Mapping the benefits of collaborative textile research in Aotearoa New Zealand

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The idea of value chains within textile production, informs and directs much textile design research. This discourse has developed to respond to a growing desire to modify the textile value chain towards a more circular model (Alves, 2022). Although necessary to advance circularity, focusing entirely on value chains, precludes any vision of developing what we term a benefit chain. Focusing on a benefit chain, rather than a value chain could lead to new research frameworks in textiles research that move us towards addressing systemic injustices caused by capitalism, imperialism, and colonization, to which dominant modes of design continue to contribute (Mareis and Paim 2021, Fletcher and Tham 2019). This paper proposes that focusing on who benefits from textile design research, particularly research that is highly collaborative and transdisciplinary, will lead to fairer and more equitable outcomes contributing to decolonisation and (re)indigenisation. Furthermore, mapping the benefits of research forces researchers to acknowledge their position in collaborative situations and to address the imbalances resulting from working with communities outside of research institutions. In this paper transdisciplinary projects involving collaboration with researchers inside and outside of research institutions will be examined in the context of textile design research in Aotearoa. We argue that for communities - particularly indigenous communities - to benefit from collaborative and transdisciplinary textile design research, their specific values need to be considered from the outset of a project. Within an Aotearoa context, indigenous knowledge systems provide the values that form a lens that needs to be sharpened for each specific context. This avoids homogenising communities of people (or cultural groupings). As such the approach needs to be place based if it is to benefit the kinship group, region, village, town, that the community is rooted in.

Keywords: benefit mapping; decolonizing design; indigenous plant fibres; indigenous plant based dyes
1. Introduction

The idea of value chains within textile production, informs and directs much textile design research. This discourse has evolved in response to a growing desire to modify the textile value chain towards a more circular model (Alves, 2022). Although necessary to advance circularity, focusing entirely on value chains precludes any vision of developing what we term a benefit chain. Focusing on a benefit chain, rather than a value chain could lead to new research frameworks in textiles research that move us further towards addressing systemic injustices caused by capitalism, imperialism, and colonisation; injustices that dominant modes of design continue to contribute to (Mareis and Paim 2021, Fletcher and Tham 2019).

In this paper we propose that focusing on who benefits from textile design research, particularly research that is highly collaborative and transdisciplinary, will lead to fairer and more equitable outcomes. Furthermore, mapping the benefits of research forces researchers to acknowledge their position in collaborative situations and to address the imbalances resulting from working with communities outside of research institutions (Yunkaporta 2019).

To explore this proposition, we have reflected upon two transdisciplinary projects undertaken in Aotearoa: Te Muka Taura and Te Aho Tapu Hou that work towards the revitalisation of the Harakeke (phormium tenax) industry. Both involve collaboration between researchers from outside of institutions within the context of textile design research.

Te Muka Taura – A site-based exploration of harakeke for dye extraction and muka colouration (Te Muka Taura), aims to advance understanding of regionally specific plant dye colourants through collaboration between textile researchers, Māori practitioners and scientists. Based in Mātauranga Māori (Māori knowledge), the project will advance knowledge of the colouration of muka towards sustainable textile practices.

Te Aho Tapu Hou aims to establish the ability, within Aotearoa New Zealand, to spin muka fibre. The project is led by indigenous expert Rangi Te Kanawa (Ngāti Maniapoto) in collaboration with researchers from Massey University and AgResearch in partnership with Region Net Position and Aotearoa Back Country Developments Ltd. Within the project Mātauranga Māori is brought together with western fibre science to generate the insights required adapt existing wool processing technology and infrastructure for muka fibre processing.

Several common themes have emerged through this reflection and will be responded to within the paper. These themes relate to specific aspects of developing a research framework such as: practicing positionality; defining value, values and principles; crafting a team; shaping frameworks; and asking who benefits. In concluding, we focus on the need to evaluate if and how the application of values defined at the beginning of a project are reflected in the outcomes.

Based upon our unpacking of these themes, we argue that for communities - particularly indigenous communities - to benefit from such projects their specific values need to be considered from the outset of a project. Within Aotearoa, indigenous knowledge systems provide the values that form the lens through which to consider benefit, but that it needs to be sharpened for each specific research context. This avoids homogenising communities of people (or cultural groupings). As such, research approaches need to be placed based, to enable unseen relationships to the contested histories of
indigenous communities, towards authentic shaping of aspirational outcomes that embody impactful collaboration and participation of all peoples involved.

Before reflecting upon specific projects, we discuss the notion of the value chain within textiles and its relationship to value and benefit. We also consider how counter-mapping might be used as a practice to inform understandings of benefit within the context of design research.

### 1.1. Textile design research and the value chain: value and benefit

Advances in textile design research have seen textile designers take on new roles within the context of circular and bio-circular design (Hornbuckle 2018, Hall and Earley 2019). Textile designers are contributing to the development of new materials, production systems and systems of use that have potentially positive effects on the textile value chains (Khalilullah, 2020). Due to the current climate catastrophe, the current focus on modifying textile value chains towards a more circular model is unsurprising, however considering how textile design research might impact a ‘chain of benefits’ is seldom discussed.

Within the context of the dominant capitalist worldview, the textile value chain refers predominantly to the economic worth added to a product during the production process (Khalilullah, 2020). This ‘value’ is added through aspects such as product functionality, fashion and style, operational performance in production, service and more recently sustainability of materials and processes (Khalilullah, 2020). Mika et al explain that within such contexts value is derived by consumer perceptions in two main areas; value in use and value in exchange (Mika et al., 2022). And, that what is perceived as valuable is determined through relationships (Mika et al., 2022).

Whilst positive changes to the value chain from a sustainability perspective - for example increased circularity - are welcome, the emphasis is still on (the) economic value (chain), which is facilitated by growth. This, as Fletcher and Tham argue, does not get to the heart of the problem from an ecological perspective (Fletcher and Tham, 2019) and we suggest here that neither does it from a social and cultural perspective. Particularly, when working within transdisciplinary and collaborative contexts, and more specifically research undertaken by, with or for indigenous people.

Informed by indigenous understandings of value such as that captured in the Māori concept of Manahau, as outlined by Mika et al., we suggest that challenging the dominant understanding of the ‘value chain’ in textiles by focusing on the notion of a ‘benefits chain’ might lead to more equitable research outcomes and impact. And, further, might assist in redirecting Design from servitude of capitalist western agenda’s towards ‘Design Otherwise’ (Mareis and Paim 2021).

### 1.2. Counter mapping benefit

Mapping the benefits of textile design research, and the resulting production of textile products, from a social, cultural, and ecological perspective is an important step in assuring self-determination for indigenous peoples.

When centering this assurance, the outcomes of research should reflect the values derived from the communities involved in the research. For example, an Ecological State Assessment Tool (ESAT) was developed in Aotearoa New Zealand to capture both western (neoclassical) and indigenous scientific
indicators of ecological health, so that data could be analysed through a Mātauranga Māori lens (Belcher, 2021). This is intended to assist “territorial authorities and the Crown to meet their resource management obligations to Māori under the Treaty of Waitangi” (Belcher, 2021). In this case, Māori ecological indicators reflecting Māori values were used to assess quantitative scientific data to ensure the benefit of Māori and the environment (Belcher, 2021). How can textile designers and researchers adopt similar approaches to create tools that map, and subsequently ensure, the benefits of the research they undertake?

From a western (scientific) perspective mapping alludes to the linear demarcation of land and the division of power over land that is created by cartographical borders. It is important to note that the aim of mapping the benefits of research as discussed here, purposefully challenges dominant understandings of mapping, as explored in the notion of ‘counter mapping’.

Counter-mapping, as examined in Eades and Zheng’s (2014) paper, Counter-mapping As Assemblage, is referred to as a form of resistance to state sanctioned boundaries that prescribe linear paths to control territories (Eades, 2014). The non-linear path taken by indigenous kinship groups intentionally disrupts dominant powers by mapping across, inside, outside and around hegemonic state maps. This theory echoes the dynamics of the Māori concept of whakapapa (Genealogy). The linear nature of ‘family tree’ styled genealogical charts deems them unsatisfactory as a sole representation of whakapapa, as the nature of whakapapa is “horizontal, linear, sideways, around, behind, in front, and it is really about the connection between all of those things" (van Schravendijk-Goodman, 2014). Like whakapapa, counter-mapping transcends linear boundaries making it a sound theoretical base for mapping the benefits of collaborative research by, for and with indigenous people, whilst disrupting dominant powers (ways of thinking) and ensuring that iwi (kinship groups) benefit from research that they have invested in through time and knowledge sharing. How can textile designers adopt an approach of ‘counter mapping’ that considers the benefit of their research from horizontal, linear, sideways, around, behind, in front perspectives to ensure connectivity between all things?

In the context of Aotearoa an appropriate place-based convention to counter-map the benefit of research is wānanga. Wānanga are situations of learning that are open to discussion, deliberation and collaboration. Within the Te Muka Taura project we held regular wānanga to disseminate information, share research findings and build iwi knowledge through hands on dye and weaving workshops, through walking on iwi whenua, checking on earlier tree plantings and harvesting plant material. Wānanga gave iwi collaborators the opportunity to voice what and how they could benefit from research as it was being carried out. By practicing a place-based cultural convention such as wānanga, we could enable socio-cultural conditions of Tino rangatiratanga (self-determination, sovereignty, autonomy) for iwi involved. This is pertinent, especially when we have seen how barriers posed from institutional and commercial conditions of working have displaced authentic outcomes, therefore creating risks of neo-liberalism and outcomes that no longer centre iwi.

2. Practicing Positionality

Positionality has become an increasingly popular practice for recognizing unconscious bias within group collaboration. A dominant tool for activating this has been the Positionality Wheel designed by Noels (Noel, n.d.). This tool enables the recognition of a spectrum of areas that form a person’s
worldview whilst also recognizing exclusion through differences to other participants. Originally designed for educational settings, the tool has been useful in recognizing participants beyond their professional parameters. In the context of activating transdisciplinary practices, the action of positionality for participants can enable relational and intersectional values. However, this tool lacks a direct acknowledgement for existing practices of positionality by indigenous communities, particularly if they have been impacted or displaced by colonization. So how might collaborators begin by acknowledging this?

2.1. Positioning culturally place-based conventions
There are three core intersecting values for indigenous communities globally: land, language, and relationships (Christian, 2019). These core values can be evidenced throughout each community’s plural modes of positioning self through systems of language, relationships to land, and how land can tell stories of relationships among ancestors, toward self and each other today. However, it should be acknowledged that indigenous conventions of positionality have experienced continued harm and displacement through colonization and capitalism.

If collaboration is to authentically benefit the participation of indigenous communities, then practices of positionality need to be engaged through place-based conventions. Recognizing a relationship to place is important when unpacking positionality, because the histories of a place in which participants are located will enable the inclusion of histories that have been contested through dominant narratives of society. This is important to recognize when developing a value chain and its authentic impact towards a benefit chain. For example, as authors located in Aotearoa, the cultural contexts of indigenous and settler histories define the positions of power within our worldviews. When this is recognized, this should lead to authentic shifts of disrupting structural barriers.

An example that locates us as authors and researchers within an institution is our relationship to Te Tiriti O Waitangi. Te Tiriti O Waitangi was conceptualized in 1840, its intentions were to regulate the growing presence of Tangata Tiriti (People of the treaty, all non-Māori citizens and residents of Aotearoa) and enable the rights of Tangata Whenua (all people Māori) towards sustaining aspirational outcomes of Tino Rangatiratanga (self-determination, sovereignty, autonomy) and Māoritanga (Māori culture). Despite its intentions, when we engage with the history of Te Tiriti O Waitangi and unpack its historic harm through areas of language genocide, land confiscation, legislating the oppression of knowledge systems, this should illuminate signals of displacement in relationships to whakapapa, and tino rangatiratanga. Engaging in time to reflect should therefore illustrate the positionalities of obligations and responsibilities of tangata tiriti and most importantly, the aspirational values of tangata whenua. Together, there are three values that reflect how participants under Te Tiriti O Waitangi can embody when thinking about a benefit chain on whenua in Aotearoa: Participation, partnership and protection (Jennings, 2004).

When we become conscious of those 3 principles, we can acknowledge existing place-based conventions of positionality such as pepeha. For tangata whenua, pepeha is likened to a birth certificate. It can locate oneself within the landscape, referencing maunga (mountain), awa (river), marae (indigenous place of belonging), and waka (canoe, used to acknowledge tribal descent). It gives the speaker the right to communicate to or from that location, positioning authority to engage with or represent the land as Mana whenua (the right of a specific tribe to that land). Whilst it makes
sense to practice the universal convention of positionality for tangata tiriti, it removes the conditions of grounding that is inherent in the conventions of a pepeha. For example, for tangata tiriti to practice pepeha, many will agree there is some discomfort in ‘claiming’ a relationship to maunga (mountain) and awa(river) on whenua(land) outside or of Aotearoa, particularly if your positionality has been through migration, diaspora or birthed in Aotearoa as tangata tiriti. However, pepeha is not about ‘claiming’, and within the context of tangata tiriti, engaging in the conventions of pepeha is to participate in Te Ao Māori and in recognition of tangata whenua and their worlds of existence. This leads to acknowledging values of partnership and protection. Therefore, becoming conscious about the values of tangata whenua and the responsibilities of tangata tiriti to actively participate towards the care and protection of those values in our collaborations on whenua (Rata, Arama, et al 2021.).

2.2. Author Positionality
Each of the authors of this paper have their own unique personal position.

Angela Kilford has both Māori and Pākehā (European) ancestry and grew up far from ancestral land and community. It is important to acknowledge that because of the diaspora of indigenous peoples, key indigenous scholars have kept this space alive in order that institutional research conventions can be challenged.

Sonya Withers is an Aotearoa born Pacific creative with gafa (heritage) to Scotland and Sama’i, Falelatai, Sāmoa. They are a Senior Design lecturer at Toi Rauwhārang College of Creative Arts, Massey University and teaches across Textile Studio and Critical and Contextual Studies. They have worked in fashion, and across projects that have facilitated the presence and influence of Pacific Peoples in Museums and creative spaces.

Tanya Ruka is a descendant of Ngati Pakau, Te Uriroroi, Te Parawhau, Te Mahurehure Ngapuhi and Waitaha-Hokianga. She collaborates as a partner to both projects through an indigenous-led social platform Region Net Positive; building community by mapping environmental transitional pathways towards net positive futures with indigenous knowledge systems. Her work has been amplified through these collaborative practices.

Faith Kane is from The Midlands in the UK and immigrated to Aotearoa New Zealand in 2016. Now a permanent resident in Aotearoa, she identifies as Tangata Tauiwi (a foreigner) and Tangata Titiri (a Person of Te Tiriti o Waitangi) but shares much in common culturally with Pākehā. Her involvement in the work discussed within this paper is as a partner and collaborator towards a renewed Harakeke industry in Aotearoa.

In each of the sections below we are responding to the conventions of research and how they come into play, how we resist the conventions, and work within the conventions to bend them to benefit the communities we are working with and for.

3. Defining value, values and principles
An indigenous perception of value according to Mika et al, is based on relationships (Mika, 2022). A shift occurs when relations are applied to the characteristic of quality, which “transforms quality into
a value” suggesting that without relationships a quality object or entity is valueless (Conti in Mika et al) (Mika, 2022). This reflects an indigenous Māori perspective of value that stems from the understanding that within whakapapa Māori (Māori genealogy) everything and everyone is connected through familial relationships (Haami, 2002), thus both human and nonhuman entities are valued for their relationships to Māori and to each other. With this definition of value in mind, it is possible to examine current projects to illustrate the values which have contributed to successful collaborations.

3.1. Crafting a team
In 2022 a collaborative project Te Muka Taura, brought together academics, independent artists and researchers, iwi (Māori kinship group), a scientist and students. Along with three mentors from discrete fields, Mātauranga Māori (Māori knowledge and wisdom), Textile Design Research and Science, the interdisciplinary team members were not selected merely because of their technical and academic knowledge but also on the Māori value of mana. Unlike prestige, described by the Oxford English Dictionary as “influence or reputation derived from achievements, associations, or character, or (esp.) from past success; a person's standing in the estimation of others” (Oxford, 2023) mana can be directly inherited through one’s ancestors. It is possible to accrue mana through positive acts, however the main power of mana “is socially founded upon the kinship group, the parents, the whānau, hapū and iwi” (Mead, 2003). The importance of whakapapa (genealogy) cannot be underestimated, as it links Māori to the primal ancestors, Ranganui and Papatūānuku from whom all living things descend. The mana derived from the atua (deities) encourages respect among people when working together, as no good can come from having one’s mana diminished. Because mana is so highly valued by iwi (Māori kinship group), the Te Muka Taura researchers needed to ensure it was upheld during all stages of the project, including evaluating the outcomes of the project against the value of mana to ensure iwi collaborators were benefitting from the research.

Being guided by Māori principles within textile research in Aotearoa Te Muka Taura has prioritized Māori participation, knowledge, and benefit to produce a research framework which ensures that all researchers are oriented to a Māori worldview.

The initiative to prioritize Māori participation in the project has meant that Māori are involved in the leadership and execution of the project, through the involvement of key researchers, mentors, research assistants, knowledge holders and iwi collaborators. By holding wānanga (knowledge forum) in the developmental stages of the project, members of the iwi contributed to the development of the project and potential outcomes were monitored to ensure that Māori were the main beneficiaries of the project. The dissemination of Māori knowledge through carefully planned wānanga ensured that any non-Māori collaborators had been oriented to a Māori worldview prior to the collecting or examining of plant matter. This was done through following the Māori protocols of pōwhiri (welcome ceremony) and acknowledging the whakapapa of Ranginui and Papatūānuku, cementing the connections between researchers, iwi and the whenua. Sharing indigenous knowledge with the uninitiated can lead to the compromising of indigenous values through the separation of concepts from their original context (Roberts, Norman, Minhinnick, Wihongi, & Kirkwood, 1995). Breaching tikanga (Māori custom and lore) is also a serious concern when working with iwi on their whenua, therefore no researchers, Māori or Pākehā were able to access iwi land or resources until they had attended a formal pōwhiri.
4. Shaping frameworks

Wilson identifies a lack of suitable frameworks to enable Māori researchers to engage in academic research (Wilson, 2017). Although Māori frameworks exist for the development of education, health and kaitiakitanga, there is a lack of existing frameworks for textile and material design. The project, Te Muka Taura has employed a specific planet and people centric approach, narrowing down to a hāpu (family group) and their whenua. As the project develops, this intent focus will allow for the collection and testing of fibres and dyes without the misappropriation or distribution of sacred knowledge. This will be achieved through ensuring that the hāpu maintain control of their knowledge and any benefit that results from it. The heavy responsibility of the researcher to know when, what and how to disseminate knowledge, is lightened by adhering to the guiding principles of the people they are connecting with. Who is shaping the framework determines who benefits?

Shaping of the research framework to ensure that benefit remains with knowledge holders and that knowledge is not inappropriately shared has also been an important facet of the Te Aho Tapu Hou project. As noted previously, this project also focuses on the revitalisation of the harakeke industry, with a focus on working towards a commercial spinning process for creating contemporary muka fibre textiles. Muka fibre is the fibre that is found within the leaves of Harakeke (Phormium Tenax or New Zealand Flax), which is one of Aotearoa’s most distinctive native plants and a taonga species (national treasure). Indigenous Māori weaving practices center on the use of harakeke leaves and the muka fibre that is found within them.

The potential for a reestablished industry based on harakeke, with positive implications for social innovation and sustainable farming strategies, has been identified for some time (Allan et al. 2022, McGruddy 2006). Work in the area of muka fibre spinning and textile development is being led by indigenous expert Rangi Te Kanawa (Ngāti Maniapoto), who is the leading researcher on Te Aho Tapu Hou, collaborating with researchers from Massey University, AgResearch, Region Net Positive and SplitN2.

From the outset, it has been important for the Te Aho Tapu Hou team to consider the Four Pillars of Sustainability in establishing the approach to evaluating the potential impacts and benefits of the processes being developed. Several current frameworks used within the Textiles industry have been considered, including circularity and Life Cycle Analysis (LCA). While researching the potential to use such frameworks within Te Aho Tapu Hou, it became evident that LCA methodology, for example, did not meet with mātauranga Māori concepts. However, the Social Life Cycle Assessment (S-LCA) (Pizzirani 2016) more easily enables evaluation from the perspectives of Indigenous methodologies and Indigenous standpoints. Understanding how Indigenous value systems differ from Western (Mika et al., 2022) This expanded the design of the research framework within the project, enabling us to establish and map connective pathways between different areas of concern. Likewise, working with the expansive Circles of Sustainability model (Circles of Sustainability, n.d.) enabled us to correlate our fibre and textiles work with the mātauranga Māori, Indigenous Sustainability Indicators for Māori Farming and Fishing Enterprises (Reid et al. 2013). This helped to define our approach to working within the parameters for the circles in such a way to ensure that the values underpinning the work and subsequent value and benefit remain in the right place. Figures 1, 2 and 3 show how these factors have been brought together to shape a framework for evaluation.
Figure 1. A visualisation of the Circles of Sustainability translated to Te Reo. Ruka, T. 2023

Figure 2. Ruka, T. 2023. A visualisation of the Circles of Sustainability, Culture circles translated to te Reo Māori. Including (on the left) Mātauranga Māori concepts from the Indigenous Sustainability Indicators for Māori Farming and Fishing. These concepts align with the Significant Cultural Indicators. Working with these frameworks requires a deep understanding of Mātauranga concepts as they cannot be simplified to one word translations. Each concept is multi-layered, and requires living by the action in order to gain the full comprehension of the meaning.
Figure 3. Ruka T, 2023. A visualisation of the Circles of Sustainability, Economic and Social Circles, translated to te Reo Māori. Including (on the left) Mātauranga Māori concepts from the Indigenous Sustainability Indicators for Māori Farming and Fishing. These concepts align with the Significant Cultural Indicators. Working with these frameworks requires a deep understanding of Mātauranga concepts as they cannot be simplified to one word translations. Each concept is multi-layered, and requires living by the action in order to gain the full comprehension of the meaning.

5. Asking who benefits

There is always risk in assuming who benefits from research, particularly if the practice of research is activated through conventions outside of the conditions that are nuanced to the worldview of the benefactors. Therefore, as discussed, practicing positionality, when done correctly can reveal areas of exclusion that can disrupt structural conventions towards authentic impact for the benefactors.

Examples of structural conventions could present as language sets like the use of scientific jargon, forms of impact and measure that might sit outside of the values of the intended benefactors or how funding mechanisms can risk renegotiating the benefactors’ values in order to succeed in being funded. Many of these risk neoliberalism and a disconnect towards authentic impact for indigenous benefactors. In Aotearoa, these structures have contributed to trampling on the mana of Mātauranga Māori and its place in the sciences, through the denial of alternative worldviews on innovation and knowledge production (Racism and Arrogance in Academia, 2021) and attempts to colonize sacred knowledge systems by excluding indigenous knowledge holders (Smith, 2012).

Norman Sheehan, an Aboriginal design academic discusses the importance of seeking out the natural systems of engagement that are specific to the benefactors through indigenous knowledge and practices of respect. “Indigenous Knowledge accepts that diversity is the basis of creativity and adaptation; therefore, it does not strive to convince others to become the same. Instead, Indigenous Knowledge proposes autonomy as a general principle.” (Sheehan 2011) Enabling space for complexities regarding reflexiveness, organic modes of expression through collective and intersectional participation can lead towards creating forms of knowledge interpretation and activation rather than a universal understanding of knowledge that is specific to structural processes (Sheehan 2011).
From the perspectives of Te Muka Taura and Te Aho Tapu Hou, enabling natural systems of engagement through tikanga, wānanga, karakia and regular whakawhanaungatanga increases the positions of value for Tangata whenua and Mana whenua involved. New learning can take place, and those outside of a Te Ao Māori worldview can utilize their academic literacy to critique structures and barriers that might affect the mana of the Māori values mentioned earlier. Additionally, the use of counter-mapping to trail knowledge production enables a whakapapa to reflect, reflex and re-route regularly in order to protect the mana of the values by the benefactors, and consistently ask the critical question: Who benefits?

6. Concluding thoughts: Evaluating if the desired values are reflected in the research outcomes

In section 1.2 Counter mapping benefit, the following question was raised, “How can textile designers adopt an approach of ‘counter mapping’ that considers the benefit of their research from horizontal, linear, sideways, around, behind, in front perspectives to ensure connectivity between all things?”. Through the Te Muka Taura and Te Aho Tapu Hou projects, it became evident that mapping the benefits of collaborative textile design research with iwi (Māori kinship groups) requires researchers to first acknowledge their positionality within the research. Recognising that academics will always benefit from collaborative research with indigenous communities regardless of the project outcomes, can shift the focus of the research towards the other benefactors. The academic team members of these projects benefitted through knowledge transfer, academic reputation, future possibilities for further funding and a personal sense of achievement. It is possibly too early to gauge what benefits the research will have on iwi and the current conventions around much textile design research are structured to favour the academic over other collaborators.

Learning how values informs value can shift the power of current research conventions by honouring concepts such as mauri (lifeforce) and kaitiakitanga (stewardship). Through analysis of dyeing practices, Te Muka Taura aimed to further surface the potential for muka (phormium tenax fibre) coloration. In doing so, the work contributed to the development of sustainable practices on iwi whenua (Māori tribal land) by establishing the fibre coloration potential of the plants growing within their region. Within the context of a reinvigorated harakeke industry, the Te Muka Taura coloration project could benefit Māori through providing iwi with the opportunity to diversify their agriculture towards enterprises that maintain the values of kaitiakitanga (stewardship). The value of kaitiakitanga, defined here, was established as a key value of the iwi at the beginning of the project and therefore should also be reflected in the project’s outcomes.

As the Te Muka Taura project progressed and more data was collected on the dyes, it was necessary to develop a way of responding to scientific results, whilst upholding the values of iwi (kinship group) collaborators. Here we were inspired by the ESAT tool which sought to examine scientific data through a Mātauranga Māori lens (Belcher, 2021). However, in this case the values of a specific iwi (kinship group) needed to be considered, so applying a Mātauranga Māori lens was in practice too broad. What resulted was an approach in which a ‘value lens’ capturing values that were central to the iwi became the filter that scientific data would be viewed through. Seeing the quantitative results through the values of iwi would mean that the outcomes of the project would reflect those same values, fulfilling
the rangatiratanga (self determination) of the iwi, as shown in Figure 4. This shows that there is no one solution to working in collaborative or transdisciplinary research with indigenous communities.

![Figure 4](image_url)

*Figure 4. Visualisation of how values affect outcomes. Ruka, T. 2023*

In regard to the Te Aho Tapu Hou project, we hope that the evolving research framework, based upon the Circles of Sustainability model (Circles of Sustainability, n.d.) and informed by indigenous sustainability indicators (Reid et al. 2013), will help to ensure that the values underpinning the work, and the subsequent value and benefit generated, remain in the right place. We acknowledge, however, the challenges and tensions presented when aiming to establish textile processes that are commercially viable and can generate the economic benefits required to support the potential environmental, social and cultural benefits that have been identified as priorities in regard to the revitalisation of the harakeke industry.

In summary, as we look to continue and develop both projects towards potential commercial outcomes, understanding why and how we need to diverge from dominant perspectives of the textiles value chain towards a ‘benefit chain’ will be critical in ensuring equitable research outcomes and impact. More broadly we propose that this approach might assist in redirecting Design from servitude of capitalist western agenda’s towards ‘Design Otherwise’ (Mareis and Paim 2021).
References


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Angela Kilford Te Whanau A Kai, Ngāti Porou, Ngāti Kahungunu: Angela’s practice focuses on how mātauranga Māori and Māori participation can inform textile design practice and research to produce ways to benefit Māori communities and to sustain Papatūānuku. Angela is a Senior Lecturer and Major Coordinator for Textile Design at Massey University, Wellington.

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Acknowledgement:

Te Muka Taura

Ngāti Tukorehe Iwi

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Science for Technological Innovation, National Science Challenge

Te Aho Tapu Hou

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