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Social Inclusion and the Circular Economy: The case of a fashion textiles manufacturer in Vietnam

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Abstract

There has been significant growth in interest in the circular economy (“CE”) concept as a transformative solution to the prevailing linear economy, helping to solve various economic, environmental and social challenges. Nevertheless, pertinent issues such as societal inclusion, well-being and equity remain peripheral in the contemporary CE debate. Fulfilling human needs has been recognised as a prerequisite for sustainable development and was implicitly and explicitly prevalent in parts of the seminal material on which the CE is based. However, the contemporary use of the concept by business has left it bereft of any convincing evidence that a CE will satisfy needs in a radically different way to the existing linear economy. As a result, there are few practical cases for business learning opportunities, and even fewer in a developing world context. This study explores a unique business venture, implemented by a Vietnam-based denim manufacturer, which simultaneously tackles two key development challenges: the inclusion of vulnerable communities and sustainable resource use. The venture employs persons with disabilities and utilises textile by-products from the core production to produce a range of upcycled items (e.g. bags, cushion covers etc). This forms part of a broader company-wide social sustainability and CE strategy. We utilise Max-Neef’s (1991) Human-Scale Development proposal as a lens to explore how the venture can support needs satisfaction of these employees whilst being environmentally sustainable. We seek to provide a compelling practical case to illustrate how social impact and circularity can be simultaneously enhanced at the micro-level.

Key words: circular economy; disabilities; human-scale development; inclusion; sustainable development

1. Introduction

The Circular Economy (“CE”) has emerged as a concept with potential to transform production and consumption practices. The existing resource-intensive, linear *take-make-dispose* approach has dominated since the industrial revolution and - paralleling technological

advancements - favours off-shoring, low-prices and volume-based manufacturing (Lieder and Rashid, 2016). This linear approach has induced mass depletion of natural resources, climate change and societal imbalances; these are often exacerbated in developing world contexts. As such, the CE has gained traction as a transformative model with increased interest from the business, policy and sustainable development communities (Bocken et al., 2018; Geissdoerfer et al., 2017; Schröder et al., 2020). This alternative pathway is commonly viewed as a set of industrial approaches to reduce the volume and/or rate of resources flowing in the economy (Yuan et al., 2008) with various economic, environmental and societal benefits. Thus, it has been presented as a tool support the achievement of the Sustainable Development Goals (“SDGs”) (Schroder et al., 2019).

The fashion textiles industry typically operates in a linear manner: it is one of the most polluting sectors globally with the highest environmental impact occurring at the manufacturing stage with issues stemming from high energy, chemical and water use (Niinimäki et al., 2020; Shirvanimoghaddam et al., 2020). Furthermore, most of these activities take place in developing countries, which are more vulnerable to the negative impacts of unsustainable business practices. Waste throughout the supply-chain is problematic with increasing rates of pre- and post-consumer textiles being dumped, incinerated or prematurely landfilled (Dahlbo et al., 2017). Social issues are widespread and have been increasingly in the spotlight since the landmark Rana Plaza disaster in Bangladesh, 2013. Unsafe conditions, poor worker rights and low rates of pay are synonymous with outsourcing strategies commonly employed in the industry to meet low price expectations (Franco, 2017). As such, interrelated challenges of environmental sustainability and improving the livelihoods of workers needs addressed. Ghosh and Rajan (2019) point out the potential the textiles industry specifically has in contributing to SDGs 1, 5, 8 and 12. Given the CE is gaining momentum amongst practitioners, there is increased interest in switching towards a circular system as a solution (Colucci and Vecchi, 2020).

Many contemporary practitioners and scholars critique the lack of social concern in current CE theory and practice (Geissdoerfer et al., 2017; Hobson and Lynch, 2016; Padilla-Rivera et al., 2021). At the same time, increasingly there is focus on the role of business in achieving the SDGs (Ghosh and Rajan, 2019; Redman 2018), yet little attention is focused on human needs satisfaction and other social objectives which are essential for reaching sustainable development objectives (Clube and Tennant, 2020; Everard and Longhurst, 2018; Redman, 2018). There are few studies exploring well-being, social justice and inclusion in the context of the CE (Calisto Friant et al., 2020; Millar et al., 2019; Schröder et al., 2020). This is true for most sectors and is pertinent in the fashion textiles industry. Most frequently the CE’s social dimension is viewed as job creation (Clube and Tennant, 2020; EC, 2020; Padilla-Rivera et al., 2020; Tolio et al., 2017). Few, however, take the next step to show or describe what a human-centric CE that is embedded in society and fulfils human needs could look like in practice. On a micro-level, research has rarely delved into understanding how exactly circular business strategies impact their employees, vulnerable groups or wider stakeholders in terms of well-being, equity and workplace satisfaction. Existing research is especially limited in a developing world context (Mishra et al., 2019; Moktadir et al., 2020).

1.1. Research aims and purpose

We seek to contribute to the limited literature on circularity and social impact at the micro, individual firm level. We explore and illustrate how a fashion textiles manufacturer in Vietnam has extended and adopted circular principles with a distinct social purpose – employment of persons with disabilities - whilst having environmental and commercial viability. We examine this critical and deviant case using the lens of Max-Neef’s (1991) Human Scale Development (“H-SD”) proposal to

understand how the initiative impacts the community of workers with disabilities in terms of human need satisfaction. We seek to extend existing shallow discussion on the social dimension of the CE by addressing the overarching question: *“How can a CE initiative contribute to needs fulfilment of persons with disabilities in the workforce?”*.

The remainder of this paper is structured as follows: we begin by providing an academic perspective of the CE in general and highlight the neglect of persons with disabilities within sustainable development and CE studies. We present our methodology, and rationale for the qualitative approach employed. Then we simultaneously present our findings alongside the existing literature. We highlight the managerial implications of our findings before presenting the conclusions.

2. Literature and Conceptual Background

2.1. Introduction to the CE at the micro-level

The CE is a set of conceptual responses to the inefficient industrial system, and has a variety of definitions and interpretations stemming from its conceptual evolution spanning a range of disciplines (Clube and Tennant, 2020; Geissdoerfer et al., 2017). In practice, the CE has been applied through a range of policy, business and societal responses to ensure materials are kept at a high value as possible through strategies such as reduce, reuse and recycle to close, slow and narrow material loops (den Hollander et al., 2017; Moktadir et al., 2020; Korhonen et al., 2018). The literature stipulates that the CE can be explored at three broad levels: (1) micro, (2) meso and (3) macro (Yuan et al., 2008). The volume and scope of the literature between these levels varies (Franco, 2017; Lieder and Rashid, 2016). Currently, there is not a sufficient range of studies exploring CE adoption at the micro, individual organization level (Franco, 2017; Sousa-Zomer et al., 2018; Urbinati et al., 2017). Lieder and Rashid (2016) conclude through a systematic literature review that “the level of discussion is highly granular and rarely touching implementation level” (p.46). Yet, as highlighted by Bocken et al. (2018) innovation and experimentation are integral parts of transitioning to more sustainable ways of doing business, pointing to the value of sharing novel micro-level circular strategies which challenge business-as-usual logics. There are few documented cases of CE exploration at the micro-level in fashion textiles, with Franco (2017) commenting that “there is a latent need to systematically investigate the journeys of individual firms navigating the CE” (p.835).

2.2. An undeveloped social dimension in CE

There is debate in the literature as to how the concept of CE and more broader sustainable development - including the SDGs - are linked (Millar et al., 2019; Walker et al., 2021). Sustainable development stresses the need to address three pillars: economic, environment and social in equal measure, and scholars point that a successful CE should thus similarly address these three components (e.g. Korhonen et al., 2018). Through re-examining seminal CE influences, Clube and Tennant (2020) show that some early visualisations had sought to address social concerns (e.g. Lyle, 1996). Nevertheless, current interpretations elevate the economic advantages of a CE in line with a prevailing preoccupation on economic growth at the macro-level (Clube and Tennant, 2020). The environmental pillar is addressed to a certain extent, whereas the social dimension has been neglected in contemporary theory and practice (Hobson and Lynch, 2016; Merli et al., 2018; Schröder et al., 2020) presenting a clear limitation to the concept (Korhonen et al., 2018). Kirchherr et al. (2017) analysed 114 definitions of the CE finding that economic prosperity is prioritised

whereas social issues such as social equity and future generations are scarcely referenced. This is further observed by Schröder et al. (2020), pointing out that key sustainable development issues such as poverty, human rights and justice issues are largely ignored. Consistent with the overall outlook on the CE, the social dimension is underdeveloped in the fashion sector: Jia et al. (2020) conclude through a systematic literature review that there is a lack of research looking at the interlinkages between social sustainability and the CE. This is problematic given the high social impacts of the fashion textiles industry where social issues such as worker rights, low wages and safety issues remain prevalent, especially in a developing world context.

Job creation is commonly cited in policy documents and the literature as the main social impact of the CE (EC, 2020; Geissdoerfer et al., 2017; Padilla-Rivera et al., 2020; Tolio et al., 2017; Walker et al., 2021). Nevertheless, if or how jobs in the CE are radically different or have superior social impact compared with jobs in a linear economy has not been illustrated. This underrepresentation of the “human side” was raised by Chiappetta Jabbour et al. (2019, p.794); they find that CE discussion at the micro-level is rarely studied alongside human resource management issues. Any value that is generated of social relevance or work enrichment are often perceived secondary benefits, rather than central to the business value proposition (Pieroni et al., 2019). Bridgens et al. (2018) argue that approaches to circularity should not only focus on top-down technocratic solutions. Rather, strategies should engage people and communities to provide skills, economic benefits and presenting opportunities for new, local enterprises.

2.3. Persons with disabilities in sustainable development agendas

It is estimated that more than 1 billion people worldwide have some form of disability, 80% of whom live in the Global South (Groce, 2018; Niewohner et al., 2020; WHO, 2011). According to the United Nations (2007), persons with disabilities can be broadly defined as those who “have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others” (p.1). The literature highlights that there is a problem of systematic exclusion of persons with disabilities (Niewohner et al., 2020). Improving the livelihoods of disabled populations can be viewed as a development challenge since poverty and disability are interlinked: they are both a cause and consequence of the other (Braithwaite and Mont, 2009). Disabled populations in developing countries have been shown to experience disproportionately high levels of multidimensional poverty (Braithwaite and Mont, 2009; WHO, 2011).

According to Groce (2018) persons with disabilities have “routinely been overlooked by global health and international development efforts” (p.724) and this exacerbates financial poverty, education and health challenges amongst the population (Agyei-Okyere et al., 2018; Lamichhane, 2015). A failure to adequately consider persons with disabilities in the Millennium Development Goals was rectified in the 2015 SDGs with 7 references at target and 11 at indicator level in line with the SDG pledge to “leave no one behind” (Groce, 2018). Despite greater inclusion in official SDG documentation, the details or expected outcomes were not substantiated until 2018 when the United Nations produced their inaugural report on realising the SDGs and persons with disabilities (United Nations, 2019). The value of increasing employment opportunities for persons with disabilities is stressed; it is found that access to employment has value beyond monetary benefits (United Nations, 2019). This reinforces research that finds inclusion in the workforce can have non-financial advantages in terms of self-efficacy, alleviating isolation and skills development (Lamichhane, 2015; Schur, 2002). The United Nations (2019) report finds that despite progress made in society for these individuals, numerous barriers still exist to full inclusion and participation in communities, including in the workplace. For example, challenges relating to a lack of accessible

workplaces, prejudiced employers and discrimination persist (Groggins and Ryan, 2013; United Nations, 2019; Mizunoya et al., 2016). Therefore, the private sector can have a more active role to play in supporting inclusive business practices to overcome structural and attitudinal barriers for persons with disabilities.

There remains a clear lack of research on disability and the labour market and the corresponding role of businesses in the context of developing nations (Lamichhane, 2015; Mizunoya et al. 2016). When considering persons with disabilities in the CE, this research is notably absent.

2.4. Exploring social dimensions of the CE using Human-Scale Development

Social impacts of business activities can be difficult to assess (Redman, 2018), and perhaps more challenging in the realm of the CE as there is a lack of consensus as to exactly what the social benefits of circularity entail (Alaerts et al., 2019; Clube and Tennant, 2020). Evaluating human needs fulfilment has been presented as an angle to explore the social benefits of transitioning to a CE (Clube and Tennant, 2020). Meeting human needs has been recognised as a prerequisite for sustainable development since 1987 when the most common definition was formed by the WCED. Since then the concept of needs fulfilment remains central to development narratives and is frequently referred to in the SDGs (Everard and Longhurst, 2018). Given assertions that the CE and sustainable development concepts are interconnected, human needs fulfilment is highly relevant to ensure societal impact in circular transitions (Alaerts et al., 2019; Clube and Tennant, 2020). Although the concept of human needs is complex and debated, theories have emerged suggesting that human needs are identifiable and specific (Jackson, 1996), including through Max-Neef's Human Scale Development ("H-SD") proposal (1991).

Max-Neef (1991) proposed the H-SD to support human-centered development in response to failed top-down, neoliberalism approaches which place economic growth central to policy at the neglect of the citizen (Guillen-Royo, 2016). The H-SD considers "fundamental human needs" as identifiable and specific, which can be viewed on a matrix (figure 1) consisting of nine human needs (subsistence, protection, affection, participation, understanding, idleness, creation, identity & freedom). These are considered inherent to common evolutionary heritage, and so universally applicable (Cruz et al., 2009), yet the satisfiers which fulfil human needs (and thus populate the matrix) can vary between cultures, societies and paradigms. The needs are satisfied through four existential categories (being, having, doing, interacting). The H-SD considers these needs as interrelated and interactive (Crivits et al., 2010; Max-Neef, 1991), providing a systemic approach to human-centric development. Max-Neef (1991) stresses the importance of non-economic aspects of development, by extending "poverty" beyond a monetary term. Instead the perspective entails that insufficient satisfaction of any human need can be considered a form of poverty. For example, an individual could be financially sufficient, contributing to satisfaction of subsistence needs, however if they lack for example, respect, then they may experience a poverty of *freedom* and/or *identity* needs. A satisfier which contributes to satisfying multiple needs at once is classified as "synergic", whereas conversely "violators" inhibit the satisfaction of multiple needs simultaneously (Guillen-Royo, 2016). The framework can be applied to different practical scenarios and cases to identify satisfiers, and it is possible to apply the theory to CE business models and scenarios. Comparison of these cases can help identify CE models and applications where human needs fulfilment of various actors is maximised (Clube and Tennant, 2020). For further explanation of the H-SD proposal see Max-Neef (1991) or Guillen-Royo (2016).

	BEING (personal/ collective attributes)	HAVING (institutions, norms, tools)	DOING (personal/ collective actions)	INTERACTING (spaces/ atmospheres)
SUBSISTENCE				
PROTECTION				
AFFECTION				
UNDERSTANDING				
PARTICIPATION				
LEISURE				
CREATION				
IDENTITY				
FREEDOM				

Figure 1: an empty matrix of the H-SD proposal, the boxes can be filled with satisfiers.

3. Methods and case context

3.1. Qualitative approach

Given the exploratory and emergent nature of the research topic relating to the social dimension of the CE, the subject matter lends itself to a qualitative approach (Creswell and Creswell, 2018). Qualitative exploration enables the complexities and dynamism associated with the research topic being explored to be accounted for. Specifically, a case study methodology was selected. This is an empirical method which, according to Yin (2018), allows for an in-depth investigation of a contemporary phenomenon in a real-life context. We explore the case of a denim manufacturer in Vietnam which has implemented a business model that aims to improve the livelihoods of persons with disabilities whilst adopting circular principles. This enables the exploration of the overarching topic of the social components of the CE, including issues of well-being, social equity and opportunity using Max-Neef's H-SD framework (1991). The case was selected for exploration as it essentially deviates from business-as-usual scenarios and so can be considered a critical and deviant case (Flyvbjerg, 2006). Documenting this concrete example is important to elicit and share much-needed knowledge on an under-researched topic (Flyvbjerg, 2006, Yin, 2018).

3.2. The case study: the Rekut venture by Saitex

Saitex, a privately held company specialising in denim manufacturing was selected as an illustrative case. Saitex employees approximately 4500 people across eleven factories based on a site outside of Ho Chi Minh City in Southern Vietnam. The Company has been implementing various circular initiatives surrounding waste reduction, water conservation and on-site renewable energy production to improve the environmental impact of their supply-chain whilst providing benefits for employees and the wider community. Saitex have contributed financially in local not-for-profit causes, including making regular donations to orphanages and water charities. More recently the organisation has been exploring how to further their social impact internally. In 2019 an initiative named *Rekut* was formed to hire a workforce of persons with disabilities and make items (e.g. bags, cushion covers, facemasks) from approximately 600,000 pieces of excess and stock fabric from the

core denim production. Although the venture is commercial, it addresses two sustainable development challenges: efficient resource and inclusion of a vulnerable community. Saitex consulted with external partners and experts in disability before launching Rekut. The employees have a range of disabilities including physical, mental, visual and hearing impairments. Given persons with disabilities have until now been largely neglected from CE literature and practice, this is an important case to explore using a human needs lens. At the time of writing, the initiative has been operating for one year and has approximately 90 full-time employees.

3.3. Vietnam: development and disability overview

Vietnam is situated in South East Asia with a population of approximately 97.4million (MarketLine, 2021). It is considered to have a stable political landscape, in part through the one-party ruling system, which combined with a young population structure presents an attractive investment environment. Although previously predominantly closed to global competition, in 1986 market-orientated economic reforms were initiated (known as *Doi Moi*), which rapidly decreased extreme poverty rates (Bogenschutz, 2020; MarketLine, 2021). Due to economic advancements, Vietnam is now classified as a lower middle-income country. However, modern industrialisation has left marginalised populations, including persons with disabilities, disproportionately living in poverty (Bogenschutz et al., 2020; ILO, 2013). For example, one in five households classified as poor contains a disabled inhabitant (MarketLine, 2021). According to the 2009 census, 7.8% of the population is registered as disabled but estimates suggest that this figure could be as high as 15.3% (ILO, 2013). Vietnam has been making progress to include persons with disabilities in policy agenda, including through ratification of the United Nations Convention on the Rights of Persons with Disabilities in 2015 (Bogenschutz et al., 2020). However, documented examples of private sector efforts are sparse in the academic literature.

3.4. Data collection and analysis

The research process is summarised in figure 2. Secondary documentation review of both internal and external documentation (e.g. reports, website etc) was essential for scoping and planning the primary data collection. The primary data collection combined discussions with internal managers and external expert (thereafter referred to as “management interviews”) involved in the Rekut venture as well as group interviews with employees with disabilities (thereafter referred to as “employee group interviews”. This dual interview approach ensured the voices of different actors were accounted for, therefore supporting data triangulation and strengthening construct validity of the case (Yin, 2018, p.128).

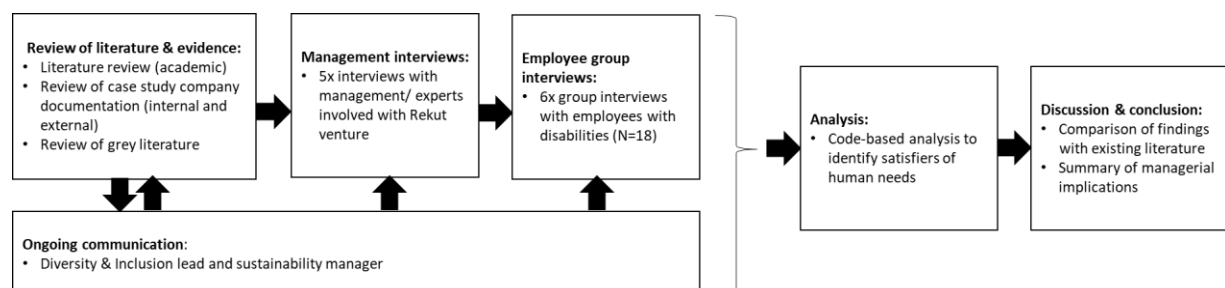


Figure 2: overview of research process

3.4.1. Semi-structured interviews: management and partners (“management interviews”)

In order to understand contextual information, including objectives, challenges and technical details regarding the Rekut initiative a combination of five interviews with internal and external

stakeholders and ongoing discussions with two of managers took place. The ongoing discussions included sharing of internal company documentary information, providing contextual information for the researchers. The purpose of the interviews was to understand contextual details of the project, and explore topics around strategy, communications, implementation, legislative and challenges around the Rekut project. The management interviews included three internal managers and two experts from partner organisations closely involved with the venture. The interviews were semi-structured and were conducted via video conferencing in English, and lasted between approximately 30 minutes and one hour in duration

3.4.2. Semi-structured group interviews: employees with disabilities (“employee group interviews”)

The second phase of data collection involved conducting small group interviews with employees with disabilities at Rekut. Engaging with the employees directly facilitates an approach for understanding and interpreting social meaning (Hesse-Biber and Leavy, 2008). According to Boxall et al. (2016), when exploring well-being in the workplace, the employees themselves represents the most authentic respondents. Since the research concerns the experiences of people with disabilities, the involvement of persons with disabilities in the research process strengthens the data quality and relevance (Gilbert, 2004). Although the original intention was to conduct the research in person, the global Covid-19 pandemic presented a bottleneck. Instead, video conferencing software was used as the next best alternative. In total 6 group interviews consisting of 3 participants were conducted (N=18). The participants have a range of disabilities including physical, mental, visual and hearing impairments. The interviews were organised following a topic guide to enable the employees to discuss a range of subjects around their experience in the workplace. The topic guides were designed to produce various points of question around the human needs of the H-SD matrix, without direct reference to the theory. This enables a more natural discussion rather than explicitly seeking comment about human needs. Each group interview lasted between approximately 45 minutes and 1 hour in duration and were conducted in Vietnamese. In one group interview where two participants were hearing impaired, a participant supported the process by translating sign language. It should be noted that the translator at times summarised the responses of some of the employees with disabilities, and thus may not be verbatim.

3.4.3. Analysis

The recordings of the interviews were transcribed to enable content analysis. Satisfiers were identified, coded, and then linked with the nine fundamental human needs of Max-Neef’s matrix (1991). Retrospective approaches to identifying and analysing satisfiers have been used in previous H-SD studies (e.g. Jolibert et al., 2011). The satisfiers identified in the analysis were then summarised on a single matrix. Themes were identified around satisfiers to structure the results and discussion.

3.5. Ethical considerations

The study was reviewed and approved by the researchers’ university ethics committee. In line with recommendations from the literature about engaging with people with disabilities a gatekeeper familiar with the employees and their disabilities reviewed the topic guide to ensure the level of questioning was appropriate for the participants (Gilbert, 2004). This gatekeeper was present during the focus groups to support the data collection process, as well as providing translation assistance since the gatekeeper had fluency in both English and Vietnamese. The presence of a gatekeeper helped to mitigate ethical issues as they had familiarity with the employees and their disabilities. Informed consent was obtained from individual participants before they took part in the study (i.e. prospectively).

3.6. Methodological limitations

We acknowledge that limitations exist; the methodology employed can be argued to contain an element of subjectivity. For instance, the researchers had to interpret the data into satisfiers, and subsequently which fundamental human need each of them relates to on the H-SD matrix. However, Max-Neef (1991) gives clear examples of what constitutes a satisfier and a benefit of the theory is that satisfiers change between societies, and thus we are confident our interpretations are reliable. In terms of data quality, many of the participants with disabilities were not familiar with a group interview setting, so their responses at times were not detailed, yet we believe remains crucial for data relevance. This was mitigated through clarification questions as well as triangulation (Yin, 2018) with the management interview findings and secondary data. Despite these challenges, we believe this study provides a comprehensive and reliable snapshot of a critical case.

4. Results and discussion

We present our findings of the interviews with management and employees with disabilities, and discuss the themes identified in the analysis. Adopting the lens of the H-SD we identify a range of satisfiers. We connect these satisfiers to the corresponding fundamental human need(s) whilst highlighting the enabling factors of the unique CE business model. Figure 3 summarises the satisfiers and the corresponding need(s) on the H-SD matrix per Max-Neef (1991). We supplement and compare the primary data collection with the existing literature.

	BEING (personal/ collective attributes)	HAVING (institutions, norms, tools)	DOING (personal/ collective actions)	INTERACTING (spaces/ atmospheres)
SUBSISTENCE	Financially independent; healthy	Fair wage; lunch provided; stable income	Eating; formal work	Work environment
PROTECTION	Financially independent; respected	Adaptive equipment; fair wage; laws for safe workplaces; stable income; transport provision; work-life balance	Formal work; manageable working hours	(Safe) transport; (safe) work environment
AFFECTION	Included; sociable	Breaktimes; colleagues/ friends; work-life balance	Manageable working hours; socialising with colleagues	Breaktimes as social setting
UNDERSTANDING	Sociable; trained with new skills	Colleagues/ friends; training/ learning opportunities	Disability appropriate tasks; learning new skills: peer support	Work environment
PARTICIPATION	Confident; included; sociable; trained with new skills	Adaptive equipment; inclusive workplace; training/ learning opportunities; transport provision	Communication; disability appropriate tasks; learning new skills	(Safe) work environment; breaktimes as social setting; transport
LEISURE	Included; sociable	Breaktimes; colleagues/ friends; work-life balance	Manageable working hours; socialising with colleagues	Breaktimes as social setting
CREATION	Trained with new skills	New skills; training/ learning opportunities	Learning new skills; using new skills at home	Work environment
IDENTITY	Confident; financially independent; included; respected; sociable; trained with new skills;	Colleagues/ friends; fair wage; inclusive workplace; training/ learning opportunities	Communication; formal work; learning new skills socialising with colleagues	Breaktimes as social setting

FREEDOM	Financially independent; included; respected	Equity; fair wage; inclusive workplace; work-life balance	Formal work; manageable working hours	(Safe) work environment
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Figure 3: Satisfiers identified through primary data analysis

4.1. Inclusion

Satisfiers relating to the theme of inclusion were identified within the managerial and group interviews, contributing to satisfying the need for *participation, freedom, affection, leisure, identity* and *freedom* needs. Saitex has a mission to be “truly inclusive”, and this desire and commitment to social inclusion is driven by top management throughout the organisation (management interview). Vietnam has a large disabled population with more than 7.8% of its citizens registered as disabled (Palmer, 2015). Persons with disabilities were identified by the organisation as having difficulties entering the workforce, and therefore Rekut venture was set up with specific aim to employ this community who have a range of physical, mental, sensory conditions (management interview). A manager summarised that the initiative aimed to repurpose approximately 600,000 pieces of stock fabric by employing persons with disabilities to “give these people an opportunity to really have a regular life and to be more independent” (management interview). Pre-consumer waste is problematic in the fashion textiles industry (Niinimäki et al., 2020; Shirvanimoghaddam et al., 2020), stemming from the fact that garment manufacturing is highly labour intensive, hence resulting in the output being susceptible to small imperfections (e.g. stitching errors) which are often not deemed acceptable by quality control requirements of buyers (management interview).

The integrated theme of inclusion was reflected throughout the interviews with the employees with disabilities: it was frequently mentioned that they felt comfortable and included in the workplace. A participant (employee group interview) described Rekut as their “second home” [translated]. For many of the employees, this had been their first formal job as, consistent with the literature, many of the participants had faced barriers to formal employment because of their disabilities (ILO, 2013; Mizunoya et al., 2016). Previously, they had supported their families with domestic chores or participated in the informal economy. The informal jobs previously held by participants included babysitting, selling lottery tickets on the street, selling goods online and motorbike deliveries. In agreement with existing literature (Palmer et al., 2015), the interviews illuminated that accessing formal employment had been untenable or unexpected for some participants. One participant commented (employee group interview) that they had surprised their relatives by getting a job at Rekut as “none of them believed that any company would ever dare to recruit [me]”[translated] because of their disability. Therefore, satisfiers of self-esteem and confidence resulted from being included in the workplace.

As per existing literature highlighting the need for accessible workspaces (e.g. Groggins and Ryan, 2013), participants acknowledged that other workplaces were unsuitable for persons with disabilities due to a lack of facilities to accommodate certain disability-related requirements (employee group interview). Correspondingly, it was raised that (management interviews; employee group interviews) some physical disabilities (e.g. limb injuries) can make it challenging to use standard equipment (e.g. sewing machines). Thus, in the design process the disabilities were considered to ensure the products could be made with ease (management interview). The investment in adaptive equipment was essential for many with physical disabilities to enable them to carry out the required tasks. In these instances, the adaptive machinery can be considered a material satisfier to enable *participation*. Another finding related to accessibility was that the company offered transportation each day for the employees with disabilities to enable them to access the factory which is located in an industrial zone outside of Ho Chi Minh City. Previous research indicates that distance to the place of work can present an obstacle to joining the

workplace for persons with disabilities (e.g. Agyei-Okyere et al., 2018). This service was used by many of the employees, enabling satisfaction of *participation* and *protection* needs through safe transport to the premises.

4.2. Physical and psychological safety

The theme of physical and psychological safety emerged with related satisfiers (e.g. health, inclusion, safe working environment) of multiple needs of the H-SD matrix (e.g. *protection*, *participation*, *subsistence*). Health and upliftment can be strongly interconnected to the concept of wellbeing (Chambers, 2005). Some of the participants had previously been employed in factories, which is unsurprising given Vietnam's large manufacturing sector (World Bank, 2019). However, participants commented on previous experiences of discrimination, such as verbal abuse, related to their disabilities either from colleagues or managers. Discrimination can be considered a violator of multiple human needs (e.g. *participation*, *identify* and *freedom*) and is commonly described as problematic in the literature (Bogenschutz and Liang, 2016; Agyei-Okyere et al., 2018; Mizunoya et al., 2016). When comparing past jobs to their current role, it was consistently concluded that the workplace environment was much more comfortable, dignifying and accepting at Rekut (e.g. employee group interview: "everyone is more accepting here" [translated]). Some employees commented that the work was less labour intensive than other factories, and thus more suitable for their disabilities. An example presented by a participant was that fabric is an easier material to work with than others, such as wood, which they had worked with in a previous job (employee group interview).

It emerged that although integration with the mainstream factory employees was an eventual objective, but that most of the employees are very shy and intimidated when first joining the workplace (management interviews). example, one participant who had suffered an accident causing her to stop working some years before said that before joining Rekut she was "very shy and always stayed at home" [translated] (employee group interview). In general, starting the venture in a segregated facility was gauged as the most appropriate by managers for the initial phase; a safe environment has been highlighted as an essential component to foster diversity (Groggins and Ryan, 2013) and can be evaluated as a satisfier for *protection* and *participation* needs.

In terms of physical safety, special considerations are required when working with persons with disabilities (United Nations, 2019; WHO, 2011). For Saitex/ Rekut this includes complying with local law, namely the Labour Code (updated in 2019 and enforced in January 2021) as well as adhering to certification requirements (management interview). For example, the Labour Code and its supporting guidelines prohibits the use of heavy machinery or toxic chemicals for persons with disabilities (section 4, article 160). Such laws can be challenging to interpret because they are non-specific to the industry (e.g. as raised in a management interview: "...but the problem is when you talk about heavy machinery that category is pretty wide. So what does it mean?"). By taking a conservative view of the legislation this would encompass many textile operations of the mainstream Saitex factory, including laundry, chemical-intensive processing and heavy machinery operations (management interviews). Nevertheless, Rekut can overcome these legislative barriers through industrial symbiosis principles by using waste fabrics from the mainstream Saitex factories, thus avoiding restricted industrial processes (management interviews). Ultimately, this highlights how inclusivity and circularity can be coupled to overcome structural barriers. For the employees with disabilities the result is a safe working environment contributing to satisfaction of *protection*, *participation* and *freedom* needs.

4.3. Training and skills development

The employees held numerous roles, such as: cutting and dismantling fabrics, operating the sewing machines, hand embroidery, ironing, packing finished goods and general support roles to make a range of upcycled items including cushion covers, bags and small accessories. Training and inclusive education are important to ensure employees with disabilities have successful experiences in the workplace (United Nations, 2019). Upon joining the workplace, the employees were given formal training, which varied in length from a few days to weeks depending on individual circumstances relating to their disability (management interview). Training can be evaluated as a satisfier for the need for *understanding* and *participation* as many of the employees expressed that they had no prior experience working with textiles. Both formal and on-the-job training enabled the acquisition of new skills (management interviews) and thus integral for the success at carrying out the demands of the job and reiterates the importance of training opportunities for persons with disabilities (United Nations, 2019). The training supported any specific challenges related to each individual disability. It emerged that numerous special considerations exist which impact design and logistics (management interview). For instance, the designer must consider the disabilities when planning the product range to ensure the designs can be made without difficulty (management interview), and thus supporting satisfaction of *participation* needs. At times the disability still resulted in challenges carrying out certain tasks; for example, hand embroidery was not suitable for some who had physical disabilities related to upper limbs (management interview; employee group interviews).

Some employees had not considered themselves capable of some of the skills they learnt before joining Rekut (employee group interview). Such self-efficacy issues have previously been noted in the literature as a barrier to joining the workforce for persons with disabilities (e.g. Ali et al., 2011; Lamichhane, 2015). However, through training some of the participants were able to display their skill development. For example, during the interviews some participants showed their progress in the hand embroidery skill: from beginning with simple patterns to the creation of complex designs. The hand embroidery is an integral component to the upcycling of the excess materials at Rekut. The training provided skill acquisition and confidence, so can be seen to further contribute to *understanding*, *creativity* and *identity* needs. It was raised that some of the new skills they learnt could also be used in their personal lives. One participant (employee group interview) commented that they now utilise their newly acquired skill of sewing at home to help her family fix their clothes. This hints at the potential of training and skills to embed circular behaviours in daily lives.

Other competencies, including communication skills, were raised in the group interviews. The development of communication skills can be a satisfier for *participation* needs and can support *identity* need satisfaction as these competencies were linked to self-confidence in other aspects of their lives. In previous research, Schur (2002) refers to employment for disabled people as enhancing these “civic skills” (p.344), which can be used in aspects of life outside of work. A specialist skill which was raised in an employee group interview was that they have learnt to communicate with their hearing-impaired colleagues.

4.4. Wage and financial independence

Working and having a stable income was consistently seen as a benefit of being involved in the workplace. Whilst reducing poverty, a stable income can be assessed as a satisfier of *subsistence*, *protection*, *identity* and *freedom* needs. In the management interviews it was raised that one of the reasons for founding Rekut was the importance of enabling this community to earn a fair, stable

income. Many of the participants had previously not held a stable income and relied on family or informal jobs to support their living expenses. Informal jobs can lack financial stability for persons with disabilities, leading to basic economic needs not being fulfilled (Palmer et al., 2015; United Nations, 2019). The employees highlighted that the wage enables the purchase of essential material goods: food, gasoline and baby formula were common examples provided. Therefore, a stable wage enables access to material satisfiers facilitating the satisfaction of *subsistence* and *protection* needs.

The participants revealed the wage was commonly shared with family (employee group interview), often parents, which is commonplace in Vietnamese culture. The wage therefore enabled contribution to family expenses, which satisfies *subsistence* and *protection* needs, as well *identity* and *freedom* needs resulting from positive self-image associated with contributing a share to elders (noted as a benefit according to Lamichhane, 2015, p.21). For others, having a stable income can be assessed as a satisfier of the need for *freedom* as it enables independence. For example, some of the employees interviewed had relocated from other areas of the country for the job and were living independently for the first time. A manager raised the fact that because many of the employees have not worked before, the initiative supports organisation of setting up bank accounts and obtaining a disability certificate for each employee (required by local legislation). Again, this can support satisfaction of needs, such as *participation* and *freedom*.

4.5. Development of friendships and social contacts

Social interaction and forming of new friendships, was consistently raised as a reason for enjoying going to work. This supports previous studies which highlight that employment can alleviate social isolation amongst the disabled population (e.g. Ali et al., 2011; Lamichhane, 2015; Schur, 2002). Socialising and forming social contacts can be recognised as contributing to satisfying *leisure* needs as well as *affection*, *participation* and *identity* needs. Previously, social interaction beyond family or close social ties was limited for some (employee group interviews). Being able to meet others with disabilities had a positive impact. For example, a participant commented that they feel happy because he has “the chance to meet people who face the same circumstances” [translated] (employee group interview). Both the lunchbreak and breaktimes were opportunities to socialise with one another; and so breaktimes can be evaluated as a needs’ satisfier. One group described how they sit in a circle and chat, whilst others commented that the journey to work on the company bus was a chance to socialise. Many had developed friendships which extend outside the workplace. Relatedly, the company provides lunch every day for the employees (management interviews), which can be assessed as a material satisfier of *subsistence* needs by ensuring the workforce is well nourished and contributing to good health.

The interviews indicate the friendships developed with colleagues can also be considered a satisfier of *understanding* needs. For example, if a challenge in the working day would arise, many would seek guidance from a person sitting near them, “especially those who have been doing this for a while” (employee group interview) because they felt comfortable to do so. Thus, colleagues are both friends and a source of peer support for doing their jobs effectively and can be evaluated as also supporting *understanding* need satisfaction.

4.6. Work-life balance

The group interviews revealed satisfiers relating to having a positive work-life balance as contributing to *protection*, *leisure*, *affection* and *freedom* needs. During the workday, the mandatory

one-hour lunch break was identified as an opportunity to eat, socialise and relax. The workday prescribed at Rekut was indicated as assisting a work life balance as it was raised that the working hours in other factories were too long, often requiring working until 9 or 10pm in the evening or different shifts. The employees pointed out that long hours associated with other jobs mean they could not spend time with their families whilst others highlighted that long-hours were not compatible with their disabilities. Therefore, mandatory long-working hours associated with other factory jobs were a violator for *leisure*, *protection* and *freedom* needs. This reflects findings in the literature which identify that persons with disabilities often perceive full-time employment as inflexible or too stressful for their requirements, including scheduling issues such as taking into account of extra time to reach the workplace and other personal needs (Lamichhane, 2015, p.26). In contrast, as recommended by Vietnamese Labour Code (Section 4, article 160), Rekut has a seven-hour workday as standard, six days per week supporting a balanced lifestyle. Participants with children pointed out that in this job they were able to still drop their children off at school and be home in time for the evening meal (employee group interviews).

4.7. Summary discussion and managerial implications

Using the H-SD (1991) has enabled us to pinpoint various satisfiers that exist for the employees of the Rekut venture, providing an example as to how a circular strategy can positively impact the livelihoods of a community of people who have previously received little attention in literature or practice (Groce, 2018). We can consider the satisfiers of human needs identified in this analysis as having environmentally preferable properties at a micro-level, compared to a model that relies on virgin resources. This stems from the fact Saitex leverages existing resources to create value-added products through the Rekut venture, overcoming the environmental challenge of high pre-consumer textiles waste (Dahlbo et al., 2018; Niinimäki et al., 2020; Shirvanimoghaddam et al., 2020). We can connect the practical example explored in this study to sustainable development challenges. Satisfying human needs of employees with disabilities whilst supporting resource conservation is well aligned with SDGs, in particular: 1 (no poverty), 8 (decent work), 10 (reduced inequalities) and 12 (Sustainable Production). This provides a much needed concrete example of how a business initiative can successfully contribute to broad sustainability missions relating to social justice, inclusion and equity of vulnerable communities in CE transitions (Merli et al., 2018).

Our findings reiterate previous research that many persons with disabilities have difficulty entering or maintaining secure employment (Lamichhane, 2015; Palmer et al., 2015), and thus the need for safe and accessible workplaces is essential to ensure *participation*. Previous experiences of discrimination in the workplace or lack of opportunity equate to forms of poverties of *freedom* and *participation* (Max-Neef, 1991). On the other hand, some of these poverties are overcome through inclusion in the workplace. Existing policy literature highlights the potential number of new jobs created by transitioning to circularity (e.g. EC, 2020). Nevertheless, the social impact of the CE cannot be measured by the number of new jobs created alone (Geissdoerfer et al., 2017; Millar et al., 2019). Instead, the focus should be on whether these jobs are capable of improving the lives of citizens and the environment. Thus, the *type* of jobs and whether they fulfil the human needs of citizens can be considered more important than a quantitative metric, especially for select communities, such as those with disabilities as explored in this study. We find that the H-SD is a useful framework to assess these difficult to quantify insights. We find that benefits of formal employment go beyond simply providing a wage - thus satisfying more than just *subsistence* needs. Rather, employment can contribute to fulfilment of needs for persons with disabilities through satisfiers related to skill development, social upliftment and increased self-esteem.

In essence, the Rekut initiative goes beyond the technocratic approaches commonplace in dominant CE narratives which have so far failed to put human wellbeing as central (Bridgens et al., 2018; Clube and Tennant, 2020; Merli et al., 2018). From these findings, we advocate the need for greater focus on investment in socially responsible employment, including to maximise the potential of vulnerable groups, in circular transitions to ensure societal justice and equity (Merli et al., 2018). There needs to be greater focus on how jobs and other circular practices can satisfy human needs of *all* citizens, to ensure that transitioning to a CE produces better societal and development outcomes than in the existing linear economy. Specifically, learnings and implications for managers include:

- To maximise social and environmental impacts of circular business strategies, coupling targeted human resource strategies with creative reconceptualization of existing waste streams can simultaneously tackle human and environment sustainable development challenges.
- Ambitious inclusion strategies need long-term commitment and investment from the implementing organisation; experimentation of business models is likely to remain an ongoing process and positive impacts may take time to realise.
- Legislation may be vague or under-developed relating to disability and the workforce and this may be heightened in developing countries. Legislation intended to protect vulnerable persons may unintentionally present obstacles to their employment. As per this study, existing manufacturing companies can creatively work around these legislative challenges (e.g. prohibition of utilising heavy machinery) by using existing resources (e.g. already processed materials). For smaller incumbents or standalone ventures without such internal capabilities, collaborating with other businesses using industrial symbiosis principles may be more suitable.
- Training and supportive work practices are essential for vulnerable groups, such as persons with disabilities. Investment in training, adaptive equipment and supportive strategies (e.g. transport to work, onboarding support etc) is necessary to ensure persons with disabilities can thrive in the workplace.
- More generally, adopting a human needs lens can help managers consider whether business models or initiatives result in enhanced satisfaction of human needs for the intended beneficiary compared with a business-as-usual approach.

5. Conclusions

Frequently, critics have pointed out the lack of strong social narrative in contemporary interpretations of the CE (Hobson & Lynch, 2016; Schröder et al., 2019). There are few documented cases of CE models which satisfy human needs and deviate from business-as-usual approaches. Through this study, we present the critical case of a unique circular business which tackles two key development challenges: the inclusion of vulnerable communities and sustainable resource use. The Rekut venture has a distinct social purpose of offering stable employment to persons with disabilities while revalorising a problematic waste stream in the fashion textiles industry. Using Max-Neef's (1991) H-SD framework, we illuminate how the business model contributes to the satisfaction of fundamental human needs for this vulnerable community and so demonstrating a legitimate social benefit while simultaneously having circular principles. We are, however, not trying to argue

that all human needs can be satisfied through employment. Many satisfiers will exist outside of the workplace environment. Nevertheless, coupling circularity with satisfaction of human needs of employees or broader stakeholders creates synergic impacts capable of contributing to sustainable development objectives. By exploring a community of citizens rarely discussed in the CE—and even sustainable development literature—we contribute to discussion on persons with disabilities in terms of equity, justice and inclusivity in transitions to circularity. We believe the H-SD approach can be further applied and experimented with in a range of business and policy contexts. If CE practitioners are able to illustrate the enhancement of human needs satisfaction in new business models and policy directions, then this will help provide a more compelling narrative for the social benefits of transitioning to circularity.

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