish this, repair cafés could offer repair training during events (e.g., sharpening knives, mending clothing), or allow visitors to fix their own possessions with expert volunteers on hand to assist. Product marketers could offer online training videos to facilitate DIY repair of their products. Policy makers might support training at schools and polytechnics and financially support repair apprenticeships. Enablement, which is the process of increasing means or reducing barriers to increase physical capability, is another key intervention. To enable repair, policy makers should consider supporting repair hubs, and supporting Right to Repair Laws to ensure information is provided for safe handling and disassembly of products during repair (Sims & O'Sullivan, 2023; Zaw, 2022b).

To encourage psychological capability for repair, education, training, and enablement are recommended interventions. Education, increasing knowledge and understanding for repair, could occur through repair demonstrations during repair events (e.g., repairing a bike tire), and the inclusion of design for repairability in new product design courses. To foster greater psychological capability for repair among volunteers, repair cafes might consider sponsoring volunteers through short training courses (e.g., an appliance testing certificate). To enable psychological capabilities, public policy makers might require repair manuals, schematics, and diagnostics be available from manufacturers as part of Right to Repair legislation. Product marketers might provide a Repairability Index on product labels or on in-store signage to facilitate consumer choice regarding repair (Sims & O'Sullivan, 2023).

To encourage the physical opportunity for repair, restrictions, environmental restructuring, and enablement are recommended interventions. Restrictions use rules to increase the target behaviour and minimise the alternative behaviour. Thus, policy makers should support Right to Repair Laws ensuring products are designed for longevity and repairability to keep them out of the waste stream and in use longer. Environmental restructuring changes the physical context around repair. Thus, manufacturers and retailers should undertake repair rather than replacing goods or refunding consumers when items fail under warranty. Manufacturers should also allow third-party repair without invalidating the product warranty. Policy makers should require that parts, supplies, and tools are available to consumers and third-party repairers through Right to Repair Laws, and ensure repair is affordable (Zaw, 2022b). Policy makers can enable the physical opportunity for repair by requiring that products be designed so they are able to be repaired (i.e., opened and disassembled).

To encourage the social opportunity for repair, environmental restructuring is recommended, or changing the social context for repair. As already discussed, repair cafés currently provide a supportive and enjoyable repair experience appreciated by both visitors and volunteers. In other words, repair cafés currently provide a positive social context that encourages repair. However, more broadly there is a need to build a culture of repair, so consumers consider repair before disposal. Thus, repair cafés should continue raising awareness of the benefits of repair to facilitate a culture of repair in Aotearoa New Zealand. National and local policy makers should support non-profit repair hubs like repair cafés given our findings illustrate that repair cafés can create a positive social opportunity for repair. Local policy makers should provide lists of local repair service providers in order to create a social environment that enables repair.

However, there are boundaries to the repairs that can be offered in the social setting of a repair café. As infrequent, community events staffed by volunteers, repair cafés are limited by time, tools, equipment, materials and the skills of volunteers. Thus, it is critical that organizers govern these events by creating clear boundaries, and communicating these rules to visitors so they have clear expectations of the service offered by the repair café. For instance, what items can be brought for repair, what items are likely to be repairable, what materials they should supply, and other expectations (e.g., whether items can be left, or that items will not be taken home by repairers).

To encourage a reflective motivation for repair, education, persuasion, incentivisation, and coercion interventions are recommended. For instance, repair cafés should educate the public that their service provides a mechanism for affordable repair. They should also attempt to induce positive feelings through persuasive communication of the environmental benefits of repair and that repair cafés are an excellent way to participate in the local community. Policy makers could provide information about descriptive norms, for instance that repair is common among New Zealanders (Hine et al., 2017). In terms of coercion, policy makers should not allow product marketers to opt out of the Consumer Guarantees Act by indicating to consumers that they do not provide parts or repair facilities (Zaw, 2022a). In addition, policy makers should support Right to Repair Laws to ensure manufacturer requirement for the use of proprietary parts or authorised repairers is restricted.

To encourage automatic motivations for repair, persuasion, incentivisation, and modelling are recommended. To induce positive feelings toward repair, repair cafés should communicate the enjoyment of repair to potential volunteers and visitors. Policy makers can raise the profile of repair and repair hubs through mass and targeted media communication. To create expectations of reward provided by repair, repair cafés should communicate the sense of satisfaction from completing repairs to potential volunteers and visitors. Finally, repair cafés can model repair behaviour by providing an example for people to aspire to or imitate, such as peer-to-peer online (e.g., repair videos) or live demonstrations of repair.

4.3 Conclusion

Repair cafés provide a valuable service in Aotearoa New Zealand. Through their service, repair cafés reduce many of the impediments that participants experience around the capabilities, opportunities, and motivations to repair. They also provide a social environment that encourages participation and thus repair to occur. However, impediments still exist. This report outlines many interventions that can be utilized by repair cafés, local and national policy makers, product marketers, and manufacturers of products in New Zealand to ensure that repair behaviour becomes more common in Aotearoa New Zealand.



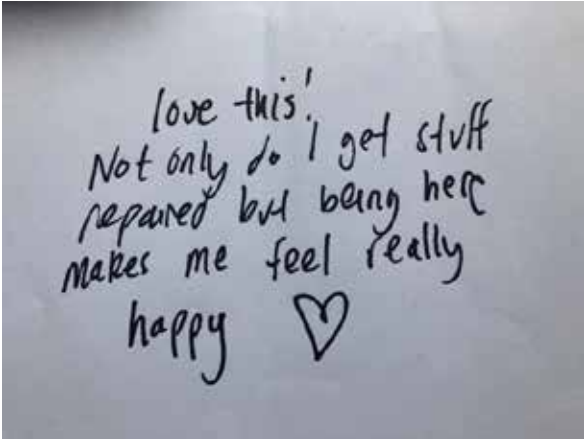
Table 9: Marketing and Policy Recommendations

| COM-B Dimension | Intervention Function ¹ | Definition ¹ | Marketing and Policy Recommendations |
|---------------------------------|------------------------------------|--|--|
| Capability Physical | Training | Imparting skills | Repair cafés may consider adding repair training and/or facilitating visitors to fix their possession with the assistance of volunteers. Policy makers facilitate repair training in schools/polytechnics and repair apprenticeships to enable DIY repair and independent repair service. Marketers provide online videos on product repairability to support DIY repair. |
| | Enablement | Increasing means/reducing barriers to increase physical capability | Policy makers support non-profit repair hubs (e.g., repair cafés, maker spaces). Policy makers support Right to Repair Laws ensuring provision of information that relates to safe handling and disassembly of products to be repaired. |
| Capability Psychological | Education | Increasing knowledge or understanding | Repair cafés may consider repair demonstrations during repair events. Marketers could consider providing written factsheets, technical manuals and videos about product repair. Universities/Polytechnics provide design for repairability as part of all industrial and product design courses. |
| | Training | Imparting skills | Repair cafés consider upskilling volunteers through short training courses. |
| | Enablement | Increasing means/reducing barriers to increase psychological capability | Policy makers support Right to Repair Laws to ensure information (e.g., manuals, schematics, diagnostics) for repairing products is widely available for repairers and consumers. Manufacturers provide information on product repairability on product labels (e.g., Repairability Index) and online. Retailers provide information on product repair in store. |
| Opportunity Physical | Restriction | Using rules to increase the target behaviour by reducing the opportunity to engage in competing behaviours | Policy makers support Right to Repair Laws ensuring products are designed for longevity and repairability to keep them out of the waste stream. |
| | Environmental/ Restructuring | Changing the physical context | Manufacturers provide parts, supplies and tools to facilitate product repair. Manufacturers and retailers undertake repair rather than replacing or refunding consumers when items fail when under warranty. Manufacturers allow third-party repair without invalidating product warranty. Policy makers support Right to Repair Laws ensuring parts, supplies and tools are available to consumers and third parties. Policy makers support Right to Repair Laws ensuring repair is affordable. |
| | Enablement | Increasing means/reducing barriers to increase physical opportunity | Policy makers support Right to Repair Laws to ensure products can be fixed (i.e., opened and disassembled for repair). |

| COM-B Dimension | Intervention Function ¹ | Definition ¹ | Marketing and Policy Recommendations |
|------------------------------|------------------------------------|--|--|
| Opportunity Social | Environmental/ Restructuring | Changing the social context | Repair cafés continue repair awareness to facilitate a culture of repair in New Zealand. Policy makers support non-profit repair hubs (e.g., repair café). |
| | Enablement | Increasing means/reducing barriers to increase social opportunity | Policy makers provide list of local repairers. |
| | Restrictions | Using rules to increase the target behaviour by reducing the opportunity to engage in competing behaviours | Repair cafés need to set clear rules to govern these events and communicate with visitors what can be brought, what items are likely to be repairable, what materials they should supply, and other expectations. |
| Motivation Reflective | Education | Increasing knowledge or understanding | Repair cafés communicate that their service provides an affordable method to repair possessions. |
| | Persuasion | Using communication to induce positive or negative feelings or stimulate action | Repair cafés communicate the environmental benefits of repair. Repair cafés communicate that participation is a good way to participate in and integrate into the local community. Policy makers could provide information about descriptive norms (what people are doing) and injunctive norms (what people should be doing) in terms of repair. Policy makers communicate the environmental consequences of disposing of products rather than repairing them. |
| | Incentivisation | Creating expectation of reward | Repair cafés communicate that repair saves money. |
| | Coercion | Creating expectation of punishment or cost | Policy makers should not allow marketers to opt out of the Consumer Guarantees Act by indicating to consumers that they do not provide parts or repair facilities. Policy makers support Right to Repair Laws to ensure manufacturer requirement for the use of proprietary parts or authorised repairers is restricted. |
| Motivation Automatic | Persuasion | Using communication to induce positive or negative feelings or stimulate action | Repair cafés communicate the enjoyment of repair and participation in repair cafés. Policy makers can raise the profile of repair and repair hubs through mass and targeted media communication. |
| | Incentivisation | Creating expectation of reward | Repair cafés communicate the sense of satisfaction from completing repairs or having possessions repaired. |
| | Modelling | Providing an example for people to aspire to or imitate | Repair cafés could provide peer-to-peer online (e.g., repair videos) or live demonstrations of repair. |

¹ Source: Michie et al., 2011

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