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EXPLORING CIRCULAR ECONOMY PRINCIPLES AND ETHICS AMONG UPCYCLERS OF SECONDHAND CLOTHING AT KANTAMANTO, ACCRA, GHANA

BENNETA EWURABA BAISIE

2026

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EXPLORING CIRCULAR ECONOMY PRINCIPLES AND ETHICS AMONG UPCYCLERS OF SECONDHAND CLOTHING AT KANTAMANTO ACCRA, GHANA

BY

BENNETA EWURABA BAISIE

Thesis submitted to the Department of Vocational and Technical Education of the Faculty of Science and Technology Education, University of Cape Coast, in partial fulfilment of the requirements for the award of Master of Philosophy degree in Home Economics

JANUARY 2026

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DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature …….. Date: ……..…….…….....

Name: ……...

Supervisor's Declaration

I hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Supervisor's Signature…… Date: …….

Name: ……...

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ABSTRACT

The study explored circular economy principles and ethics among upcyclers of secondhand clothing at Kantamanto Market in Accra, Ghana. A qualitative case study design was adopted, with 20 upcyclers selected through purposive sampling. Data were collected through semi-structured interviews and participant observation and analysed using thematic analysis. The findings revealed that upcyclers practised a context-driven form of circularity characterised by material-led design, market-mediated creativity, client-centred co-creation, material reuse, waste minimisation and commitment to product quality and longevity. Innovative practices included creative material transformation, zero-waste design, repair, alteration and the reuse of garment components. Ethical concerns centred on poor-quality and unsanitary secondhand clothing imports, described as waste colonialism, alongside challenges involving fair treatment, client relationships and material integrity. Upcyclers addressed these concerns through collaborative waste diversion, responsible material choices, fair working relationships and preventative design practices. However, limited finance, technology, infrastructure and poor-quality textile imports constrained their activities. The study concludes that Kantamanto demonstrates a context-driven model of circular fashion shaped by local knowledge, creativity and collaborative networks. Thus, the study recommends stronger import regulation, improved textile waste infrastructure, accessible financial and technological support, skills development and formal recognition of local circular design knowledge to strengthen Ghana's circular fashion industry.

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KEY WORDS

Circular Economy Ethics

Circular Economy Principles

Circular Fashion

Recycling

Secondhand Clothing

Upcyclers

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To my family, I express my deepest gratitude for your love, prayers, sacrifices, and constant motivation. Your belief in me has kept me going even in the most challenging moments. To everyone who supported me in diverse ways, I say thank you. This achievement is as much yours as it is mine.

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DEDICATION

To my husband, children and siblings

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TABLE OF CONTENTS

	Page
DECLARATION	ii
ABSTRACT	iii
KEY WORDS	iv
ACKNOWLEDGEMENTS	v
DEDICATION	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	x
LIST OF FIGURES	xi
CHAPTER ONE: INTRODUCTION	
Background to the Study	1
Statement of the Problem	4
Purpose of the Study	7
Research Objectives	7
Research Questions	8
Significance of the Study	9
Delimitations	9
Limitations	10
Organisation of the Study	11
CHAPTER TWO: LITERATURE REVIEW	
Introduction	12
Theoretical Framework	12
Conceptual Review	17
Empirical Review	41

Digitized by Sam Jonah Library

University of Cape Coast https://ir.ucc.edu.gh/xmlui

Conceptual Framework of the Study 50

Chapter Summary 52

CHAPTER THREE: RESEARCH METHODS

Introduction 53

Research Approach 53

Research Design 55

Study Area 56

Population 58

Sampling Procedure 59

Data Collection Instruments 62

Data Collection Procedures 64

Data Processing and Analysis 65

Ensuring trustworthiness 67

Ethical Considerations 69

Chapter Summary 70

CHAPTER FOUR: RESULTS AND DISCUSSION

Introduction 71

Demographic Characteristics of the Participants 71

Principles Adopted by Upcyclers of Secondhand Clothing at Kantamanto Market 73

Practices Adopted by Upcyclers of Secondhand Clothing at Kantamanto Market 86

Ethical Issues that Come with the Practices that Upcyclers of Secondhand Clothing at Kantamanto Market are Employing 96

How Upcyclers of Secondhand Clothing at Kantamanto Market

Digitized by Sam Jonah Library

University of Cape Coast https://ir.ucc.edu.gh/xmlui

Addressing Ethical Issues in their Industry 100

Innovative Design Practices Adopted by Upcyclers of Secondhand Clothingin Line with the Circular Economy Principles 105

How Circular Economy Principles can be Integrated into the Fashion Industry through a Structured Framework 126

Discussion 128

Chapter Summary 149

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS 150

Introduction 150

Summary of key Findings 151

Implications of the Study 160

Recommendations 161

Suggestions for Further Research 163

REFERENCES 166

APPENDICES 179

APPENDIX A: SEMI-STRUCTURED INTERVIEW GUIDE 180

APPENDIX B: ETHICAL CLEARANCE 183

APPENDIX C: PHOTOGRAPHS OF UPCYCLING OF SECONDHAND CLOTHING AT KANTAMANTO MARKET 184

Digitized by Sam Jonah Library

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LIST OF TABLES

Table		Page
1	Demographic Information of the 20 Participants	72

Digitized by Sam Jonah Library

University of Cape Coast https://ir.ucc.edu.gh/xmlui

LIST OF FIGURES

Figure		Page
1	Conceptual framework of the study	51
2	Proposed framework for integrating circular economy principles into Ghana's fashion industry	148

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CHAPTER ONE

INTRODUCTION

The global fashion industry's linear model is a major driver of environmental degradation, generating excessive waste and carbon emissions (Ellen MacArthur Foundation, 2017). In response, the circular economy (CE) has emerged as a critical alternative, promoting restorative practices like upcycling and design for longevity (Niinimäki, Peters, Perry, Rissianen & Gwilt, 2020). However, existing research focuses predominantly on formal, large-scale enterprises, creating a significant gap in understanding how CE principles are interpreted and enacted within grassroots contexts. This study explores the adoption of CE principles and ethics among upcyclers at Kantamanto, Ghana, to bridge this gap, offering vital insights for developing context-sensitive sustainable fashion frameworks that leverage local innovation.

Background to the Study

The global fashion industry stands at a critical juncture, increasingly recognised as a primary contributor to environmental degradation through its dominant linear "take-make-dispose" model. This system, characterised by excessive resource extraction, vast carbon emissions, and the generation of millions of tons of textile waste annually, has prompted an urgent search for sustainable alternatives (Ellen MacArthur Foundation, 2017). In response, the Circular Economy (CE) has emerged as a transformative paradigm that advocates for a restorative and regenerative industrial system designed to eliminate waste and keep products and materials in continuous use.

Globally, brands such as Patagonia and Stella McCartney have pioneered the integration of CE principles by designing products for durability,

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implementing repair services, and using recycled materials. These initiatives have set new standards for the fashion industry and demonstrated that sustainability can be aligned with commercial success (Niinimäki et al., 2020).

However, this global narrative of circularity often overlooks the vibrant, grassroots circular economies operating within the Global South. Nowhere is this more evident than in West Africa, a region that serves as a final destination for a significant portion of the Global North's discarded clothing. Ghana, in particular, epitomises this complex dynamic. Each week, Accra receives an estimated 20 million items of secondhand clothing, a flow of material that has effectively turned Ghana into a de facto repository for the world's discarded textiles. Within this challenging context, the Kantamanto Market in Accra has emerged not as a passive dumping ground but as a dynamic and resilient hub of indigenous circular innovation. It is here that a vast network of upcyclers perform a daily act of alchemy, transforming the cast-offs of the linear economy into new value, thereby embodying the core CE principles of reuse and remanufacturing long before they became a global corporate trend (Hansen, 2019).

The practices at Kantamanto represent a unique fusion of global material flows and deeply local cultural and economic systems. The fashion system in Ghana is heavily characterised by a bespoke, artisan-led model, where designers create unique, custom-made garments, inherently extending the lifecycle of textiles and countering the disposability of fast fashion (Essel, 2019). These designers are not merely tailors; they are innovators who draw inspiration from traditional art forms, blending aesthetic elements from Ghanaian visual art with contemporary designs to create culturally significant fashion that affirms local

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identity (Ameyaw, Addai & Safah, 2023; Edusei, 2004). This creative process, driven by a new generation of fashion-conscious entrepreneurs, involves putting "fresh spins on secondhand clothing" through repair, alteration, and creative repurposing, finding in this material a vital source of income and cultural expression (Hansen, 2019).

Despite being a living laboratory for circular practices, the Kantamanto upcycling ecosystem operates under severe constraints and exists in a precarious position within the global fashion system. The sector faces an existential threat from the very system that supplies it: the influx of cheap, smuggled imported garments creates unfair competition, undermining the viability of local production (Essel, 2019). Furthermore, the market is plagued by internal challenges, including a significant skills gap where many designers lack advanced technical and design capabilities, hindering innovation and competitiveness (Sarpong, Howard, & Osei-Ntiri, 2011).

Compounding these issues are ethical dilemmas, from the struggle to communicate the value of sustainable practices to consumers (Appiah, Zanu, & Glova, 2023) to the risk of cultural appropriation as designers navigate the use of traditional motifs (Ameyaw et al., 2023), and systemic weaknesses in enforcing labour and environmental standards within their supply chains (Siaw, Howard, Appiah, Chichi & Asinyo, 2025).

Consequently, a major disconnect exists. While global discourse champions the circular economy, the practical, on-the-ground application of its principles by the very actors who are central to its realisation in Ghana remains largely unexamined. The existing literature on CE has predominantly focused on formal, large-scale enterprises and technological solutions in the Global

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North, leaving a critical knowledge gap regarding the principles, ethics, and innovative potential of informal, small-scale upcyclers in contexts like Kantamanto. It is within this context of global environmental urgency, localised grassroots innovation, and significant systemic challenges, that this study is situated, aiming to explore the circular economy principles and ethics among upcyclers at Kantamanto, Accra, to bridge the gap between global theory and local practice.

Statement of the Problem

The global fashion industry, characterised by a linear "take-make-dispose" model, is a significant contributor to environmental degradation and social inequity. In response to these challenges, the Circular Economy (CE) has emerged as a transformative paradigm that promotes a restorative and regenerative industrial system (Ellen MacArthur Foundation, 2013). While scholarly and policy interest in CE principles, such as recycling, upcycling, and designing for durability, has surged globally (Niinimäki et al., 2020), the focus has predominantly been on large-scale corporations and technological innovations in the Global North (Bocken, de Pauw, Bakker, & van der Grinten, 2016; Huynh, 2022;). This perspective has created a significant knowledge gap concerning the manifestation and practice of circularity within informal economies and grassroots sectors in the Global South, particularly in sub-Saharan Africa.

In Ghana, the Kantamanto market in Accra stands as one of the world's most significant yet under-examined circular fashion ecosystems. It is a hub where local upcyclers actively engage in de facto circular practices by transforming millions of items of imported secondhand clothing into new,

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culturally relevant garments (Hansen, 2019). This vibrant sector operates on a bespoke, artisan-led model that inherently extends product lifecycles and reduces waste (Essel, 2019).

However, the existing literature on CE in fashion has failed to systematically investigate this context. Previous research has concentrated on the economic scalability of digital solutions and the social impact of sustainability, overlooking the intricate blend of principles, practices, and ethics that govern these indigenous upcycling operations (Bauwens et al., 2020; Stampfl, 2013). Often Western-centric, promotion of CE and the on-the-ground realities of the practitioners who are already embodying circularity in Kantamanto.

The first major gap lies in understanding the specific circular economy principles that are adopted and adapted by these designers. While global literature outlines principles like designing out waste, the empirical reality in Kantamanto suggests a complex hybrid of these global tenets with deeply embedded local principles of bespoke craftsmanship, cultural expression, and aesthetic innovation (Ameyaw et al., 2023; Hansen, 2019). It remains unclear how designers navigate this intersection and what "circularity" means within their specific socio-economic context. Furthermore, while their practice of upcycling is itself a circular activity, their operational models face severe ethical and operational challenges. The sector is besieged by the very system it seeks to circularise: the influx of cheap, smuggled imports and the dumping of low-quality secondhand clothing creates unfair competition and turns Ghana into a "toxic landfill," undermining the viability of local sustainable enterprises (Essel, 2019; Gupta & Saini, 2020).

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Secondly, there is a pressing need to explore the ethical landscape of these practices. The upcyclers operate within a system fraught with ethical dilemmas, including the potential for cultural appropriation as they integrate traditional motifs, and the struggle to maintain authenticity amidst global influences (Ameyaw et al., 2023; Hansen, 2019). Internally, the reliance on apprentice labour, while a key knowledge-transfer mechanism, can compromise product quality and raises questions about fair skill development and compensation (Sarpong et al., 2011). The sector also demonstrates a critical structural weakness in supply chain governance, with a glaring lack of enforcement of labour and environmental laws among suppliers (Siaw et al., 2025). This juxtaposition of innovative, sustainable practices with significant ethical vulnerabilities presents a complex problem that has not been adequately addressed in current research.

Finally, the potential for scaling innovation and adopting more formalised circular business models is hampered by a significant skills deficit and a lack of resources. Many designers lack advanced technical skills, hindering creativity and forcing reliance on pre-existing designs, which limits their competitiveness (Sarpong et al., 2011). The systematic adoption of sustainable material sourcing and advanced waste-reuse strategies remains marginal, indicating that environmental priorities are not yet fully embedded in their core business strategies (Siaw et al., 2025). The perceived usefulness and ease of use of digital tools or new business models, as explained by the Technology Acceptance Model, are likely low due to these resource constraints, creating a barrier to the adoption of more efficient circular innovations (Huynh, 2022).

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Therefore, this study is necessitated by the urgent need to bridge the gap between circular economy (CE) theory and the lived experiences of upcyclers at Kantamanto. Without a nuanced empirical understanding of the principles they adopt, the ethical challenges they navigate, and the innovative practices they employ, policymakers, non-governmental organisations (NGOs), and industry stakeholders cannot develop effective, context-sensitive support frameworks. Accordingly, this study explores the circular economy principles and ethical practices among upcyclers at Kantamanto, Accra, to inform strategies that are both socially equitable and environmentally sustainable. More importantly, the study contributes to the academic literature by generating empirical evidence from an underrepresented informal fashion system in the global south, thereby extending current circular economy scholarship beyond formal, technology-driven models to include context-specific, community-led approaches to circularity.

Purpose of the Study

The purpose of this study was to explore circular economy principles and ethics among upcyclers of secondhand clothing at Kantamanto Markert in the Greater Accra Region of Ghana.

Research Objectives

The specific objectives of this study were to:

1. Examine the principles adopted by Ghanaian upcyclers of seconhand clothing at Kantamanto Market.
2. Analyse the practices Ghanaian upcyclers of seconhand clothing at Kantamanto Market implement in their work.

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3. Explore the ethical issues associated with the practices employed by Ghanaian upcyclers of seconhand clothing at Kantamanto Market.
4. Investigate how Ghanaian upcyclers of seconhand clothing at Kantamanto Market are addressing ethical concerns in their industry.
5. Identify innovative design practices adopted by Ghanaian upcyclers of seconhand clothing at Kantamanto Market in alignment with circular economy principles.
6. Propose a framework for integrating circular economy principles into Ghana's fashion industry.

Research Questions

These research questions guided the study:

1. What are the principles being adopted by Ghanaian upcyclers of seconhand clothing at Kantamanto Market?
2. What practices are the Ghanaian upcyclers of seconhand clothing at Kantamanto Market adopt in their work?
3. What ethical issues come with the practices that upcyclers of seconhand clothing at Kantamanto Market employ?
4. How are the Ghanaian upcyclers of seconhand clothing at Kantamanto Market addressing ethical concerns in their industry?
5. What innovative design practices have the Ghanaian upcyclers of seconhand clothing at Kantamanto Market adopted in line with the circular economy principles?
6. How can circular economy principles be effectively integrated into the Ghanaian fashion industry through a structured framework?

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Significance of the Study

This study's findings aim to guide upcyclers and fashion brands in developing sustainable business models that can enhance their competitiveness and resilience. Ethical practices, such as fair labour conditions and transparency, can improve brand reputation and consumer trust. Moreover, by reducing resource dependency and waste, businesses can achieve cost savings and open new revenue streams through innovative recycling and upcycling initiatives. This study will offer evidence-based recommendations that can inform policy decisions and regulatory frameworks. By identifying the barriers and opportunities for integrating circular economy principles and ethical practices in fashion, the study can help shape policies that support sustainable innovation and enforce environmental standards. Effective policies can drive systemic change, encouraging widespread adoption of sustainable practices across the industry.

Delimitations

This study is bounded in scope to enable a focused investigation, concentrating exclusively on Ghanaian upcyclers operating within the small to medium scale sector in the Kantamanto market, Accra. The geographical focus is confined to this specific hub, excluding other Ghanaian fashion centres, and the participant pool is limited to designers who actively utilise secondhand textiles, thereby excluding other supply chain actors like wholesalers or consumers. The research is conceptually delimited to examining the specific circular economy principles and ethical issues inherent to these designers' practices, rather than conducting a broad audit of the entire market's operations. Furthermore, the qualitative nature of the inquiry prioritises in depth

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understanding over statistical generalisability, with the scale of data collection being practically shaped by constraints of time, funding, and participant accessibility.

Limitations

Despite its insightful findings, this study is subject to several limitations inherent in its qualitative approach and specific focus. The research was geographically confined to the upcyclers operating within the Kantamanto market in Accra. While this setting provides rich contextual insights, the findings may not be directly transferable to upcycling communities in other cultural, geographical, or economic settings.

Additionally, by focusing specifically on upcyclers, the study does not capture the perspectives experiences of other critical actors and dimensions within the Kantamanto ecosystem, such as textile wholesalers, first-hand clothing retailers, waste pickers, consumers, and gender-related experiences. These actors and dimensions may influence the circulation, valuation, consumption, and ethical implications of secondhand clothing and upcycling activities.

Furthermore, the reliance on qualitative data, primarily from in-depth interviews and observations, introduces the potential for researcher bias in interpretation and social desirability bias among participants, who may have overstated their adherence to circular principles or ethical practices. The absence of quantitative measures also limits the extent to which the prevalence, magnitude, and relationships among the identified issues can be established.

Despite these limitations, the study offers credible and contextually rich insights into circular economy principles and ethics among upcyclers at

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Kantamanto and provides a foundation for comparative and mixed-methods research.

Organisation of the Study

This study consisted of five chapters with their content as follows: Chapter One consists of an introduction that has background to the study, statement of the problem, research objectives, research questions, significance of the study, delimitations, limitations, and organisation of the study. Chapter Two covers review of related literature, which captures the theoretical and conceptual basis of the study. Empirical review from relevant authorities and scholars are integral part of this chapter. The research methods, which is Chapter Three, consist of research design, description of instruments for data collection, sampling techniques and population. It also deals with research procedures in data collection and analysis. Chapter Four presents and discusses the findings, while Chapter Five is concerned with the summary of the findings from which conclusions are drawn and recommendations are made. Areas for further studies are also suggested in this chapter.

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CHAPTER TWO

LITERATURE REVIEW

Introduction

This study explored circular economy principles and ethics among upcyclers of secondhand clothing at Kantamanto Markert in the Greater Accra Region of Ghana. The circular economy (CE) has emerged as a sustainable approach to economic development that focuses on minimising waste, maximising resource efficiency, and designing products for longevity. In the fashion industry, the application of circular economy principles has become a key strategy for addressing environmental and ethical concerns associated with fast fashion. This literature review explores the definition, nature, principles, and practices of the circular economy, its application in fashion design, ethical considerations, and the need for theoretical and empirical reviews and a conceptual framework, for sustainability in fashion design.

Theoretical Framework

This study is underpinned by two complementary theories. The Resource-Based View (RBV) and Technology Acceptance Model (TAM). The RBV analyses designers' unique skills and practices as strategic assets for competitive advantage, while TAM examines the perceived usefulness and ease of adopting circular innovations. Together, they provide a comprehensive lens for understanding capability and adoption dynamics in Kantamanto's upcycling sector.

Resource based view of the firm theory

This study is anchored in the RBV of the Firm theory (Barney, 1991). This is a theoretical lens that posits a firm's sustained competitive advantage is

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derived from its unique bundle of valuable, rare, inimitable, and non-substitutable (VRIN) resources and capabilities. While traditionally applied to large corporations, the RBV provides a powerful framework for understanding the strategic behaviour of small-scale fashion designers at Kantamanto. Within this context, the principles and practices of the circular economy are not merely ethical choices but are reconceptualised as strategic, intangible resources that leverage for market differentiation and resilience.

The RBV clarifies the key concepts of this study by framing circular economy principles such as upcycling, design for durability, and material recovery, as valuable organisational capabilities that can create sustainable competitive advantage (Barney,1991; Pal & Gander, 2018). For the Ghanaian fashion designer, these capabilities are embodied in the innovative practice of transforming the abundant resource of secondhand clothing, a tangible asset, into unique fashion items through creativity and skill (Hansen, 2019). This creative upcycling is a direct manifestation of a firm-specific capability that is difficult for large, standardised competitors to imitate, thus aligning with the VRIN criteria.

Furthermore, the deep cultural knowledge required to authentically integrate traditional motifs and art forms into contemporary design, as noted by Edusei (2004) and Ameyaw et al. (2023), constitutes another critical intangible resource: cultural intelligence. This allows designers to create products that are not only innovative but also rich in cultural narrative, enhancing their brand identity and appeal. A crucial insight from the RBV, particularly relevant to the small-scale sector in Kantamanto, is how firm size and characteristics shape innovation pathways. Contrary to the assumption that large firms lead

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innovation, the literature suggests that small firms, due to their agility and lack of organisational inertia, are often more inclined to introduce radical new business models and practices (Hockerts & Wüstenhagen, 2010; Schaltegger et al., 2016). This aligns with Huynh's (2022) finding that small start-up fashion firms are frequently at the forefront of adopting disruptive technologies and circular business models.

In Kantamanto, the bespoke, artisan-led model described by Essel (2019), while facing challenges like designer anonymity, is inherently agile and capable of radical innovation in design, even if it operates outside formal corporate structures. However, the theory also highlights the resource constraints these designers face. The lack of formal education and advanced technical skills, as identified by Sarpong et al. (2011), represents a critical weakness in their resource base, hindering their ability to fully capitalise on their innovative potential and achieve a competitive advantage that is scalable.

In relation to this study, the RBV provides a lens to analyse how Kantamanto designers strategically deploy their unique resources, their creativity, cultural heritage, artisanal skills, and access to post-consumer textile waste, to navigate a market flooded with cheap imports. Their ethical practices, such as investing in local textiles and providing skilled employment (Siaw et al., 2025), can be seen as building a reputation for social responsibility, another valuable intangible resource. Ultimately, by applying the RBV, this research will explore how these small enterprises convert the challenges of a linear global fashion system into strategic resources, and how a framework for integrating circular economy principles can further strengthen this unique resource base to foster a more resilient and competitive Ghanaian fashion industry.

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Technology acceptance model

To understand the potential for integrating digital tools and innovative business models within the Kantamanto upcycling ecosystem, this study also draws upon the Technology Acceptance Model (TAM) (Davis, 1989). The TAM provides a robust framework for predicting and explaining user adoption of new technologies based on two core beliefs: perceived usefulness, the degree to which a person believes using a system will enhance their job performance and perceived ease of use, the degree to which using a system is perceived to be free from effort. While TAM originated in organisational IT contexts, its principles are highly applicable to the adoption of both digital and process innovations in the circular fashion economy.

In this study, "technology" is interpreted broadly to include not only digital tools but also innovative circular business models themselves, such as clothing rental, subscription services, or pull-demand-driven production, which Huynh (2022) identifies as archetypes of digital-based circular business models. The perceived usefulness of such innovations for a Kantamanto Upcycler would be gauged by the degree to which they are seen to enhance business performance for instance, by providing access to new markets, improving profitability, or streamlining production. As digital innovations can make outcomes "less predefined" and more easily modified (Nambisan, 2017), they offer agile tools that could help small firms test designs and demand with less risk.

However, their adoption is also contingent on consumer acceptance, which Huynh (2022) notes "may also significantly determine circular fashion's success," suggesting a dual adoption challenge involving both producers and their customers. The perceived ease of use is a critical factor for a sector

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characterised by limited resources and formal training. For designers who may already struggle with technical skills in traditional garment construction (Sarpong et al., 2011), the regard complexity of a new digital tool or a radically different business model like a rental service could be a significant barrier.

The model suggests that for adoption to occur, these innovations must be seen as relatively effortless to integrate into existing workflows. This aligns with the notion that digital technologies can be "flexibly embedded" to generate innovation with "less complexity" (Agostini, Galati & Gastaldi, 2019). For example, a simple mobile app for virtual showcases that cuts down on physical samples, as suggested by Huynh (2022), might be seen as easier to use and thus more readily adopted than a complex blockchain-based supply chain system.

In relation to this study, the TAM framework provides a lens to explore the willingness of Kantamanto's upcyclers to adopt new practices. It moves the inquiry beyond a simple assessment of availability to a deeper understanding of the cognitive and practical factors that influence their decision-making. By investigating designers' perceptions of the usefulness and ease of using specific digital tools or implementing new circular business models, this research can identify key leverage points and potential barriers. This theoretical understanding is essential for effectively proposing a framework for integrating circular economy principles that is not only theoretically sound but also practically adoptable by the designers at the heart of Ghana's vibrant fashion ecosystem.

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Conceptual Review

Circular economy

Circular economy (CE) has emerged as a fundamental alternative to the traditional linear economy, which is characterised by a "take-make-dispose" production and consumption model (Geissdoerfer, Savaget, Bocken & Hultink, 2017). This model has led to excessive resource extraction, environmental degradation, and unsustainable waste generation. In contrast, the circular economy is restorative and regenerative, designed to maximise resource efficiency, minimise waste, and ensure sustainability (Ellen MacArthur Foundation, 2013). This paper provides an in-depth exploration of the circular economy, its definition, significance, and applications, with a particular focus on the fashion industry and its role in promoting sustainability.

The concept of a circular economy is built on the premise that economic systems should function within planetary boundaries, ensuring that resources are continually used rather than discarded (Bocken et al., 2016). The European Commission (2015) defines the circular economy as "an economy where the value of products, materials, and resources is maintained for as long as possible, waste generation is minimised" (p. 2). The Ellen MacArthur Foundation (2013), a leading advocate for the circular economy, describes it as "an industrial system that is restorative or regenerative by intention and design" (p. 7).

This involves designing products for longevity, reparability, and recyclability, thus ensuring materials are continually cycled within the economy (Kirchherr, Reike & Hekkert, 2017). In contrast, Geissdoerfer et al. (2017) argue that the traditional linear economy encourages unsustainable production and consumption patterns through its dependence on continuous resource extraction

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and waste generation. The circular economy aligns economic activities with sustainability goals, reducing reliance on virgin materials and minimising environmental impacts (Lieder & Rashid, 2016).

The traditional linear economic model has contributed significantly to resource depletion, environmental pollution and climate change (Ghisellini, Cialani & Ulgiati, 2016). For instance, the fashion industry alone is responsible for 10% of global carbon emissions and 20% of global wastewater production (Ellen MacArthur Foundation, 2017). The fast fashion industry generates over 92 million tonnes of textile waste annually, much of which ends up in landfills, highlighting the urgent need for more sustainable production and consumption system (Niinimäki et al., 2020). Recognising these environmental challenges, the United Nations Environmental Programme (UNEP, 2020) advocates a transition towards a circular textile value chain to improve resource efficiency, reduce waste, and promote sustainable production systems. This contribute significantly to biodiversity loss, pollution, and other adverse environmental impacts associated with the fashion industry (Niinimäki et al., 2020).

The adoption of circular economy principles has been projected to generate substantial economic benefits while reducing environmental pressures. Accenture Strategy estimated that the circular economy could create up to 4.5 trillion US Dollars in additional economic value by 2030 (Lacy & Rutqvist, 2015). Moreover, transitioning to a circular economy promotes fair labour practices, ethical sourcing, and more equitable resource use (Murray, Skene & Haynes, 2017).

The circular economy is based on three core principles: designing out waste and pollution, keeping products and materials in use, and regenerating

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natural systems (Ellen MacArthur Foundation, 2017). Reducing waste at the design stage enables materials to be reused, repurposed, recycled, or safely returned to natural systems, thereby supporting resource efficiency and circularity (Bocken et al., 2016). Extending the life cycle of products through repair, refurbishment, remanufacturing, and recycling contributes significantly to sustainability to sustainable resource management and environmental sustainability (Kirchherr et al., 2017). Rather than reducing environmental harm, the circular economy seeks to regenerate natural systems through more efficient resource use and restorative production practices (Lieder & Rashid, 2016).

The fashion industry is widely recognised for its reliance on synthetic materials, excessive water consumption, and unethical labour practices (Fletcher & Tham, 2019). Brands such as H&M, Zara, and Shein have also been criticised for greenwashing and perpetuating unsustainable fast fashion production and consumption patterns. In response, many sustainable fashion brands are adopting circular economy principles to reduce environmental impacts (Niinimäki et al., 2020). Key strategies include the use of sustainable materials such as organic cotton, recycled polyester, and biodegradable fabrics (Shirvanimoghaddam, Motamed, Ramakrishna & Naebe, 2020), promoting repair, resale, and rental business models (Niinimäki et al., 2020), and implementing waste reduction initiatives such as take-back schemes and zero-waste production models (Wang, Shen & Choi, 2019). Brands like Patagonia, Stella McCartney, and Eileen Fisher have successfully incorporated circular fashion practices, demonstrating that sustainability can be both ethical and commercially viable (Burnstine, 2025).

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Despite its environmental and economic advantages, the circular economy also presents important ethical challenges, including labour rights concerns, responsible material sourcing, and greenwashing. Although circular economy promotes sustainable production, labour exploitation and poor working conditions remain prevalent within parts of the global fashion supply chain (International Labour Organisation, 2021). Ethical dilemmas also arise regarding firms to balance efficiency (Pal & Gander, 2018). Furthermore, some companies have been criticised for making misleading sustainability claims that do not fully reflect circular economy principles, a practice commonly referred to as greenwashing (Niinimäki, 2020).

To integrate CE principles into fashion industry, sustainability framework should prioritise eco-design strategies that promote durable, recyclable, and biodegradable materials (Bocken et al., 2016), sustainable business models encouraging clothing rental, resale, and circular supply chains (Lieder & Rashid, 2016), consumer education that promotes ethical consumption and sustainable fashion choices (Niinimäki, 2020), and regulatory frameworks that hold fashion brands accountable for their environmental and social impacts (European Commission, 2020).

The circular economy presents a sustainable alternative to the linear economic model, reducing waste, conserving resources, and promoting ethical labour practices. In the fashion industry, integrating circular principles can help mitigate environmental damage, improve resource efficiency, and ensure ethical production. However, for circularity to be effective, it requires collaboration between governments, industries, and consumers. By adopting sustainable

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materials, innovative business models, and strict ethical guidelines, the fashion industry can transition toward a truly circular and regenerative future.

From an RBV standpoint, the CE's definition as a regenerative system is a direct mandate to reconfigure a firm's resource base (Ellen MacArthur Foundation, 2017). It argues that the capability to systematically eliminate waste and circulate materials is, in itself, a potential strategic resource. For a Ghanaian fashion enterprise, this means that its ability to master reverse logistics, creative redesign, and material recovery is not a side activity but a core competency that can be valuable, rare, and inimitable (Barney, 1991), providing a defence against competitors reliant on volatile virgin material markets.

TAM directly addresses the implementation of this definition by explaining how the technologies and systems required to operationalise CE principles are adopted by users. Davis (1989) argues that for new technologies such as digital platforms for material tracking, product life-cycle management, or accounting systems that recognise the value of waste as a resource to be successfully implemented, users must perceive them as useful for achieving organisational goals, including profitability, efficiency and sustainability as sufficiently easy to use without excessive complexity. Consequently, the broader vision of CE cannot be fully realised if the technologies and systems that support its implementation are not accepted and utilised by managers, designers, manufacturers, and other key stakeholders (Davis, 1989).

Principles of circular economy

The circular economy has emerged as a transformative model in response to the increasing environmental and economic challenges posed by the traditional linear economy, which follows a 'take-make-dispose' approach. The

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concept of the circular economy is built on three fundamental principles, as proposed by the Ellen MacArthur Foundation (2017): designing out waste and pollution, keeping products and materials in use, and regenerating natural systems. These principles emphasise sustainable production and consumption patterns that contribute to resource efficiency and long-term environmental sustainability.

Designing out waste and pollution is one of the core tenets of CE. This principle advocates for product designs that minimise waste production, avoid toxic materials, and mitigate environmental degradation (Broken et al., 2016; Ellen MacArthur Foundation, 2017). In a traditional linear economy, waste is an inevitable by-product of production and consumption. However, the CE challenges this notion by promoting innovative design solutions that eliminate waste at the source. Companies are increasingly adopting eco-friendly materials, biodegradable packaging, and modular designs that allow for easier repair and reuse.

For instance, in the fashion industry, brands are increasingly developing garments with recyclable, recycled, and biodegradable materials to reduce waste and environmental pollution (Shirvanimoghaddam, Motamed, Ramakrishna & Naebe, 2020). Moreover, technological innovations are being adopted to optimise material use, improve production efficiency, and minimise waste throughout manufacturing processes (Lieder & Rashid, 2016). Keeping products and materials in use is another fundamental principle of the CE. This principle emphasises prolonging the life cycle of products through reuse, repair, remanufacturing, and repurposing rather than discarding them after a single use (Kirchherr et al., 2017). The shift from ownership to access-based consumption

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models, such as rental services and product-as-a-service business models, has gained considerable attention across several industries, particularly fashion and electronics (Stahel, 2016).

By extending the usability of materials, businesses and consumers can reduce the dependence on virgin resources, thereby conserving natural capital and minimising environmental impact (Kirchherr et al., 2017). For example, Patagonia, a sustainable clothing brand, has implemented a take-back programme that allows customers to return worn-out clothing for repair, recycling or resale thereby extending product lifecycle and reducing waste (Burnstine, 2025). Similarly, in the automotive industry, manufacturers are designing vehicles with modular components that can be easily replaced or upgraded to extend products lifespan and improve resource efficiency (Ranta et al., 2018).

Regenerating natural systems is the third core principle of the CE. This principle goes beyond simply minimising harm to the environment and seeks to actively restore and enhance natural ecosystems (Ellen MacArthur Foundation, 2017). One of the primary strategies for achieving this goal is the implementation of regenerative agricultural practices that improve soil health, biodiversity, and carbon sequestration (Rockström et al., 2020). Beyond agriculture, industries are increasingly adopting resource-efficient production systems and renewable materials to reduce pressure on natural ecosystems and support the regeneration of natural resources (Ghisellini et al., 2016).

The fashion industry, for example, is increasingly adopting regenerative and sustainable fibres, such as organic cotton and hemp that require fewer pesticides and promote soil regeneration (Shirvanimoghaddam et al., 2020).

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While the Ellen MacArthur Foundation's three principles form the foundation of the circular economy, other scholars, such as Kirchherr et al. (2017), have expanded on these concepts by emphasising circular business models, sustainable supply chains, and consumer engagement in responsible consumption. In the fashion industry, these broader CE strategies are complemented by consumer engagement and responsible consumption practices that support product longevity and resource efficiency (Niinimäki et al., 2020).

Circular business models focus on redefining value creation by shifting from a linear production approach to one that prioritises closed-loop systems (Bocken et al., 2016). These models include product-service systems, extended producer responsibility, and collaborative consumption models. Companies that integrate circular business models not only reduce waste but also create new economic opportunities and competitive advantages (Lüdeke-Freund et al., 2019). For instance, fashion brands like Eileen Fisher and Stella McCartney have successfully incorporated circularity into their business strategies by designing durable, timeless pieces and offering repair services to extend product life cycles (Niinimäki et al., 2020).

Sustainable supply chains play a crucial role in enabling circular economy practices. By adopting transparent and ethical sourcing methods, businesses can ensure that raw materials are procured sustainably and that production processes adhere to environmental and social standards (Gardetti & Torres, 2017). Supply chain innovations, such as blockchain technology and digital product passports, are improving traceability and accountability throughout the entire value chain (European Commission, 2020). In the fashion

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industry, brands are collaborating with suppliers who prioritise fair labour practices, resource efficiency, and reduced carbon footprints (Pedersen et al., 2018). Additionally, the adoption of reverse logistics systems facilitates the collection, sorting, and reintegration of used materials into new production cycles, further promoting circularity (Govindan & Soleimani, 2017).

Consumer engagement in responsible consumption is another critical factor in advancing the circular economy. Educating consumers about sustainable choices and encouraging behaviour change can drive demand for circular products and services (White et al., 2019). Campaigns that promote slow fashion, minimalism, and secondhand shopping have gained popularity, challenging the conventional fast fashion model that fuels overconsumption (Niinimäki et al., 2020). Brands are also leveraging digital platforms and social media to raise awareness about sustainability issues and foster community-driven initiatives that support circular practices (White et al., 2019). Moreover, policy interventions, such as extended producer responsibility (EPR) regulations and incentives that promote sustainable purchasing, encourage both producers and consumers to adopt circular behaviours and support the transition towards a circular economy (European Commission, 2020). The three core CE principles are, under the RBV lens, a strategic blueprint for building VRIN resources.

1. “Design out waste” directly fosters R&D and innovative design capabilities.
2. “Keep products in use” builds unique competencies in repair, remanufacturing, and customer relationship management.

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3. "Regenerate natural systems" can cultivate a powerful brand reputation for authenticity, an intangible asset that is exceptionally difficult for competitors to imitate (Lüdeke-Freund et al., 2019).

The TAM Connection is Pronounced in Principle Implementation: TAM scrutinises the enactment of each principle. The principle of "designing out waste" relies on designers adopting new software; its success hinges on the software's Perceived Ease of Use (PEOU). The principle of "keeping products in use" via a repair service depends on consumers finding the service both useful (PU) for saving money and easy to access (PEOU). Without positive user perceptions, the principles remain theoretical.

Practices of circular economy

The CE model is a sustainable approach to production and consumption that minimises waste and extends the lifecycle of products. It is implemented through various practices that promote environmental conservation and resource efficiency. In the fashion industry, several key practices contribute to the CE, including product life extension, recycling and upcycling, sustainable material sourcing, reverse logistics, and rental and resale fashion. These strategies play a crucial role in reducing waste and promoting sustainability within the industry.

Product life extension focuses on increasing the lifespan of garments by prioritising high-quality designs, repair services, and secondhand markets (Niinimäki et al., 2020). By producing durable clothing, manufacturers ensure that garments last longer, reducing the need for frequent replacements. High-quality materials and craftsmanship are essential in achieving longevity, allowing consumers to use their clothing for extended periods. Brands like

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Patagonia and Levi's have embraced this approach by designing durable apparel and offering repair services to customers. These services encourage consumers to mend their clothes rather than discard them, thus contributing to waste reduction and sustainability.

Platforms such as ThredUp, Vestiaire Collective, and Poshmark provide avenues for consumers to buy and sell pre-owned clothing. This practice reduces the demand for new garments and minimises textile waste. Studies have shown that the secondhand clothing market has been growing significantly, indicating a shift in consumer behaviour towards sustainable fashion choices (ThredUp, 2023). Encouraging consumers to participate in secondhand purchasing and resale supports CE objectives by extending products lifecycles and promoting more responsible consumption behaviours (White et al., 2019)

Recycling and upcycling are key components of the circular economy, transforming old materials into new, high-value products (Bocken et al., 2016). Recycling involves breaking down discarded textiles to create new fibres, reducing reliance on virgin materials. Many companies, such as Recover Textile Systems, have developed innovative processes to recycle cotton and polyester fibres into new fabrics. This method significantly reduces the environmental footprint of textile production by lowering energy and water consumption.

Upcycling, on the other hand, involves repurposing old materials into new designs without breaking them down into raw fibres. This creative approach allows designers to transform waste materials into unique fashion pieces. For instance, brands like Suay Sew Shop specialise in upcycling donated textiles to create new clothing and accessories. This practice not only diverts waste from landfills but also encourages artistic expression and sustainable

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fashion innovation. (Niinimäki et al., 2020). The upcycling trend has gained traction among both independent designers and major fashion brands, reflecting the growing emphasis on sustainability within the industry (Burnstine, 2025).

Sustainable material sourcing is another critical aspect of the circular economy, emphasising the use of biodegradable and renewable materials such as organic cotton, bamboo, and recycled polyester. Organic cotton is cultivated without harmful pesticides and requires less water compared to conventional cotton, making it a more sustainable option. Bamboo fabric, known for its rapid growth and minimal environmental impact, has also gained popularity in sustainable fashion. (Shirvanimoghadda et al., 2020)

Recycled polyester is an alternative to virgin polyester, created from post-consumer plastic bottles and textile waste. Brands such as Adidas have incorporated recycled polyester into their production lines, reducing plastic waste while maintaining fabric quality. According to the Ellen MacArthur Foundation (2017), shifting towards sustainable material sourcing can significantly lower the fashion industry's environmental impact by reducing greenhouse gas emissions and resource depletion. These materials offer a viable solution to the growing concerns of sustainability and ethical production practices in fashion.

Reverse logistics is another essential practice in the CE, involving take-back schemes where consumers return used clothing for recycling, reuse, remanufacturing or resale, thereby supporting closed-loop material flow (Govindan & Soleimani, 2017). Many fashion brands have implemented take-back programmes to encourage responsible disposal of garments. H&M's Garment Collecting programme allows customers to return old clothing in

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exchange for store discounts, ensuring that textiles are properly recycled or repurposed. This approach not only reduces waste but also promotes consumer engagement in sustainability efforts.

The role of reverse logistics extends beyond fashion brands to include government policies and industry-wide initiatives. Several countries have introduced regulations requiring brands to manage textile waste responsibly. For instance, the European Union's Extended Producer Responsibility (EPR) mandates that companies take responsibility for the end-of-life management of their products, further reinforcing the importance of circular economy practices (European Commission, 2022). By integrating reverse logistics into business models, companies can close the loop in the production cycle and prevent textiles from ending up in landfills.

Rental and resale fashion encourage consumers to rent clothing instead of purchasing new items, thereby reducing waste and promoting sustainability (Ellen MacArthur Foundation, 2017). Rental fashion is particularly beneficial for special occasion wear, where garments are typically worn only once. Companies like Rent the Runway offer consumers access to high-quality clothing on a rental basis, allowing them to enjoy fashion without contributing to excessive waste. This model aligns with the principles of a CE by maximising the use of garments and minimising production.

Resale fashion has also seen substantial growth in recent years, with platforms such as The RealReal and Depop facilitating the buying and selling of secondhand clothing as part of the expanding circular fashion economy. These platforms provide an alternative to fast fashion by offering consumers access to affordable, high-quality pre-owned garments (Niinimäki et al., 2020).

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Industry reports indicates that the resale market is expected to outpace the growth of fast fashion, signalling a shift towards more sustainable consumption patterns (ThredUp, 2023).

The CE in fashion is not only beneficial for the environment but also presents economic opportunities. Brands that incorporate sustainable practices into their business models can attract environmentally conscious consumers and enhance their market competitiveness. Additionally, governments and organisations worldwide are advocating for circular economy principles through policy measures and public awareness campaigns. As more stakeholders recognise the importance of sustainability, the fashion industry is gradually transitioning towards a more circular and responsible future.

The RBV connection is pronounced in Practice-as-Capability: From an RBV perspective, CE practices are the tangible and intangible resources. The practice of creative upcycling in Kantamanto is not a mere task; it is the primary valuable and rare capability that defines the business. A firm's collaborative network for sourcing secondhand textiles is a socially complex resource that is causally ambiguous and thus inimitable, providing a sustainable competitive advantage.

The TAM connection is pronounced in Practice Scalability: TAM dictates that the scaling of these practices is a function of user acceptance. A practice like clothing rental will only scale if consumers perceive it as useful (PU) for accessing variety cost-effectively and the rental process is effortless (PEOU). For the upcycler, adopting an industrial fabric cutter is contingent on it being useful (PU) for increasing production quality and easy (PEOU) to operate and maintain given their skillset (Venkatesh & Davis, 2000).

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Application of circular economy in fashion design and industry

The fashion industry is widely recognised as one of the most environmentally damaging and wasteful sectors, making the application of circular economy principles essential for sustainable development (Fletcher & Tham, 2019). The traditional linear fashion model, which follows the take-make-dispose pattern, has led to excessive resource depletion, pollution, and textile waste accumulation. Circular economy principles aim to mitigate these negative impacts by promoting resource efficiency, waste reduction, and sustainability.

One of the key strategies of the CE in fashion is designing for durability. Fast fashion brands have been criticised for producing low-quality garments with short lifespans, leading to frequent disposal and increased landfill waste (Niinimäki et al., 2020). To counter this, sustainable fashion brands are adopting durable design techniques, ensuring that garments can withstand prolonged use. By utilising high-quality materials and durable construction methods, fashion brands can extend the life cycle of their products to reduce environmental impacts associated with frequent replacement (Bocken et al.,). For instance, Patagonia emphasises durability by using reinforced stitching, high-performance fabrics, and repair programmes that encourage consumers to maintain their clothing instead of discarding them (Burnstine, 2025). Research by Niinimäki et al (2020) highlights that extending garment longevity by just nine months can reduce carbon, water, and waste footprints by approximately 20-30%.

Another circular economy principle involves encouraging clothing rental and resale, which significantly reduces waste and excessive consumption.

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The rapid turnover of fashion trends drives a culture of disposability, where consumers frequently purchase new clothing and discard old ones. Renting and reselling garments provide an alternative by extending product life cycles and reducing demand for new production. The fashion rental market has gained popularity, with companies such as Rent the Runway and MyWardrobeHQ offering consumers access to high-end clothing without the need for permanent ownership (Niinimäki et al., 2020). Likewise, secondhand marketplaces such as Depop, ThredUp, and Poshmark have provided digital platforms for reselling pre-owned fashion items, contributing to a circular economy. The Ellen MacArthur Foundation (2017) reports that doubling the use of clothing could reduce greenhouse gas emissions from the fashion industry by 44%.

The use of biodegradable and recyclable materials in fashion production is another crucial component of the CE. Conventional textile production relies heavily on synthetic fibres such as polyester, which contribute to microplastic pollution and are non-biodegradable (Bocken et al., 2016). In response, sustainable brands are exploring alternative materials such as organic cotton, hemp, and bamboo, which have a lower environmental impact. Furthermore, advance in textile recycling technologies have enabled the conversion of post-consumer and post-industrial textile waste into fibres, thereby reducing dependence on virgin raw materials and supporting CE objectives (Shirvanimoghaddam et al., 2020). Similarly, biotechnology firms have been partnered to produce vegan leather alternatives derived from mycelium, reducing reliance on animal-derived materials and synthetic substitutes (Ellen MacArthur Foundation, 2017).

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Take-back programmes have also emerged as an effective CE strategy, where brands accept used clothing for recycling or repurposing (Govindan & Soleimani, 2017). These programmes encourage responsible disposal and divert textiles from landfills. H&M's Garment Collecting Programme and Levi's recycling initiative allow customers to return old clothes, which are processed into new textile fibres or upcycled into fresh designs (Burnstine, 2025). The Ellen MacArthur Foundation (2017) emphasises that take-back programmes play a crucial role in closing the loop of the fashion supply chain by reintroducing materials into production cycles rather than allowing them to become waste. Brands implementing such initiatives also foster consumer awareness of sustainability and encourage ethical consumption patterns.

Several fashion companies have integrated CE principles into their supply chains through durable product design, increased use of recycled material, repair services, resale platforms, and resource-efficient production methods. These initiatives demonstrate how circular business models can extend product lifecycles, reduce textile waste, and improve resource efficiency within the fashion industry (Ellen MacArthur Foundation, 2017; Niinimäki et al., 2020; Shirvanimoghaddam et al., 2020).

While the adoption of CE principles in fashion is increasing, challenges remain. The widespread implementation of these strategies requires substantial investment in research and development, infrastructure, and consumer education. Additionally, the fashion industry must address issues related to supply chain transparency and ethical labour practices to ensure that sustainability efforts are comprehensive and equitable (Bocken et al., 2016). Governments and policymakers play a crucial role in facilitating circular

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fashion through regulatory measures, financial incentives, and Extended Producer Responsibility (EPR) programmes that hold brands accountable for the environmental impact of their products (European Commission, 2020).

The RBV lens views the application of CE such as Patagonia's Worn Wear programme as a direct manifestation of a VRIN resource in action. This application creates a unique value proposition, fosters extreme customer loyalty, and constructs a competitive moat that is non-substitutable by conventional linear business models. In Ghana, the application of CE through bespoke tailoring (Essel, 2019) is a rare and valuable adaptation to the local market.

TAM highlights the critical adoption hurdles at the point of application. A designer may understand the theoretical benefit of a take-back scheme (high PU), but if the logistics of collecting and processing used garments are perceived as overly complex and unmanageable (low PEOU), the application will fail. Thus, TAM focuses on the behavioural friction that can stymie even the most strategically sound CE applications.

Ethical issues with circular economy

The circular economy, a model emphasising the continual use of resources through reuse, recycling, and regeneration, aims to promote sustainability by minimising waste and reducing the need for new resources (Geissdoerfer et al., 2017; Bocken et al., 2016). Nevertheless, the implementation of CE principle is not without ethical challenges, including concerns relating to labour conditions, greenwashing, and the continued exportation of textile waste to developing countries (Fletcher & Tham, 2019; Niinimäki et al., 2020).

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Labour exploitation remains a pressing issue in the fashion industry's pursuit of sustainability. Many brands, while advocating for circular practices, continue to rely on low-cost labour in developing countries, often resulting in substandard working conditions and inadequate wages for workers (Bick et al., 2018). For instance, in Bangladesh a major hub for garment production workers frequently faces poor working environments and are subjected to excessive working hours. The collapse of the Rana Plaza factory in 2013, which claimed over 1,000 lives, tragically highlighted these systemic issues (Bick et al., 2018).

Despite global awareness and industry commitments to improve labour standards, concerns about low wages, occupational safety, and workers' rights continue to persist in parts of the global garment industry (Fletcher & Tham, 2019; Niinimäki et al., 2020). This situation highlights the ethical contradiction of promoting sustainable fashion while failing to adequately protect the welfare and rights of those who produce the garments.

Greenwashing presents another significant ethical challenge within the circular economy. Some companies, in response to increasing consumer demand for sustainable products, make misleading environmental claims without implementing meaningful sustainability practices, a phenomenon commonly referred to as greenwashing (Delmas & Burbano, 2011; Lyon & Montgomery, 2025). A recent example is Shein, which came under regulatory scrutiny in Italy over allegations that its environment claims were misleading (Hadero, 2024). The Italian Competition Authority investigated Shein for potentially making misleading claims about the sustainability of its products, highlighting concerns that the company's environmental assertions were vague and deceptive. Such practices erode consumer trust and pose significant ethical

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concerns, as they exploit the growing demand for sustainable products without delivering on their promises (de Freitas Netto et al., 2020).

Waste exportation further complicates the ethical landscape of the Circular Economy in the fashion industry. Developed countries often export textile waste to developing nations, shifting the environmental burden rather than addressing it domestically (Niinimäki et al., 2020). Ghana, for instance, imports millions secondhand garments weekly through the Kantamanto market, where considerable quantity which cannot be sold contribute to environmental pollution and waste management challenges (The OR Foundation, 2018). The influx of low-quality, discarded clothing overwhelms local waste management systems, leading to significant environmental and social challenges. This practice raises ethical questions about environmental justice and the responsibility of affluent nations in managing their waste (Bick et al., 2018). The concept of "waste colonialism" has emerged to describe this phenomenon, where developing countries bear the environmental costs of overconsumption in wealthier nations (The OR Foundation, 2023).

Addressing these ethical issues requires a multifaceted approach. Brands must prioritise fair labour practices, ensuring that workers receive fair wages and work in safe conditions (Bick et al., 2018; Fletcher & Tham, 2019). Transparency in supply chains is crucial, enabling consumers to make informed choices and hold companies accountable (Muthu, 2020). Legislation plays a vital role in enforcing ethical standards, and consumers can drive change by supporting brands that demonstrate genuine commitment to sustainability and ethical practices (European Commission, 2020; White et al., 2019). By

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acknowledging and addressing these ethical concerns, the fashion industry can move towards a truly sustainable and equitable circular economy.

RBV frames ethical issues as direct threats to a firm's intangible resource base. Greenwashing destroys the VRIN resource of brand trust. Complicity in waste colonialism where Ghana is a dumping ground for textile waste corrodes a company's social license to operate, a critical intangible asset. These ethical failures systematically deplete the very resources that ensure long-term competitiveness.

TAM explains how ethical issues create powerful external variables that suppress adoption. A consumer's awareness of a brand's greenwashing will severely diminish the Perceived Usefulness (PU) of its circular product line, as the product's value proposition is undermined (de Freitas Netto et al., 2020). Knowledge of labour exploitation in recycling can make a consumer reject an otherwise useful and easy-to-use circular service, demonstrating how ethics directly impact behavioural intentions.

Ethical practices as applied in fashion design and industry

Ethical practices within the fashion industry are essential for addressing the environmental and social challenges associated with unsustainable and exploitative production systems. Achieving a more responsible fashion industry requires fashion brands to adopt fair labour practices that safeguard worker's rights, provide safe working conditions, and ensure equitable remuneration throughout the supply chain (Bick et al., 2018). Equally important is the promotion of transparent and traceable supply chains, which enable consumers and other stakeholders to evaluate companies' environmental and ethical performance (Muthu, 2020). Furthermore, responsible consumption campaigns

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play a significant role in encouraging consumers to make informal purchasing decisions that support sustainable fashion businesses and Circular Economy objectives, these strategies contribute to the development of a fashion industry that is more ethical, environmentally sustainable, and socially responsible. (Fletcher & Tham, 2019; White et al., 2019).

Fair trade labour policies are essential in ensuring that workers in the fashion industry are paid fairly and treated ethically. Many garment workers, particularly in developing countries, suffer from exploitative working conditions, including low wages, long working hours, and unsafe environments (Anner, 2020). Fair trade certification guarantees that brands adhere to ethical labour standards, ensuring that workers receive liveable wages, work in safe conditions, and have access to benefits such as health care and job security (Barrientos, 2019). Several fashion brands have adopted fair trade principles within their supply chains, demonstrating that ethical sourcing can be integrated into commercially successful business models (Burnstine, 2025). The adoption of fair-trade principles not only improve the livelihoods of garment workers but also enhances brand reputation and consumer trust. Governments and non-governmental organisations play a significant role in enforcing fair labour policies through regulations and certifications that hold brands accountable (European Commission, 2020).

Transparency in supply chains is another critical ethical practice that allows consumers to track the sustainability of fashion products. The fashion industry has long been criticised for its opaque supply chains, where unethical labour practices and environmental violations go unnoticed (Bocken et al., 2016). To address this, brands are increasingly adopting blockchain technology

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and digital tracing systems that provide consumers with detailed information about the origins of their clothing. For example, Everlane, a U.S.-based fashion brand, has built its reputation on transparency by disclosing factory conditions, material sourcing, and pricing breakdowns (Saberi et al., 2019). Supply chain transparency empowers consumers to make informed purchasing decisions, encouraging companies to uphold ethical and sustainable standards (Pedersen & Andersen, 2020). Additionally, transparency fosters accountability among brands, as unethical practices are more likely to be exposed and addressed when supply chains are open to scrutiny (Boström & Micheletti, 2016). Governments and industry bodies also play a crucial role in advancing ethical practices by requiring companies to disclose their Environmental, Social, And Governance (ESG) performance and by strengthening corporate accountability through sustainability reporting and regulatory frameworks (European Commission, 2020; Pedersen et al., 2018).

Responsible consumption campaigns are vital in educating consumers on sustainable fashion choices and encouraging ethical purchasing behaviour. Consumer awareness has a significant impact on the demand for ethical and sustainable fashion, influencing brands to adopt more responsible practices (Ellen MacArthur Foundation, 2017). Campaigns such as Fashion Revolution's "Who Made My Clothes?" initiative have successfully raised awareness about labour exploitation and the importance of ethical fashion (Diddi & Niehm, 2017). In response to growing consumer demand for sustainable products, fashion brands are increasingly adopting ethical design strategies that emphasise durability, recyclability, and responsible sourcing as key elements of Circular Economy implementation (Henninger et al., 2015, Niinimäki et al.,

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2020). Educating consumers about the environmental and social consequences of fast fashion helps shift demand towards sustainable alternatives, such as secondhand clothing, rental fashion, and slow fashion movements (White et al., 2019). Digital platforms and social media play a significant role in spreading awareness and influencing consumer behaviour, making ethical fashion more accessible and appealing (Jestratijevic, Rudd & Uanhoro, 2020).

While adopting these ethical practices is essential for achieving a more sustainable fashion industry, several challenges continue to hinder their widespread implementation. Implementing fair labour policies often requires substantial financial investment and long-term commitment from fashion brands, which may be perceived as increasing production costs and reducing short-term profitability (Anner, 2020). Similarly, achieving full transparency in supply chains can be complex, especially for large multinational corporations with extensive networks of suppliers (Saberi et al., 2019). Furthermore, responsible consumption campaigns must overcome consumer resistance to changing shopping habits, particularly in a market dominated by fast fashion and affordability concerns (White et al., 2019). Despite these challenges, continued advocacy, stricter regulations, and evolving consumer preferences towards ethical fashion indicate a positive trajectory for the industry (European Commission, 2020; Fletcher & Tham, 2019).

Ethical fashion practices must be integrated into the industry's core business strategies to create lasting change. Companies that adopt ethical labour policies, ensure supply chain transparency, and promote responsible consumption not only contribute to social and environmental sustainability but also enhance their long-term profitability and brand loyalty (Bocken et al.,

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2016; Ludeke-Freund et al., 2019). Consumers, too, play an essential role by demanding greater accountability from brands and making informed choices that support ethical practices (White et al., 2020). By collectively prioritising ethics and sustainability, the fashion industry can move towards a future where business success aligns with social responsibility and environmental stewardship (Fletcher & Tham, 2019; Niinimäki et al., 2020).

Under the RBV lens, ethical practices are strategic investments that build and protect VRIN resources. Transparent supply chains construct the resource of consumer trust. Fair wages build a highly skilled and loyal workforce, a valuable human capital resource. Authentic cultural representation (Ameyaw et al., 2023) creates a brand identity that is rare and non-substitutable, rooted in a specific cultural context that global competitors cannot authentically replicate.

TAM reveals that ethical practices are positive external variables that enhance the core constructs of PU and PEOU. A reputation for ethical production increases the perceived usefulness of a product by adding a layer of social and moral value for the conscious consumer. Furthermore, a transparent and ethical supply chain can simplify operations and reduce risk in the long run, thereby increasing the perceived ease of use of managing the business itself. Ethical practices make the circular model more attractive and acceptable, facilitating its widespread adoption.

Empirical Review

Globally, several studies have investigated the principles, practices, ethical concerns, and innovations shaping sustainable fashion and the circular

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economy (CE). These findings provide a foundation for examining the Ghanaian context, particularly the practices of fashion designers at Kantamanto.

Principles adopted by fashion designers

The principles adopted by fashion designers, particularly in the context of sustainability, are increasingly shaped by the global discourse on the circular economy. Niinimäki et al. (2020) established that CE principles such as recycling, upcycling, and designing for durability are pivotal in drastically reducing the industry's environmental footprint. This is supported by the work of Geissdoerfer et al. (2017), who frame the CE as a system aimed at minimising resource inputs and waste emissions through the circular activities of reducing, reusing, recycling, recovering, and remanufacturing. Further refining this, Bocken et al. (2026) and Stahel (2016) classify these strategies as narrowing, slowing, and closing resource flows, while Pal and Gander (2018) provide empirical evidence that business models incorporating modular design and material recovery not only foster sustainability but also enhance business resilience. Within the fashion industry, the circular economy seeks to extend the lifespan of garments, maximise material value, and improve recyclability through strategies such as reuse, repair, remanufacturing, and recycling (Ellen MacArthur Foundation, 2017; Niinimäki et al. 2020). Among these strategies, reuse is widely recognised as one of the most effective approaches for reducing textile waste and slowing resource consumption within the fashion system (Kirchherr et al., 2017).

Alongside these global sustainability principles, a distinct and powerful set of principles emerges from the African fashion system, which heavily influences Ghanaian designers. As Essel (2019) documents, the fashion

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landscape in Africa is characterised by a bespoke, artisan-led model where "walking to fashion designers for bespoke garments" is the norm. This system "oiled the wheels of competitive creative fashion designs," as seen in Ghana with the daily creation of hundreds of new kaba and slit designs. However, this vibrant system has its challenges; Essel (2019) notes that it often perpetuates "designer anonymity," where creators operate without brand labels and are "not well paid for their creative designs since the designs are not mass-produced."

A critical principle for many African and Ghanaian designers is the deep integration of cultural heritage and identity. Hansen (2019) observes that contemporary designers from Senegal to Kenya are "reinterpreting traditions, creating innovative silhouettes and combining prints and textiles in new and exciting ways," often linking these initiatives to ethics and sustainability. This is evident in Ghana, where Ameyaw et al. (2023) and Edusei (2004) found that designers frequently draw inspiration from traditional art forms, blending them with contemporary fashion to create unique pieces that affirm cultural identity. This principle is deeply valued, as 229 respondents in the study by Ameyaw et al. (2023) connected "true cultural identity and reflection to clothing made locally or traditionally." Furthermore, designers are pushing creative boundaries, with Hansen (2019) citing the example of a Kenyan design collective that subverts established aesthetic categories, asserting a desire to pursue their own aesthetic limits. This synthesis reveals that the principles adopted by Ghanaian designers at Kantamanto are likely a complex hybrid of global circular economy strategies and deeply embedded local principles of bespoke craftsmanship, cultural expression, and aesthetic innovation.

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Practices fashion designers are implementing in their work

The operational practices of fashion designers, particularly within the African context, are characterised by a blend of artisanal production methods, strategic material sourcing, and small-scale business management. A foundational practice is the reliance on a bespoke, made-to-order model. As Sarpong et al. (2011) found in Ghana, a significant majority (83%) of designers sew garments that are mainly custom-made. This practice is further elaborated by Hansen (2019), who describes a common workshop structure where designers, who may not sew themselves, hire tailors (often men) to execute the garments. These operations frequently run from homes or small rented premises, utilising a mix of industrial and domestic sewing machines, as exemplified by Angela Mulenga's "Queen's Wear" label in Zambia, which operates with a small team and a handful of machines (Hansen, 2019). This bespoke system thrives on personal referrals and a dedicated clientele, with designers creating special occasion wear for trendsetting clients, which in turn generates further business through social visibility (Hansen, 2019).

A critical area of practice is material sourcing, where designers navigate between local cultural identity and practical constraints. There is a strong preference for and practice of using locally manufactured textiles, such as woodin, wax prints, java, tie-dye, and batik, which helps sustain the local textile industry and affirms cultural heritage (Ameyaw et al., 2023; Essel, 2019; Sarpong et al., 2011). In fact, Ameyaw et al. (2023) note that "never before in the history of the nation have more garments been created using domestic materials." However, this practice faces a significant limitation: the manual production of local fabrics like kente and smock often cannot meet the quantity

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demands for larger orders, negatively affecting production scalability (Essel, 2019). Consequently, a common practice is to supplement with imported fabrics, especially for special occasion wear ordered during festive periods (Essel, 2019; Sarpong et al., 2011). From a sustainability perspective, Siaw et al. (2025) found high compliance among Ghanaian garment producers in local material procurement to reduce lead times and transportation emissions, indicating a conscious practice toward reducing the carbon footprint of their supply chain.

In terms of business and production practices, there is a growing, though not yet widespread, alignment with circular economy principles. The dominant model remains linear and bespoke. However, studies point to practices that have inherent circular benefits, such as the reuse of materials, which Sandin and Peters (2018) show can reduce carbon emissions, water usage, and waste. Furthermore, investment in employee training is a highly rated practice, recognised as a driver of quality and innovation (Siaw et al., 2025), which is crucial for implementing more complex circular strategies. While advanced digital circular models like clothing rental subscriptions or pull-demand-driven production, which aims to solve overproduction by building on real-time demand are discussed in global literature (Huynh, 2022), their adoption among small-scale designers in contexts like Kantamanto is likely limited. Instead, their most significant circular practice appears to be the intrinsic "slowing" of resource loops through the creation of durable, culturally significant, custom-made garments that defy mass-consumption patterns.

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Ethical issues associated with the practices employed by upcyclers

The practices within fashion industry are intertwined with a complex set of ethical challenges spanning economic, social, and environmental domains. A primary economic and social concern is the intense pressure from the global secondhand clothing trade. Sarpong et al. (2011) identified the importation of 'seconds', used clothes, and cheap Asian textiles as a "serious challenge" that undermines local producers. This influx is part of a larger environmental justice issue, as Ghana has effectively become a "toxic landfill" for the Global North's textile waste, receiving an estimated 20 million items weekly, 40% of which immediately become waste, polluting landscapes and aquatic ecosystems (Bartlett, 2024; Gupta & Saini, 2020; Manieson & Ferrero-Regis, 2023). This creates an unethical burden, where Ghana bears the environmental cost of Western overconsumption.

Further ethical concerns relate to internal production and labour conditions. The quality of locally produced garments is often compromised by the common practice of using apprentices and unskilled labour in production, a practice that Zwane et al. (2002) confirms leads to substandard outputs (as cited in Sarpong et al., 2011). This is compounded by broader issues documented by Boateng et al. (2024), Anyigba et al. (2024), and Nkrumah et al. (2023), including substandard working conditions and inconsistent product quality. A critical structural weakness is revealed in supply chain governance; Siaw et al. (2025) found an alarmingly low compliance with ensuring suppliers adhere to labour and environmental laws (M = 1.29), indicating a systemic failure in ethical oversight. Moreover, designers like "Efia," who attempt to pioneer sustainable practices, face the ethical dilemma of struggling to communicate

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their value in a market where consumers may not prioritise or understand sustainability, directly impacting profitability and the viability of ethical business models (Appiah et al., 2023).

A significant and nuanced ethical layer involves cultural representation and power dynamics. As designers draw inspiration from traditional art forms, they risk cultural appropriation, which Ameyaw et al. (2023) define as focusing solely on aesthetic patterns while ignoring the ingrained names and meanings of the textiles. This disconnection between design and cultural context leads to misrepresentation. The issue is further exacerbated by what Ameyaw et al. (2023) term "benign cultural colonialism," where external researchers or advocates from the Global North shape narratives based on their own perspectives rather than engaging in fair cultural exchange. This highlights an ethical imperative for designers and those studying them, to accurately represent and contextualise cultural heritage, ensuring it is honoured rather than merely extracted for aesthetic value.

Ethical concerns addressed by upcyclers in the fashion industry

Upcyclers actively identify and advocate against a range of ethical concerns, with their primary focus being on the systemic economic and trade inequities that threaten their livelihoods. A overwhelming majority of designers (96%) cite the influx of smuggled, cheap imported fashion products as their top ethical challenge, arguing that these goods, which evade quality checks and taxes, create an unlevel playing field that unfairly competes with local products (Essel, 2019). This sentiment is so strong that 90% of respondents in a prior study agitated for a ban on such imports (Sarpong et al., 2011). Designers directly link this crisis to ineffective border enforcement and the involvement

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of foreigners in retail, which violates the Ghana Investment Promotion Centre Act (Essel, 2019). In response, they have called for collective action, urging the formation of strong alliances to lobby parliament for protective policies, and for the establishment of a statutory body to censor and ensure the quality of Ghanaian fashion exports, thereby protecting the nation's fashion image internationally (Essel, 2019; Sarpong et al., 2011).

Beyond economic protectionism, designers and industry stakeholders are engaging with complex ethical debates surrounding cultural integrity and environmental responsibility. The global discourse on cultural appropriation, highlighted by films like *Black Panther*, raises questions about the authentic versus stereotypical representation of African aesthetics, warning against narratives that reduce local cultures to passive imitators of Western trends (Hansen, 2019).

In addressing this, Ghanaian designers are positioned to champion authentic cultural representation, with studies suggesting they can provide a platform to showcase talent and heritage by thoughtfully integrating traditional elements (Ameyaw et al., 2023). On the environmental front, the industry is confronted with the severe impacts of fashion, from the dumping of secondhand clothing that turns Ghana into a "toxic landfill" to the resource degradation caused by overproduction and the polluting, chemical-intensive nature of textile production and recycling (Ellen MacArthur Foundation, 2017; Huynh, 2022).

While awareness of these issues is growing, and some designers like "Efia" are successfully leveraging sustainable practices as a unique selling point (Appiah et al., 2023), the industry also demonstrates a foundational awareness of social ethics, showing a commitment to fair labour practices and worker

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rights as a baseline for social responsibility (Siaw et al., 2025). This indicates that the ethical concerns being addressed span a full spectrum, from immediate economic survival to longer-term cultural and environmental sustainability.

Innovative design practices adopted by fashion designers in alignment with circular economy principles

A prominent form of innovation aligned with circular economy principles is the creative transformation of waste streams, particularly secondhand clothing. As documented by Hansen (2019) in Zambia, a new generation of fashion-conscious entrepreneurs is leveraging flair and creativity to restyle and put "fresh spins on secondhand clothing," often selling these unique pieces through pop-up shops and events. This practice directly embodies the CE principles of reuse and recycling, transforming anonymous Western garments into one of a kind items through repair, alteration, and repurposing in local tailor workshops. This innovation is not merely technical but also deeply cultural and economic, as these designers tap into local aesthetics and global inspirations to create desirable products, finding a "good source of income" in the process and effectively keeping clothing in use for longer (Hansen, 2019).

However, the capacity for such innovation is not uniform and faces significant barriers. A critical challenge in Ghana, as identified by Sarpong et al. (2011), is a skills deficit, where majority (86%) of local designers lack knowledge in advanced clothing construction techniques. This forces them to depend on pre-existing designs from catalogues, which "hinders creativity and innovation" and reduces their competitiveness. To address this, upskilling through vocational training and knowledge-sharing with experts from tertiary institutions is recommended as a vital pathway to fostering the innovation

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needed for international market recognition (Sarpong et al., 2011). Furthermore, formal education that includes sustainability modules can significantly position brands to meet global demand, as seen in the case of designer "Efia," whose sustainable approach eventually became a unique market differentiator (Appiah et al., 2023).

Despite these grassroots innovations, the systematic adoption of circular practices, particularly in sourcing and waste management, remains limited. Empirical data from Siaw et al. (2025) reveals that the use of organic or recycled fabrics and reliance on certified suppliers are marginal in Ghana, indicating that environmental priorities are not yet embedded in core business strategies. Most critically, compliance with recycling and waste-reuse strategies is exceptionally weak, pointing to a significant gap in closing the material loop. While global best practices advocate for circular models that minimise waste and resource use (Niinimäki et al., 2020), and digital technologies like virtual sampling are shown to potentially cut waste by 50% (Huynh, 2022), these advanced practices have not yet taken root. Therefore, the current landscape of innovation is characterised by ingenious, small-scale reuse and remanufacturing, but it is hampered by a lack of technical skills, limited sustainable material sourcing, and an absence of systemic infrastructure for recycling and digital transformation.

Conceptual Framework of the Study

Figure 1 presents the conceptual framework of the study. The framework proposes that circular economy principles, practices, ethical issues, responses to ethical concerns, and innovative design practices are interconnected dimensions of circular fashion. The adoption of circular economy principles is

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expected to shape how upcyclers utilise and transform secondhand clothing, while the implementation of these practices may generate ethical concerns relating to waste colonialism, cultural authenticity, trust, and value distribution. The framework further suggests that practitioners' responses to such concerns, together with innovative design practices, can contribute to strengthening circularity within the fashion sector.

The framework also proposes an integration framework comprising four complementary pillars: Policy and Regulation, Infrastructure and Technology, Education and Mindset, and Finance and Market. These pillars represent the institutional, technological, educational, financial, and market conditions expected to facilitate the adoption, strengthening, and wider integration of circular economy practices.

The relationships among these elements may contribute to the overarching outcome of a thriving and equitable circular fashion industry in Ghana. The framework therefore provides the conceptual lens through which the study examines the experiences and practices of Kantamanto upcyclers.

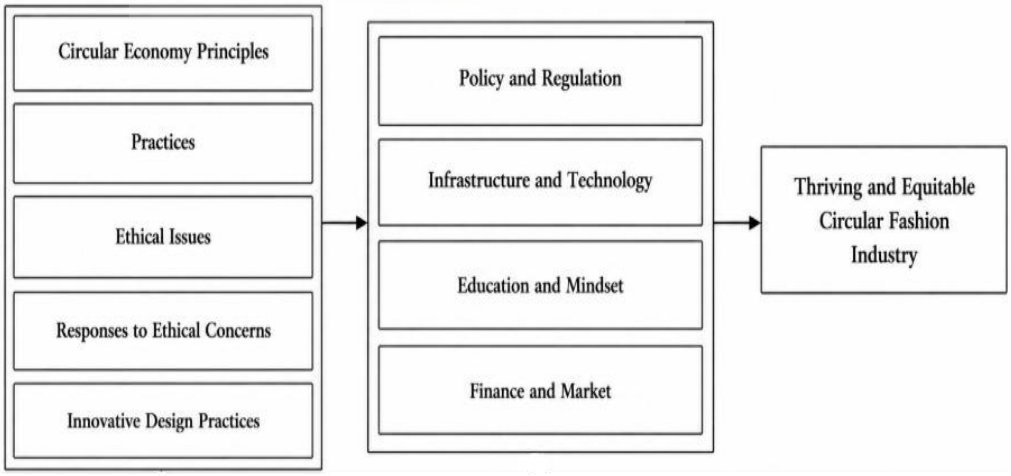


Figure 1: Conceptual framework of the study

Source: Author's Construct (2025)

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Chapter Summary

This chapter has provided a comprehensive review of the literature, structured into conceptual, theoretical, and empirical components, to establish a robust foundation for the study. The conceptual review delineated the core principles and practices of the circular economy, framing it as a restorative alternative to the linear fashion model and outlining a sustainability framework built on resource efficiency, sustainable business models, ethical labour, and consumer engagement. The theoretical review introduced two guiding frameworks: the Resource-Based View (RBV), which analyses the unique skills and cultural knowledge of upcyclers as strategic assets for competitive advantage, and the Technology Acceptance Model (TAM), which provides a lens to understand the adoption of circular innovations based on their perceived usefulness and ease of use. Synthesising the empirical findings, the review revealed that while Ghanaian designers at Kantamanto demonstrate inherent circular practices like creative upcycling and the use of local textiles, they operate within a system constrained by intense global competition, a significant skills gap, and underdeveloped infrastructure for advanced circular strategies, thereby presenting a critical research space for exploring how these principles and ethics are navigated on the ground.

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CHAPTER THREE

RESEARCH METHODS

Introduction

This study explored circular economy principles and ethics among upcyclers of secondhand clothing at Kantamanto Markert in the Greater Accra Region of Ghana. This chapter outlines the research methods and techniques employed in this study. It details the research design, study area, population, sampling procedure, data collection instruments, data collection procedures, data processing and analysis, ethical considerations, and chapter summary.

Research Approach

This study adopts a qualitative research approach to investigate the complex social phenomena of circular economy principles and ethical practices among upcyclers at Kantamanto Market. The selection of this approach is fundamentally guided by the research objectives which seek to explore, understand, and interpret the lived experiences and social realities of the upcyclers rather than to measure or quantify variables (Creswell, 2014; Grossoehme, 2014). Within the broader qualitative paradigm, this research employs a case study design focusing specifically on Kantamanto Market as a bounded system that provides rich, contextual insights into circular economy practices in an informal sector context (Daeyi, 2026; Derks, 2024; Granados, 2026).

The qualitative case study approach is particularly appropriate for this research for several compelling reasons. First, the study aims to answer the "how" and "why" questions regarding the adoption and implementation of circular economy principles, which aligns perfectly with the exploratory and

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interpretive nature of qualitative inquiry (Dzogovic & Bajrami, 2023; Yin, 2009). Second, the research requires an in-depth understanding of the complex, context-dependent social phenomena occurring within Kantamanto's unique ecosystem, which case study methodology is uniquely positioned to provide through its particularistic, descriptive, and heuristic features (Kekeya, 2021). Third, the study acknowledges multiple realities and seeks to understand the socially constructed meanings that upcyclers attribute to their practices, necessitating a constructivist and interpretivist stance that qualitative research supports (Cooper & White, 2012).

The chosen approach offers significant strengths for this investigation. It allows for rich, thick descriptions of the phenomena under study, and captures the depth and complexity of human experiences (Lune & Berg, 2017), and provides flexibility to adapt to emerging insights during the research process (Bhatta, 2018). The case study design enables the exploration of the phenomenon within its real-life context using multiple data sources, thus providing a holistic understanding (Baxter & Jack, 2008).

However, the approach also presents certain limitations. The findings are context-specific and may not be statistically generalisable to other settings (Silverman, 2020). The researcher's presence and interpretive role may introduce subjectivity, though this is acknowledged as an inherent aspect of qualitative inquiry (Flick, 2022). Additionally, the depth of analysis comes at the cost of breadth, as the focus on one primary case limits the scope of the investigation (Creswell, 2009).

Despite these limitations, the qualitative case study approach remains the most appropriate for achieving the research objectives, as it prioritises deep

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understanding of complex social phenomena in their natural context over generalisable findings (Bhatta, 2018; Gummesson, 2014). The approach enables the capture of the rich, contextual information necessary to address the research questions regarding the principles, practices, and ethics of circular economy adoption at Kantamanto Market.

Research Design

This study employs a qualitative case study design to investigate the circular economy principles and ethical practices among upcyclers at Kantamanto Market. The case study approach was selected over other qualitative designs such as phenomenology, ethnography, or grounded theory because it allows for an in-depth exploration of a contemporary phenomenon within its real-life context, particularly when the boundaries between phenomenon and context are not clearly evident (Yin, 2009). This design is specifically appropriate as it enables the examination of the complex social phenomena of circular economy adoption within the bounded system of Kantamanto Market, treating it as an instrumental case that provides insight into broader issues of circular economy implementation in informal sectors (Baxter & Jack, 2008).

The justification for selecting a case study design stems directly from the research objectives that seek to understand "how" and "why" questions regarding the adoption and implementation of circular economy principles in this specific context. As noted by Simons (2009), case study research is particularly suited for conducting intensive studies to gain deeper understanding of particular themes and activities occurring in society. The design's particularistic nature allows focus on the specific context of Kantamanto, while

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its descriptive quality enables rich, thick descriptions of the phenomena under study, and its heuristic characteristic helps illuminate understanding of circular economy practices that may inform similar contexts (Kekeya, 2021). This approach is especially valuable for exploring complex phenomena based on real-world contexts where depth of understanding is prioritised over breadth (Baskarada, 2014; Harrison et al., 2017).

The case study design offers significant strengths for this investigation. It has the ability to capture the complexity of human interactions and experiences within their natural setting (Cohen et al., 2011) and facilitate theory building from empirical data (Gummesson, 2014). It also provides flexibility in using multiple data sources to develop a comprehensive understanding of the case (Baxter & Jack, 2008). However, the design also presents limitations, including potential challenges with generalisability beyond the specific context, researcher subjectivity in interpretation, and the time-intensive nature of data collection and analysis (Silverman, 2020; Yin, 2009).

Despite these limitations, the case study design remains the most appropriate for this research as it aligns with the study's aim to provide an in-depth, contextual understanding of circular economy practices within the unique setting of Kantamanto Market, ultimately contributing to theory development in this emerging research area.

Study Area

This study was conducted within the Greater Accra Region of Ghana, with specific focus on Kantamanto Market in the heart of Accra. Kantamanto represents one of West Africa's largest and most dynamic markets for secondhand clothing and textile trade, making it an ideal location for

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investigating circular economy practices in the fashion industry. The market serves as a crucial hub where global textile waste flows intersect with local innovation, creating a unique ecosystem for studying sustainable fashion practices in an informal economy context.

Kantamanto Market's significance as a study area stems from its position as a primary entry point for approximately 15 million garments imported into Ghana weekly, of which an estimated 40% leaves the market as immediate waste (Brooks et al., 2017). This concentration of textile inflow and subsequent waste generation creates a critical research context for examining how local fashion designers and upcyclers navigate the challenges and opportunities presented by this massive material stream. The market's spatial organisation, with dedicated zones for different aspects of the textile trade from bulk importers and distributors to specialised upcycling workshops and retail spaces, provides a natural laboratory for observing the complete value chain of circular fashion practices.

Kantamanto Market occupies a land space of approximately 6.5 acres. It shares its northern boundary with the Accra Railway Station, its southern boundary with the White Chapel (UTC) building, its eastern boundary with Accra Brewery, and its western boundary with the Greater Accra Police Command. The market is annexed to the wider Makola Market area (Amanor, 2018). The selection of Kantamanto as the study area is further justified by its reputation as an incubator for sustainable fashion innovation, where designers have developed systems for transforming textile waste into valuable products. Furthermore, the market's location in Accra, Ghana's capital and largest city, ensures access to a diverse range of fashion practitioners operating at different

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scales, from individual artisans to established workshops. This diversity provides comprehensive insights into the continuum of circular economy practices within the informal fashion sector.

Population

The target population for this study comprises individuals and organisations engaged in clothing production, redesign, and resale within the Kantamanto Market ecosystem. This includes a diverse range of actors, such as fashion designers and upcyclers, tailors, menders, and ironing service providers, whose collective work embodies the principles of the circular economy by extending the lifespan of textiles. According to a 2022 report cited by The Or Foundation, an Accra-based non-profit organisation focused on the secondhand clothing sector, more than 30,000 people work within the Kantamanto Market (Press, 2022). This figure provides a recent estimate of the total population, encompassing workers involved in importing, resale, upcycling, food services, and other support roles.

The accessible population for this study will be a targeted subset of this broader group, specifically focusing on Upcyclers and upcyclers who are directly engaged in the creative transformation of secondhand textiles. This accessible population is a valid representation of the target population for investigating circular economy principles, as these individuals are at the core of the innovative practices that add value to textile waste. A limitation is that this focused approach may not capture the perspectives of those in purely distributive or support roles, but it ensures that the data collected is rich and directly relevant to the research questions concerning design principles, practices, and ethics in upcycling.

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Sampling Procedure

This study employed a purposive sampling technique to select participants who could provide rich, relevant, and in-depth insights into the research problem. The justification for this non-probability sampling method is that the study does not seek statistical generalisability; rather, it aims to develop a deep, contextual understanding of a specific phenomenon within its real-life setting namely, the adoption of circular economy principles and ethical practices among upcyclers at Kantamanto Market (Smith et al., 2009). Purposive sampling is therefore appropriate because it enables the selection of information-rich cases that are most relevant to the research questions, particularly individuals with direct expertise and sustained practical experience in upcycling and sustainable fashion production.

The determination of the sample size for this study was guided by the principle of data saturation, defined as the point at which additional data collection no longer generates new insights or themes relevant to the research objectives. In qualitative case study research, sample size is not established through statistical power calculations but through information redundancy, where sufficient depth and breadth of understanding are achieved (Hennink & Kaiser, 2022; Hennink et al., 2017; Malterud et al., 2016). In line with established qualitative research conventions and the study's objectives of achieving a comprehensive understanding of the case, a target sample size of 20 participants was determined. This number is consistent with common practice in qualitative case study research, which typically relies on smaller, strategically selected samples to allow for intensive, in-depth analysis of a phenomenon

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within its context. Consequently, the final sample for this study comprised 20 participants.

Furthermore, sample size adequacy in this study was informed by the concept of information power rather than statistical power (Malterud et al., 2016). According to this principle, the sufficiency of a sample depends on several factors, including the specificity of the study aim, the homogeneity and relevance of the sample, the use of established theoretical frameworks, the quality of researcher participant dialogue, and the chosen analytical strategy. Given that this study focuses on a clearly defined and relatively distinct group, fashion upcyclers operating within Kantamanto Market, draws on established theoretical lenses such as the Resource-Based View and the Technology Acceptance Model, and employs in-depth thematic analysis, a sample of 20 participants was deemed to provide strong information power for addressing the research questions.

The selection of 20 participants also reflected a deliberate strategy to achieve thematic saturation while adequately capturing the diversity inherent within the Kantamanto upcycling ecosystem. Although seminal qualitative studies suggest that saturation can often be reached within 12 to 15 interviews (Guest, Bunce & Johnson, 2006), a sample size of 20 was intentionally adopted for three key reasons;

First, it ensured representation across major upcycling trades, including tailors, leatherworkers, and accessory makers, thereby allowing the findings to reflect the sector's heterogeneity rather than the practices of a single niche.

Second, it provided a sufficiently robust basis for within-case comparison, enabling the identification of subtle variations in circular economy

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practices and ethical orientations associated with different materials, production processes, and business models.

Third, it ensured adequate depth and consistency across all core research themes, while providing a methodological buffer against potential variability in interview richness and participant expressiveness.

A larger sample size, such as 25 to 30 participants, was considered unnecessary because it was likely to yield diminishing thematic returns (Guest et al., 2006) while exceeding the practical scope of an in-depth, single-researcher MPhil thesis. An expanded sample could also risk compromising analytical depth in favour of breadth. Accordingly, a sample size of 20 participants represented an effective balance between empirical coverage and analytical depth, thereby ensuring sufficient information power to meet the exploratory and interpretive aims of the study.

The purposive sampling technique was operationalised through a systematic, multi-stage process. Initially, potential participants were identified as owners or lead designers of small-scale production centres within Kantamanto Market that were known to engage in upcycling activities. These individuals were then screened using predefined inclusion criteria, specifically a minimum of one year of continuous operation within Kantamanto Market and a primary business model centred on the transformation of secondhand textiles into new fashion products. The final selection sought to ensure diversity in terms of materials used, such as denim, leather, or mixed fabrics; product focus, including clothing, bags, and accessories; and length of business operation, in order to capture a broad spectrum of upcycling practices and ethical orientations within the case.

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The final sample therefore consisted of 20 Ghanaian fashion upcyclers and designers operating within the bounded system of Kantamanto Market. This composition ensured that all participants possessed the requisite experiential knowledge and practical engagement necessary to provide detailed, credible, and contextually grounded insights into the phenomenon under investigation. As a result, the sampling procedure effectively supported the study's objectives of exploring the nuanced realities of circular economy implementation within this specific context, while maintaining the depth and rigor characteristic of qualitative case study research.

Data Collection Instruments

This study employed a multi-method qualitative approach to data collection, utilising semi-structured interviews as the primary instrument, supplemented by participant observations. This triangulation of methods was essential for developing a comprehensive, context-rich understanding of the circular economy ecosystem at Kantamanto Market, aligning with the case study design's requirement for multiple data sources (Baxter & Jack, 2008).

The semi-structured interview guide served as the primary data collection instrument, developed by the researcher through a comprehensive review of literature on circular economy principles and Ghana's fashion industry. The guide's content was informed by key theoretical frameworks including the Resource-Based View and circular economy literature (Ellen MacArthur Foundation, 2017; Geissdoerfer et al., 2020), ensuring alignment with the research objectives. The instrument was structured into six thematic sections corresponding to the study's research questions, covering principles adopted, practices implemented, ethical issues encountered, strategies for

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addressing concerns, innovative techniques, and framework development. This organised approach ensured systematic coverage of all research objectives while maintaining the flexibility necessary for probing emergent themes during interviews (see APPENDIX A).

To ensure instrument validity and reliability, the interview guide underwent rigorous development and testing. Content validity was established through expert review by two academics specialising in sustainable fashion and qualitative research, while construct validity was enhanced by directly linking questions to research objectives. The instrument was pilot-tested with two upcyclers not included in the main study, revealing the need to simplify technical terminology like "circular economy principles" into more accessible language. This pilot testing contributed significantly to the final instrument by improving question clarity and cultural appropriateness. The semi-structured format's main strength lay in its flexibility for exploring unanticipated themes, though this introduced potential interviewer bias that was mitigated through consistent use of core questions across all interviews.

Supplementary data collection instrument was participant observation. The observations focused on daily upcycling practices, material flows, and workplace interactions, providing crucial contextual data that complemented interview responses. Together, these instruments enabled comprehensive data collection that captured the complexities of circular economy practices at Kantamanto from multiple perspectives, ensuring the research could adequately address its objectives while maintaining the methodological rigour required for qualitative case study research.

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Data Collection Procedures

Data collection for this study was conducted by the primary researcher between 18th August 2025 to 23rd August 2025, following approval from the University of Cape Coast Institutional Review Board (UCCIRB) with a clearance certificate of UCCIRB/CES/2025/061 (see APPENDIX B). To manage the scope of data collection within the extensive Kantamanto Market, four field assistants were recruited and trained by the researcher. The training focused on the research objectives, ethical protocols, and the specific use of the semi-structured interview guide to ensure consistency across all interviews. Fieldwork was strategically scheduled to capture the full operational cycle of the market, with data collection sessions typically occurring between 8:00 am and 4:00 pm, from Monday to Saturday, corresponding with the market's busiest hours. This timing ensured maximum engagement with participants during their active work periods while allowing for observation of the complete daily workflow from material sourcing to final production. The researcher and assistants conducted interviews in locations convenient to participants, primarily within their workshops or quiet areas of the market, while simultaneously documenting observable practices and interactions through detailed field notes.

The data collection process followed a phased approach, beginning with initial observational visits to familiarise the researcher with the market layout and establish preliminary contacts. This was followed by the primary interview phase, where the 20 selected participants were engaged in semi-structured interviews lasting approximately 30-35 minutes each. Interviews were conducted in locations convenient to participants, primarily within their

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workshops or quiet areas of the market and were audio-recorded with permission. Simultaneously, the researcher conducted approximately 60 hours of participant observation, documenting workflows, material handling practices, and social interactions through detailed field notes and photographs where permitted (see Photographs in APPENDIX C).

Several significant challenges were encountered during data collection. First, the highly dynamic and often chaotic environment of Kantamanto Market presented logistical difficulties, including high noise levels that occasionally compromised audio recording quality and limited private spaces for conducting interviews.

Second, initial scepticism from some potential participants required substantial time building trust and explaining the research purpose through multiple visits before they consented to participate. Third, the linguistic diversity of the market necessitated occasional code-switching between English, Pidgin and Twi, though all participants were sufficiently proficient in English for the interviews. Finally, the physical intensity of navigating the crowded market and the emotional challenge of witnessing the scale of textile waste and difficult working conditions required the researcher to maintain careful reflexivity throughout the process. These challenges were mitigated through flexible scheduling, building relationships with key market stakeholders who could facilitate introductions, and maintaining detailed reflexive journals to account for positionality in the research process.

Data Processing and Analysis

The data processing and analysis followed a systematic procedure to ensure rigor and trustworthiness, employing thematic analysis as the primary

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analytical method (Braun & Clarke, 2006). The unit of analysis for this study was the individual upcycling practice and its associated principles, ethics, and challenges, situated within the bounded case of Kantamanto Market.

Immediately following data collection, a rigorous processing protocol was implemented. All audio-recorded interviews were transcribed verbatim, resulting in over 70 pages of textual data. Transcripts were cross-checked against the original recordings by the researcher to ensure accuracy, a process that also served as initial data immersion. Field notes from observations were expanded and systematised, and relevant documents were catalogued.

The analysis followed Braun and Clarke's (2006) six-phase framework for thematic analysis. First, the researcher immersed in the data through repeated reading of transcripts and field notes. Second, initial codes were generated systematically across the entire dataset, focusing on capturing key concepts and insights. Third, these codes were collated into potential themes, gathering all relevant data extracts for each candidate theme. Fourth, themes were reviewed and refined, first in relation to the coded extracts and then in relation to the entire dataset. This iterative process ensured themes were coherent, distinct, and comprehensively represented the data. Finally, themes were defined, named, and woven into a coherent analytical narrative.

The analytical approach was tailored to each research question while maintaining methodological consistency. For Research Question 1 (principles adopted), analysis focused on identifying explicit and implicit design philosophies and value systems, with codes emerging around material engagement, market adaptation, and environmental ethics. For Research Question 2 (practices implemented), the analysis emphasised observable

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behaviours and reported actions, with particular attention to patterns in material flows, production techniques, and business operations. Research Question 3 (ethical issues) required careful analysis of moral reasoning and value conflicts, while Research Question 4 (addressing issues) focused on problem-solving strategies and coping mechanisms. Throughout the analysis, the constant comparative method was employed, where new data were continuously compared with existing codes and themes to ensure comprehensive theme development and saturation.

The choice of thematic analysis was justified by its flexibility in identifying patterns of meaning across a qualitative dataset and its compatibility with the study's exploratory case study design. This approach allowed for both inductive (data-driven) and deductive (theory-informed) theme development, capturing both the unexpected realities of upcycling at Kantamanto while remaining grounded in existing circular economy theory. The systematic nature of this analytical approach ensured that findings remained firmly rooted in participant experiences while providing meaningful insights into the research questions.

Ensuring trustworthiness

To ensure methodological rigour and enhance the trustworthiness of the study, the framework proposed by Lincoln and Guba (1985), comprising credibility, transferability, dependability, and confirmability, was applied throughout the research process. This framework is widely accepted in qualitative research as an appropriate alternative to conventional criteria of validity and reliability, particularly for interpretive case study designs such as the present study.

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Credibility, which corresponds to internal validity in quantitative research, was strengthened through multiple, complementary strategies. Prolonged engagement was achieved through a multi-week data collection process, enabling the researcher to build rapport with participants and develop a nuanced understanding of the Kantamanto upcycling context. Member checking was conducted by sharing preliminary interpretations and emerging themes with a subset of participants to verify the accuracy and authenticity of the findings. In addition, data triangulation was employed by drawing on multiple sources of evidence, including in-depth interviews, field observations, and relevant documents, to cross-validate insights and reduce the risk of single-source bias. The systematic pursuit of thematic saturation with a purposively selected sample of 20 participants, as justified earlier in this chapter, further enhanced credibility by ensuring that the findings were firmly grounded in rich and repetitive empirical evidence.

Transferability, which parallels external validity, was addressed through the provision of thick, detailed descriptions of the research context, participant characteristics, and analytical findings. Such contextual depth allows readers to make informed judgments about the applicability of the findings to other comparable settings. The purposive sampling strategy, which deliberately captured diversity across key upcycling trades within Kantamanto Market, further supports the potential transferability of the study's insights to similar informal-sector and sustainable fashion contexts.

Dependability, analogous to reliability, was ensured through the maintenance of a comprehensive audit trail documenting the entire research process. This included the systematic preservation of raw data such as audio

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recordings, interview transcripts, and field notes, as well as detailed records of coding procedures, theme development, analytical decisions, and reflexive notes. This transparent documentation allows the research process to be traced and evaluated, thereby enhancing the consistency and replicability of the study's methodological approach.

Confirmability, which addresses objectivity, was reinforced through ongoing reflexive practice. The researcher maintained a reflexive journal to critically examine personal assumptions, potential biases, and the influence of positionality as an academic researcher on data collection and interpretation. This reflexive engagement facilitated the bracketing of preconceived notions and ensured that the study's findings were grounded in participants' accounts and empirical evidence rather than the researcher's subjective perspectives.

Ethical Considerations

Ethical clearance for this study was obtained from the University of Cape Coast Institutional Review Board (UCCIRB/CES/2025/061) prior to commencing fieldwork. The application process involved submitting a detailed research proposal outlining the study's Objectives, methodology, potential risks, and benefit mitigation strategies. This included the informed consent form, data management plan, and interview protocols for review.

Approval was granted upon the UCCIRB's assessment that the study adhered to established ethical principles. Key protocols implemented included obtaining written informed consent from all participants after thoroughly explaining the research purpose, procedures, and their right to withdraw at any stage without penalty. To ensure confidentiality, all identifying information was removed during transcription and pseudonyms were used throughout data

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analysis and reporting. Secure storage of both digital and physical data was maintained in accordance with UCCIRB guidelines, with access restricted to the research team. These measures ensured the study maintained ethical integrity while protecting participant welfare throughout the research process.

Chapter Summary

This chapter has outlined the qualitative case study methodology employed to explore circular economy principles at Kantamanto Market. The research design incorporated purposive sampling of 20 upcyclers, with data collected through semi-structured interviews and participant observations between August and September 2025. Thematic analysis guided the systematic examination of data, while ethical protocols ensured participant protection. Several limitations are acknowledged, including the restricted generalisability inherent in case study designs, potential social desirability bias in self-reported data, and the researcher's influence on observed behaviours. The cross-sectional nature of the study captures practices at a specific temporary point, and the sample, while sufficient for qualitative inquiry, represents only a segment of the market's population. These methodological constraints provide important context for interpreting the findings presented in subsequent chapters.

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CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This study explored circular economy principles and ethics among upcyclers of secondhand clothing at Kantamanto Markert in the Greater Accra Region of Ghana. This chapter presents and discusses the findings of the study, "Exploring Circular Economy Principles and Ethics Among Upcyclers at Kantamanto, Accra." It begins by presenting the descriptive results of the participants' demographic characteristics, providing a clear profile of the respondent group. The chapter then proceeds to the core of the analysis, presenting the thematic findings for each research question in the results section. Following the presentation of each set of results, an integrated discussion section interprets these findings, linking them to existing literature and the study's theoretical framework. The chapter concludes with a concise summary that synthesises the key results and their primary implications, setting the stage for the concluding chapter's recommendations.

Demographic Characteristics of the Participants

Prior to presenting the thematic findings, this section describes the demographic composition of the 20 Ghanaian upcyclers from Kantamanto who participated in this study. The data on sex, age distribution, and education level establish the background of the respondent group from which the data on circular economy principles and ethics were gathered.

The demographic profile of the 20 participants in this study, which explores circular economy principles and ethics among upcyclers at Kantamanto, reveals a cohort predominantly comprised of men (70.0%), with a

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balanced age distribution across young adults (20-29 years: 30.0%), middle-aged (30-39 years: 30.0%), and experienced practitioners (40-49 years: 40.0%). A key finding is that majority (70.0%) have attained a Senior High School education, while all participants are Ghanaian nationals. This suggests that the Kantamanto upcycling sector is largely driven by a male workforce with a significant level of formal secondary education, yet it also attracts individuals across a wide age range, indicating it is a viable livelihood for both new entrants and seasoned professionals

Table 1: Demographic Information of the 20 Participants

Demographic Variable	Category	Frequency (n)	Percentage (%)
Sex	Male	14	70.0
	Female	6	30.0
Age Group	20-29 years	6	30.0
	30-39 years	6	30.0
	40-49 years	8	40.0
Education	Senior High School	14	70.0
	Basic School	6	30.0
Nationality	Ghanaian	20	100.0

Source: Field Data (2025)

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education, while all participants are Ghanaian nationals. This suggests that the Kantamanto upcycling sector is largely driven by a male workforce with a significant level of formal secondary education. This cohort also attracts individuals across a wide age range, indicating it is a viable livelihood for both new entrants and seasoned professionals.

Subsequent paragraphs present the results of the analysis conducted to address the central research questions of this study. The analysis was guided by Braun and Clarke's (2006) six-phase framework for reflexive thematic analysis, which involved familiarisation with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report. The findings that follow are organised according to the themes identified through this rigorous process.

Principles Adopted by Upcyclers of Secondhand Clothing at Kantamanto Market

Principle of design and upcycling at Kantamanto Market

The analysis of interviews with 20 upcyclers at Kantamanto reveals a rich and complex set of principles guiding their design practices. Rather than adhering to a single, formal doctrine, their work is driven by a dynamic interplay of four central themes.

Theme 1: Material-led design intelligence

A foundational principle for many upcyclers is a responsive and intuitive engagement with the materials themselves. Design is not conceived in a vacuum but emerges from a direct dialogue with the available secondhand textiles. This theme is characterised by a deep respect for the fabric's inherent properties and potential. For instance, Participant 17 articulated this most explicitly, stating,

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"My principle is that I always listen to what the fabric is saying to me. I believe that every fabric has a story to tell, every fabric has its own patterns, and that may influence the type of design... The fabric speaks first, and then I design." This sentiment is echoed in the practices of others who begin their creative process by assessing the *"availability of scraps"* (P2) or seeing discarded clothes as a *"canvas to receive the designs" (P13)*. Participant 6 powerfully embodies this principle, explaining that their creativity begins precisely at the point of a garment's perceived failure: *"People think when the jeans is torn it is not useful but for me, that is when my ideas begin... so that the jeans will not be thrown away."* Furthermore, the practical assessment of a garment's *"colour and size"* (P7) or the specific targeting of underutilised items like *"leather jackets and winter jackets"* (P13) demonstrates material intelligence that directly shapes the final product.

Theme 2: Market-mediated creativity

The creative vision of the upcyclers is significantly shaped by the demands and trends of the marketplace. This principle involves a strategic adaptation to consumer preferences to ensure economic viability. Participants actively engage with both local and global fashion currents to inform their designs. A common approach is to monitor and imitate trending styles, as Participant 14 noted: *"I watch social media to see what people like wearing around... I imitated them to make some so that it will sell faster."* This process is often a collective one, as described by Participant 12, who explained how a network of peers shares intelligence: *"When there is a new style in town, we tell each other about it and learn to cut these secondhand clothes into that particular style."* Digital platforms like Pinterest (P16) and celebrity styles

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(P12) serve as key inspiration sources. However, this market-awareness is not purely imitative; it is frequently fused with personal innovation. Participant 15 highlighted this blend, stating, *"We usually look at trending designs... but we have added extra features to make ours unique,"* indicating a principle of adaptive differentiation to stand out within the commercial landscape.

Theme 3: Client-centred co-creation

Many upcyclers operate on a principle of deep collaboration with their customers, positioning the client not merely as a consumer but as a co-creator in the design process. This principle prioritises fulfilling the client's specific needs, personality, and desires. Participant 1 detailed a holistic approach, considering the *"customer's personality and the purpose for which the bag is being ordered."* For some, the process begins with the client's vision, which the upcycler then refines and executes; as Participant 5 stated, *"The customers most of the time give me clues as to what they want then I also add on to make the work beautiful."* This collaborative dynamic is also evident with upcyclers who work on commission, where clients may arrive with their own designs (P16). The ultimate goal of this principle is customer satisfaction, which Participant 4 identified as a core driver: *"My principle is to create clothing that will make my customers happy."* Even in a hierarchical setting, this focus translates to meeting the standards of a supervising designer, as seen with Participant 19, whose principle is *"to sew to perfection and meet his standards."*

Theme 4: An embedded ethos of utility and care

Underpinning the practical principles of design is a strong, often unspoken, ethos that values extending the life of clothing, minimising waste, and producing quality workmanship. This theme represents the moral and

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ethical dimension of their practice. The motto of Participant 3, *"Bring life back to discarded clothes,"* serves as a powerful summary of this drive. The motivation is frequently rooted in a direct desire to prevent textiles from being discarded, as Participant 6 emphasised the goal that *"the jeans will not be thrown away."* This evolves into a conscious goal of *"zero waste,"* as explicitly stated by Participant 18, who creates smaller items like purses from fabric scraps to ensure nothing is lost. Parallel to this environmental care is a commitment to quality and durability. Participant 9 focuses on ensuring their products *"are of good quality,"* meticulously checking *"seams, and other finishing,"* while Participant 10 strives to replicate the original quality of a garment during alterations. This fusion of environmental consciousness and pride in craftsmanship signifies a principle of care that extends to both the object and the eventual wearer.

The motivational drivers behind upcycling principles at Kantamanto

The analysis of participant interviews reveals that the principles guiding upcyclers' work are propelled by a complex and often interconnected set of motivations. The findings are structured around three central themes that capture the core motivations.

Theme 1: Environmental stewardship and waste aversion

A profound and deeply felt motivation for a significant number of upcyclers is the desire to combat textile waste and protect their local environment. This driver is characterised by a visceral reaction to the scale of pollution and a sense of personal responsibility to enact change. Participant 4 described a pivotal moment of witnessing the environmental impact first-hand: *"When you go to the James Town Beach, you will be sad how clothes are stuck*

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in the sand, it was because of this that made me do this kind of business." This sentiment of tackling a visible problem is widespread, with Participant 3 stating simply, *"I hate waste,"* and Participant 2 identifying their main motivation as *"to create a sustainable environment by reducing waste."* For many, this is not an abstract concept but an immediate concern for community well-being. Participant 6 connected their work directly to public health, reasoning, *"If the waste is choked in the environment, the society will not be good to stay and for me, I do not have anywhere to go so I have to in my own way keep the environment clean."* This motivation evolves into a formal ethos of *"zero waste"* (Participant 18) and a broader philosophy of care, as articulated by Participant 17: *"We are killing the environment! So if we dress to survive, it makes the environment safe... you're giving new life to old fabrics."* Participant 19, though not the designer, finds pride in contributing to this *"good deed,"* indicating the pervasive nature of this environmental ethic.

Theme 2: Economic resilience and livelihood security

For many participants, the primary and most immediate motivation is economic survival. Upcycling is framed as a reliable, accessible, and often lucrative source of income in the face of limited alternatives. This motivation is rooted in pragmatism and the fundamental need for financial independence. Participant 5 was direct: *"Ooooo, as for me, my main motivation is the money that I make out of the work I do."* For several others, this work was a necessary pivot after other plans fell through; Participant 7 migrated to Accra and found *"no business in mind,"* while Participant 14 cited *"lack of jobs"* as their reason for entering the trade. Participant 11 succinctly stated, *"It is my only source of income so I do not joke with it."* This economic driver also fosters a strong focus

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on quality and reputation as a means of ensuring continued income. Participant 9 explained their motivation for quality control is that a job well done leads to recommendations and more business: *"if I do not do my work well, I will not make good money."* Similarly, Participant 10 finishes clothes to look "original" so that clients will bring *"more orders."* The profitability of waste reduction itself is also a powerful incentive, as Participant 15 noted: *"we have seen that it brings money rather than piling it into heaps of waste."*

Theme 3: Intrinsic satisfaction and professional aspiration

Beyond external factors, a strong internal driver for many upcyclers is the personal fulfilment and professional pride they derive from their craft. This theme encompasses the joy of creation, client satisfaction, and the pursuit of mastery. Participant 1 described a deep emotional reward, stating their motivation is *"client's satisfaction... I get excited and fulfilled when I see that I have been able to make someone smile through the work I do. It gives me some kind of feeling that I can't describe."* For others, the work is fuelled by a long-standing *"passion"* (Participant 8), who also expressed a desire to achieve high professional standards: *"I want to meet the European standard of sewing, which is my target so I always push myself harder."* Participant 16 finds a simple, profound joy in the act of transformation itself: *"I find joy in making old things new."* This intrinsic motivation transforms the work from a mere job into a source of identity and creative expression. The sense of fulfilment also comes from applying one's skills effectively, as Participant 10 highlighted their training as a point of pride and a motivator for quality. Furthermore, Participant 13 described a motivation born from empathy and a desire to solve a problem

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for the Kantamanto traders, moving beyond personal gain to community-oriented action.

The role and understanding of sustainability in the Kantamanto upcycling process

The analysis reveals that sustainability and eco-friendliness are deeply embedded in the work of Kantamanto upcyclers, though the conceptual understanding and prioritisation of these principles vary significantly. The findings are structured around these three central themes.

Theme 1: The primacy of waste diversion

For the vast majority of participants, the most immediate and fundamental expression of sustainability is the act of diverting textiles from landfill sites and preventing environmental pollution. This motivation is not abstract but driven by a tangible awareness of the waste crisis in their community. Participants consistently framed their work as a direct intervention against this problem. Participant 2 stated their role is to *"prevent some of the clothes which would have ended at the landfill site by making them into something new for reuse."* This was a recurring sentiment, with Participant 5 echoing, *"Clothes that would have ended at the landfill site, I pick and give them new life,"* and Participant 6 powerfully describing upcycling as a *"life saver preventing a lot of clothes from going to the landfill site."* The impact is seen as local and immediate, with Participant 15 observed, *"The market has been so clean and waste has reduced drastically since some of us started using the unwanted clothes."* For some, like Participants 12 and 14, this action was instinctive *"I just use every fabric piece to avoid it being waste"*, even before they were formally aware of the environmental terminology. This theme

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establishes waste reduction as the foundational, non-negotiable core of their sustainable practice.

Theme 2: Material-centric environmentalism

A more nuanced understanding of sustainability emerges through a focused engagement with the physical properties of the textiles themselves. This theme captures the upcyclers' considerations regarding fibre content, biodegradability, and material health, reflecting a deeper environmental consciousness. Several participants demonstrated knowledge of how different materials behave at the end of a product's life. Participant 7 explicitly connected fabric choice to both user comfort and environmental impact, stating, *"I have to make sure that the shirt is made of cotton fabric... when the product get old, the fabric will have to tear apart by itself and go back into the soil without causing harm."* Similarly, Participant 4 prioritised natural fibres for the same reason: *"with the natural fibres, it will destroy by itself after some years."* Participant 1 displayed a complex, evolving understanding, initially defining eco-friendliness as using materials that break down, but then considering the counterpoint of durability to create heirlooms that *"can be passed on to other generations."* This advanced material knowledge is also evident in the practice of assessing a garment's viability, such as checking if a shirt is already *"dead"* (P7), and in the commitment to *"use every piece"* (P11, P13, P18) in a pursuit of *"zero waste."*

Theme 3: The aspiration for quality and longevity

Sustainability is also intrinsically linked to the creation of high-quality, durable, and unique products. In this theme, environmental responsibility is achieved not just through waste diversion, but through producing goods that are

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built to last, thereby reducing the need for frequent replacement. Participant 1's consideration of creating multi-generational products and Participant 9's focus on ensuring clothes are *"of good quality"* both point to longevity as a sustainable principle. Participant 17 eloquently tied this to the unique potential of upcycling, motivated by *"the uniqueness... the quality of the fabrics,"* and believing that *"fashion should be for everyone but everyone should look different."* For them, sustainability creates unique, high-quality fashion that challenges disposable culture. This drive for quality is also a practical business strategy that reinforces sustainability; a well-made product ensures customer satisfaction and repeat business (implicit in the work of P9 and P19), which in turn sustains the upcycler's livelihood and their capacity to continue their environmentally beneficial work. The pride in craftsmanship, as seen in Participant 8's lifelong practice of patchwork *("Asaasaba"),* further cements the link between quality, cultural value, and sustainable practice.

Collaborative networks for sustaining upcycling principles at Kantamanto

The analysis reveals that collaboration is fundamental, though not universal, strategy for ensuring the viability and integrity of upcycling principles at Kantamanto. These collaborative networks form a crucial ecosystem that supports every stage of the upcycling process, from material sourcing to final production. The findings are structured into three central themes that capture the nature and purpose of these partnerships.

Theme 1: Strategic sourcing and supply chain integration

A primary form of collaboration involves building strategic relationships with suppliers and traders within the Kantamanto market to secure a consistent and appropriate flow of materials. These relationships are characterised by trust

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and a shared understanding of the upcycler's specific needs. Many participants described having suppliers who pre-select materials on their behalf. Participant 1 explained, *"I have some people who know the kind of things I want, so when they open the bale, they do the selection and call me to go for them."* This pre-sorting is often detailed, with suppliers organising clothes *"according to texture style and type of fabric"* (Participant 3). These suppliers act as gatekeepers; often setting aside items they know would otherwise go to waste, as Participant 11 noted, *"When they get clothes that they think are not nice and will be wasted, they gather it for me."* Beyond individual suppliers, participants like Participant 15 collaborate with *"traders who buy our upcycled products in bulk,"* creating a closed-loop where suppliers become customers, and Participant 2 specifically *"collaborate(s) with thrift sellers to buy their unsold clothes to upcycle,"* directly targeting waste streams. This network reduces the upcyclers' sourcing stress and ensures that principles of material selection are efficiently met.

Theme 2: Internal production alliances and skill-sharing

Within the upcycling community itself, collaboration manifests through division of labour, peer-to-peer learning, and partnerships that enhance production capacity and quality. This theme highlights the communal nature of the work, where individual artisans combine their strengths. A clear example is the assembly-line model described by Participants 12 and 14. Participant 12 stated, *"As I am cutting now, somebody will continue it. One person finishes the hem and another puts elastic in the waist."* This specialisation allows for greater efficiency and scale. Furthermore, formal and informal knowledge exchange is critical. Participant 8 detailed a collaboration with an NGO that provides structured training *"on how to make our clothes more sustainable,"* including

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finishing techniques and marketing. Participant 6's entry into the business was facilitated by former suppliers who became mentors, teaching them how to select clothes. Even in a designer-artisan relationship, as with Participant 17 and Participant 19, collaboration is key; the designer conceives the vision, and the skilled tailors execute it, enabling the realisation of more complex designs and upholding standards of quality.

Theme 3: Formal and informal waste management synergies

To achieve the core principle of zero waste, upcyclers actively collaborate with a secondary network of partners who manage the residual waste they cannot use. This theme underscores an understanding that their own waste streams can become raw materials for others, pushing sustainability beyond their immediate workshop. Participant 2 has a direct arrangement where they have *"people who come for the waste I generate from my work to stuff pillows and shoes."* Similarly, Participant 18 *"collaborate(s) with someone to take our very tiny pieces we cannot use for them to process and use it."* The most formalised example of this is Participant 13's organisation, which has institutionalised waste collection by placing *"baskets in parts of the market were people put textile waste in,"* with workers dedicated to gathering it. They even incentivise this by paying market sweepers to sort and separate textile waste from plastics. These collaborations are essential for achieving a comprehensive circular system, ensuring that even the smallest scraps are diverted from landfills and given a new purpose, thereby fully actualising the environmental ethics that motivate the upcyclers.

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Systemic and operational challenges to upcycling principles at Kantamanto

The analysis reveals that upcyclers face a complex array of challenges that test their commitment to their environmental and creative principles. These obstacles are not merely minor inconveniences but are deeply embedded in the broader economic and material systems in which they operate. The findings are structured into three central themes that capture the scale and nature of these difficulties.

Theme 1: The tyranny of material quality and scarcity

The most frequently cited challenge revolves around the fundamental raw material: the secondhand clothing itself. Upcyclers are constrained by the volatile and often poor quality of the textile waste they depend on, which directly conflicts with their principles of creating valuable and durable products. A primary issue is the inconsistent and degraded nature of the imports. Participant 4 lamented that *"some of the products that come into the country are trash, we can barely use them,"* a sentiment echoed by Participant 18, who noted that sometimes the unsold garments are *"total waste, you can barely get a good thing from it."* This is compounded by hygiene issues, with Participants 6 and 7 both reporting that clothes are often *"stained with faeces,"* requiring extra labour and cost to wash before any creative work can begin. Beyond quality, there is a challenge of material scarcity and uniqueness. Adhering to a specific design principle is difficult when, as Participant 17 explained, materials *"do not come in doubles, they come in singles,"* making it impossible to fulfil duplicate customer orders. Similarly, Participant 1 faces constraints because their chosen materials are not available *"in large quantity,"* forcing a compromise on their original principles.

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Theme 2: Economic precarity and market pressures

Upcyclers operate within a fragile economic ecosystem, where external financial volatility and internal market dynamics create significant barriers to sustainable practice. The single greatest pressure point is the fluctuating exchange rate. Participant 12 identified this as a major uncertainty, explaining how the *"dollar rate has been fluctuating,"* which leads to unstable prices and customer complaints. This macro-economic issue trickles down the supply chain, as Participant 15 explained that when traders *"complain about fluctuation in prices... they decide not to buy the bale,"* leaving upcyclers without materials. Furthermore, the low profit margins on upcycled goods make the business vulnerable. Participant 14 highlighted this starkly, noting that a child's pair of short is sold for *"just one cedi fifty pesewas,"* and any increase in input costs means they *"run at a loss."* This financial precarity is exacerbated by a lack of capital for expansion (Participant 5, Participant 15) and customer reluctance to pay for the value of the work, with Participant 10 citing a lack of patience and unwillingness to pay for rushed service.

Theme 3: The high cost of quality and scale

A critical tension exists between the upcyclers' principles of quality craftsmanship, durability, and waste reduction, and the immense time, resources, and labour required to achieve them. Producing high-quality, well-finished goods is a time-consuming process that the market does not always reward. Participant 8 articulated this dilemma clearly, stating that their meticulous work *"takes a longer time to complete one article,"* which makes the final product more expensive and less competitive against cheaper, lower-quality alternatives. This commitment to quality is also hampered by a lack of

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adequate tools and technology. Participant 8 cited a *"lack of machinery"* for specific finishing tasks, while Participant 13, representing an organisation, identified a critical need for *"machinery, space and the people to work,"* stating they need to *"incorporate a lot of technology"* to scale their impact but lack support. Finally, there is a significant human resource challenge. Participant 11 reported a shortage of trainees, leaving *"the load on one person only,"* and Participant 13 emphasised their small size, stating, *"we are just one out of ten and we cannot deal with all these wastes ourselves,"* pointing to a systemic under-capacity to address the scale of the waste problem.

Practices Adopted by Upcyclers of Secondhand Clothing at Kantamanto Market

Embedded sustainable practices in the Kantamanto upcycling business

The analysis of participant interviews reveals a robust and multi-faceted suite of sustainable practices that are deeply embedded in the daily operations of Kantamanto upcyclers. These practices extend far beyond the basic act of reusing textiles, forming a comprehensive approach to circular fashion. The findings are structured into three themes that capture the core strategies employed.

Theme 1: Maximising material utility and lifespan

The most fundamental practice adopted by all upcyclers is the relentless pursuit of zero waste, ensuring that every piece of textile is utilised and the functional life of clothing is extended to its maximum. This practice is characterised by a systematic approach to diverting textiles from the waste stream. Participants engage in the core activity of transformation, turning unsold or discarded items into new products, such as converting men's trousers into

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children's shorts (Participant 12), changing *"clothes into bags and bed sheets into clothes"* (Participant 4), or expanding their product range to include new items like knickers (Participant 7). A more advanced practice is complete material utilisation, where even the scraps generated during production are repurposed. Participant 11 emphasised, *"I make sure I use every piece so nothing goes to waste not even a single piece,"* a sentiment echoed by Participant 17 who practices *"complete utilisation of materials,"* and Participant 19, whose boss *"makes slippers and other things out of the remaining scraps."* Furthermore, participants like Participant 13 and 15 have integrated eco-friendly production techniques, specifically by using *"natural dyes which will not destroy the environment,"* thereby reducing the chemical footprint of their upcycling process.

Theme 2: A Commitment to quality and durability

A significant practice that underpins the sustainability of their work is an unwavering focus on creating high-quality, long-lasting products. This principle moves beyond simple reuse to challenge the disposable nature of fast fashion by ensuring that upcycled goods are durable and valued. Participants consistently reported that quality craftsmanship is a non-negotiable aspect of their business. Participant 1 stated that their main sustainable practice is to *"produce quality work,"* recognising that items that *"last long"* are inherently more sustainable. This is achieved through meticulous attention to detail, with Participant 9 noting they *"do not joke with my finishing,"* and Participant 10 striving to make alterations *"seamless."* Participant 5 explicitly aims to replicate high standards of construction, *"I try to copy how the white people sew... to achieve similar results,"* associating quality with longevity. For some,

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like Participant 8, this commitment is a point of pride and differentiation, even if it makes their products more expensive, as they refuse to *"compromise on my quality of finishing."* This practice ensures that the upcycled garments have a prolonged lifespan, directly reducing the frequency of replacement and the associated consumption of new resources.

Theme 3: Customer education and service innovation

To close the loop and foster a culture of sustainability beyond their workshops, many upcyclers have adopted practices of customer engagement and service innovation. This theme highlights a forward-thinking approach that actively involves the consumer in the circular economy. A key practice is educating customers about the value and potential of upcycled fashion. Participant 17 explicitly stated, *"I educate my customers, I tell them about how these clothes came about and even let them know what they can use these trousers that they bought from me to make something different."*

Beyond education, several upcyclers offer innovative services that extend the life of a garment through multiple cycles. Participant 8, for instance, has instituted a take-back system, telling customers *"to bring the clothes back for me to change it into another thing for them if they get tired of wearing it."*

Similarly, Participant 3 and Participant 6 provide a service where customers bring their own used or new clothes to be redesigned and repurposed, thus personalising the upcycling process and ensuring that garments remain in use for as long as possible. These practices cultivate long-term relationships with customers and embed circular thinking into consumer behaviour.

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Sourcing for a circular system: The Kantamanto upcyclers' supply chain

The analysis of participant interviews reveals that the sourcing of materials is the foundational pillar of the upcycling practice at Kantamanto, forming a complex and integrated supply chain entirely built on diverted waste. The findings unequivocally demonstrate that 100% of the materials used are secondhand textiles, confirming that their work is intrinsically recycled and repurposed. The sourcing strategies can be understood through three central themes.

Theme 1: The Kantamanto ecosystem as a single source

The most prominent finding is the absolute reliance on the Kantamanto market itself as the sole source of all raw materials. Participants consistently and unequivocally identified the market as their exclusive supplier, framing it as a boundless repository of material potential. Participant 9 highlighted the market's scale, noting it is *"one of the largest secondhand clothes markets in the world. Therefore, there are many things here to work with."* This sentiment was universal, with Participants 1, 4, 6, 7, and 10 all stating directly, *"All my materials are secondhand from Kantamanto here."* The sourcing extends beyond finished garments to include all ancillary components, creating a truly closed-loop system within the market. As Participant 1 detailed, *"I even get buttons, zippers and other things that will enhance my work from the clothes here."* This practice demonstrates a deep level of circularity where every element of a garment is viewed as a valuable resource, eliminating the need for new, virgin materials and ensuring that the entire supply chain is built upon the principles of reuse and repurposing.

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Theme 2: Strategic sourcing through trusted networks

Beyond individual foraging, a significant sourcing strategy involves leveraging established relationships within the market's trader network. This collaborative approach ensures a consistent and pre-sorted supply of materials that align with the upcyclers' specific needs. Many participants described relying on traders who understand their aesthetic and quality requirements. Participant 2 explained, *"I have been doing the business with some people for a while now so when they get something that they know it will be useful to me; they bring it to me."* A common thread is the focus on acquiring leftovers and unsold stock. Participant 3 specifically sources from traders' leftovers, *"they bring me the left over that cannot give them any good money, they reduced the price for me to buy."* This is a critical link in the waste diversion chain, as it targets textiles that have failed to sell in the primary market and are on the verge of becoming landfill waste. Participant 12 and Participant 16 also described receiving materials directly from clients or other traders who bring them items for restyling, indicating a reputation-based flow of materials into their workshops.

Theme 3: Proactive and selective material curation

Complementing the network-based approach is a hands-on, discerning practice of actively curating materials. This theme highlights the upcycler's role as an expert selector, whose creative vision guides the sourcing process. For many, this involves the labour-intensive but essential practice of hand-picking materials. Participant 5 described this as *"painstakingly hand picking them. It is a bit stressful but I enjoy doing it."* This process is not random but is driven by a sharp eye for quality, texture, and potential. Participant 8 detailed a highly

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selective process: *"I do not just choose fabrics because they are available, I choose them based on the texture, colours and the quantity available."* Furthermore, this curation involves strategic foresight, with Participant 8 also buying promising items *"for future use,"* building a personal inventory of inspiration. This selective approach extends to material composition, with Participant 17 expressing a deliberate preference for natural fibres like cotton and a conscious avoidance of polyester fabrics deemed to be of lower quality and less desirable. This discernment ensures that the final upcycled product meets standards of durability, aesthetics, and comfort, reinforcing the value of the repurposed materials.

Navigating waste reduction: From aspiration to system-wide practice

The analysis reveals that waste reduction is the fundamental with the Kantamanto upcyclers, though its practical implementation varies significantly across individual workshops. While the core act of upcycling is inherently waste-reductive, participants described a complex hierarchy of practices for managing their own production waste, ranging from complete utilisation to disposal. The findings are structured into three central themes that capture this spectrum.

Theme 1: The foundational act of diverting textile waste

All participants universally identified their primary waste reduction practice as the very nature of their business: transforming secondhand clothing that would otherwise be discarded. This is seen as their most significant contribution to solving the waste crisis. Participants 5, 6, 12, and 16 explicitly framed their entire enterprise in these terms. Participant 5 stated, *"all the clothes I use for my works are ones that if not bought would have been thrown away,"*

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while Participant 16 summarised, *"Ooh my whole work is waste reduction so that is all I have been doing."* This understanding positions them as a critical barrier preventing textiles from entering landfills or polluting the environment. Participant 13 succinctly captured this by stating, *"As you can see upcycling is done to reduce waste so yes."* This foundational practice is a point of pride and the core ethical justification for their work, establishing them as active agents of environmental remediation within the Kantamanto ecosystem.

Theme 2: Internal waste minimisation and repurposing

A significant number of upcyclers actively engage in advanced practices to ensure that the waste generated from their own production processes is minimised or eliminated. This represents a deeper commitment to the principle of zero waste. A common strategy is the internal repurposing of scraps. Participant 3 uses their scraps to make *"pencil case and stuff toys,"* while Participant 18 showcased *"patch work,"* a time-consuming process of joining small pieces to create new fabric. Participant 17 described a meticulous process of salvaging even problematic materials: *"we try to cut out some of the images from clothes and use it create something, in a way trying to help to curb these environmental issues."* The ultimate goal for many, as stated by Participant 15, is that *"every piece serve a purpose here,"* and Participant 11 strives to *"make the most out of every garment."* This theme highlights a proactive and creative approach to ensuring that their own workshops contribute as little as possible to the waste stream.

Theme 3: Collaborative disposal and the limits of circularity

Despite their best efforts, many participants acknowledged practical and systemic limits to achieving zero waste, leading to the development of

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collaborative disposal networks or, in some cases, resorting to landfill. This theme reveals the gap between aspiration and on-the-ground reality. A key strategy for dealing with unusable scraps is collaboration with external processors. Participant 18 detailed a relationship with a company called *"All foundations,"* which collects their *"tiniest piece"* to shred and process into composite materials for making tables and speaker boxes. Similarly, Participants 1 and 3 have people who collect their scraps for other uses, such as being used as fuel or for filling potholes. However, when these networks are unavailable or overwhelmed, disposal is the only option. Participant 7 admitted, *"I do not do anything with my waste, so I throw them away."* Participant 10 cited limited space and a loss of trust in collection systems as reasons for disposal. Participant 2 and Participant 9 candidly acknowledged this challenge, with Participant 2 stating they are *"still trying to find ways to exhaust all of them,"* and Participant 9 admitting, *"I do not practice zero waste even though that is my target."* This demonstrates a clear-eyed awareness of the systemic challenges that prevent a perfect circular model.

Cultivating a culture of sustainability: Peer-to-peer promotion at Kantamanto

The analysis reveals a diverse and nuanced landscape of peer-to-peer engagement regarding sustainability practices among the upcyclers. The findings indicate that promotion is not a uniform activity but varies significantly based on individual disposition, community structure, and access to formal networks. The strategies and levels of engagement can be understood through three central themes.

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Theme 1: Active advocacy and knowledge sharing

A segment of participants actively and consciously promotes sustainable practices through direct communication, education, and organised collaboration. These individuals often act as hubs within the upcycling community, translating knowledge into action. A key practice is formal and informal education. Participant 8 explicitly stated, *"I also educate them on some of the things I learn when I meet the NGO,"* indicating a trickle-down effect of knowledge from formal training sessions to the wider community. Similarly, Participant 13 uses their brand as a platform to *"encourage and advise them to advertise the brand and sustainability as a whole."* Beyond education, there is a focus on practical collaboration and resource sharing. Participant 3 highlighted this, noting, *"We share ideas and, in some cases, too, we exchange raw materials,"* demonstrating a cooperative approach to resource management that benefits all parties. Participant 17 engages in advocacy by rooting the practice in cultural heritage, passionately explaining that upcycling is not new but a return to traditional values, referencing the historic practice of *"asaasawa"* (patchwork) in their village.

Theme 2: Informal influence and leading by example

For many upcyclers, the primary mode of promotion is not through direct instruction but through the visible success of their business and the quality of their work. This indirect approach relies on demonstration rather than declaration. A common strategy is demonstrating profitability and viability. Participant 11 promotes sustainability simply by showcasing its economic benefits, laughing as they said, *"I just tell them how profitable my business is."* Participant 16 operates similarly, where their very business model serves as an

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advertisement: *"All my friends know my nature of work and they support it, I advertise and they patronise me so it is a way of promoting it to them."* Others, like Participants 15 and 18 engage in gentle encouragement, *"telling our friends to repair and try to modify old clothes"* (P15) and *"I encourage my colleagues to upcycle, repair and extend clothes life span"* (P18). Participant 19 promotes by showing the tangible output, *"I really tell my friends about it and show them our works,"* thereby proving that sustainability does not compromise design or creativity.

Theme 3: Limited engagement and structural barriers

A significant finding is that a considerable number of participants report minimal or no active promotion of sustainability among their peers, citing a range of personal and systemic barriers. The most prominent reason is a culture of business secrecy and competition. Participant 7 was unequivocal: *"I personally do not like discussing what I am doing with people who do the same business as me. No, I do not do that."* This sentiment was echoed by Participant 5, who stated, *"We do not sit to discuss our business with each other."* Another barrier is physical and social isolation. Participant 1 explained that they are *"surrounded by people who do not do the same work,"* leaving no common ground for discussion, while Participant 9, being new, has not yet formed the necessary trust-based relationships. Furthermore, some participants, like 12 and 14, expressed a lack of prior knowledge, with Participant 12 admitting, *"Honestly, I did not know anything about the environment… so I will start from today onwards."* This point to a critical need for broader awareness-raising initiatives. Finally, Participant 10 highlighted a systemic dependency, arguing that promotion among colleagues is less effective than top-down intervention,

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wishing that *"the elders here at Kantamanto will see to it that the pieces from our works will be transferred to a safe place for recycling."*

Ethical Issues that Come with the Practices that Upcyclers of Secondhand Clothing at Kantamanto Market are Employing

Navigating ethical complexities in the Kantamanto upcycling ecosystem

The analysis reveals that upcyclers at Kantamanto navigate a complex web of ethical concerns that span global supply chains, local business practices, and the core principles of their craft. While some participants had not consciously reflected on the term "ethical issues," their responses vividly illustrate significant moral challenges. The findings have been structured into three central themes that capture the primary ethical tensions.

Theme 1: The injustice of "waste colonialism" in material imports

The most prominent and passionately discussed ethical issue revolves around the deplorable quality of a portion of the imported secondhand clothing, which participants perceive as a profound disrespect and a shifting of environmental burden onto Ghana. This practice was described with a sense of indignation and frustration. Participant 5 articulated this most starkly, questioning why donors would send clothes *"stained with sweat, urine and even poo (faeces),"* condemning it as an *"in-human act to your fellow human."* This sentiment was widespread, with Participant 3 stating, *"Some of the clothes are so bad that the least said about it the better,"* and Participant 9 accusing exporters of using Ghana *"as dumpsite."* Participants 2 and 4 raised the critical issue of non-recyclable and badly damaged textiles, with Participant 2 posing the poignant, unresolved ethical question: *"where do those clothes go?"* This theme points to a systemic global inequity where Kantamanto is forced to bear

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the environmental and social cost of waste generated by overconsumption in the Global North.

Theme 2: Challenges in artisan and client relationships

At a local level, ethical challenges emerge in the business interactions between upcyclers, their subcontractors, and their customers. These issues test their professional integrity and ability to operate a viable enterprise. A key challenge is unrealistic client expectations, particularly regarding the unique nature of upcycled products. Participant 6 identified the ethical dilemma of a client wanting an exact replica of one of a kind item, explaining, *"the beauty of upcycling is the uniqueness that come with it,"* making reproduction impossible and sometimes leading to customer dissatisfaction. Furthermore, issues of professional reliability within their networks create friction. Participant 8 cited delays from other artisans who *"have taken more than he can work on,"* which jeopardises their own deadlines and business reputation. Participant 10 faced the ethical pressure of clients demanding express service without being *"ready to pay for extra charges,"* while also experiencing delays from their own service providers.

Theme 3: Philosophical tensions over material integrity and cultural authenticity

A more subtle ethical layer involves the upcyclers' internal principles regarding material choice and the cultural implications of their work. This reflects a conscious engagement with the philosophy of sustainable fashion. The most articulated concern was the ethical aversion to synthetic materials. Participant 17 presented a robust argument against polyester, not just on environmental grounds but on cultural and practical ones, stating, *"I try so much*

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not to use polyester with Africans. The weather is so strong... I think it's a misrepresentation of our tradition." This positions the use of such materials as ethically misaligned with the local climate and cultural heritage. Another ethical consideration is the fair compensation for waste. Participant 11 highlighted a shift in practice where traders began charging for textiles they previously discarded for fee once they realised their value. While Participant 13 framed their practice of paying for unsold goods as an ethical choice *"not contribute to the traders' loss,"* the situation described by Participant 11 raises questions about the fair distribution of value within the upcycling ecosystem.

Ensuring fair treatment: From transactional payments to collaborative partnerships

The analysis reveals that the fair treatment of workers and collaborating artisans is a central concern for upcyclers at Kantamanto, with practices ranging from standardised payments to more profound forms of inclusion and respect. The findings indicate a business environment where transparency in financial transactions is the baseline, but where deeper, more relational models of fairness also exist. These approaches can be understood through three central themes.

Theme 1: Transparent and standardised payment systems

The most frequently cited mechanism for ensuring fair treatment is the existence of a clear, pre-established pricing system for artisanal services within the Kantamanto market. This system creates a transparent economic environment that protects both the service provider and the upcycler. Participants consistently reported that they do not set the prices; rather, they pay according to the standard charges set by the artisans themselves. Participant 7 explained this clearly: *"the artisans have their charges for each article that they*

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work on so when you send them they will charge you after they are done and payment is made before you get your things. So there is no way you will cheat them." This sentiment was echoed by Participants 1, 9, and 10, who all affirmed that services are rendered upon payment of these standard charges. This market-wide norm functions as a built-in ethical safeguard, ensuring that skilled labourers are compensated predictably and fairly for their work, eliminating negotiation or exploitation. As Participant 1 stated, *"The charges are there so you pay and get services rendered to you."*

Theme 2: Inclusive collaboration and idea-sharing

Moving beyond transactional fairness, a number of upcyclers ensure fair treatment by actively involving their workers or collaborators in the creative and decision-making processes. This approach values the intellectual contribution of the artisan, treating them as a partner rather than just a hired hand. Participant 2 highlighted the strategic importance of this, stating, *"we involve them to come up with their ideas else, I will not progress."* This practice of soliciting input was shared by Participant 5, who said, *"I try to make them part of some of the decisions I make. I ask for their input when I want to do something new,"* and Participant 6, who noted that everyone is *"allowed to share our ideas."* The most advanced example of this is Participant 13's organisation, which not only allows designers to create but also gives them individual credit: *"They are given the chance to create their own designs and advertise them during upcycling expos and the credit goes to them as individuals."* This practice fosters a sense of ownership, professional development, and mutual respect.

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Theme 3: Relational trust and mutual respect

The highest level of fair treatment is characterised by the cultivation of strong, trust-based relationships that transcend a purely business dynamic. In these cases, fairness is demonstrated through mutual respect, flexibility, and a sense of shared purpose. Participant 17 explicitly reframed the traditional worker-employer dynamic, stating, *"My collaborators, they are my partners. I pay them fairly and we share the profits when we work together."* This partnership model is reinforced by a commitment to mutual growth, as Participant 17 also teaches them about fabrics, enriching their shared knowledge. Participant 4 and Participant 18 both pointed to the harmonious atmosphere of their workspace as evidence of fair treatment, with Participant 18 inviting verification directly from the workers themselves. The testimony of Participant 19, who is an employee, serves as powerful validation of this model. He stated, *"My boss and I are on very good terms, you will even think we are partners,"* explaining that this positive relationship is the reason he chooses to work there despite having his own shop. This demonstrates that fair treatment can be a powerful tool for building loyalty and fostering a positive, productive work environment.

How Upcyclers of Secondhand Clothing at Kantamanto Market Addressing Ethical Issues in their Industry

The ethical crisis in the supply chain: Kantamanto as a dumping ground

The analysis reveals a profound and deeply felt ethical concern regarding the sourcing of materials, creating a clear divide among the upcyclers. A significant majority voiced strong indignation about the quality of imported

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secondhand clothing, which they characterise as a form of international injustice. The findings are structured into two powerful, contrasting themes.

Theme 1: The scandal of "waste colonialism": Dehumanising imports

The most dominant and emotionally charged finding is the vehement condemnation of the poor and unsanitary condition of a significant portion of the imported textiles. Participants described this not as a mere inconvenience, but as a deep ethical violation that disrespects the dignity of Ghanaians and treats their country as a landfill.

The primary concern is the importation of unsanitary and hazardous waste. Participants provided visceral details, with Participant 3 listing the stains found on clothes as *"blood, sweat and even faeces,"* and questioning, *"How can you do this to your fellow human being? It is not nice at all."* This sense of being treated as less human was echoed by Participant 5, who stated it is *"as if the clothes is going to a landfill site,"* and Participant 1, who expressed disbelief that such poor-quality items even originated overseas.

A second major concern is the import of non-viable, end-of-life textiles. Participants 2 and 7 explicitly referred to these imports as *"waste,"* with Participant 2 noting they are so bad they can only be *"burned or thrown away,"* and Participant 7 asserting that some bales *"should not be baled at all."* Participant 3 added *"some of the clothes too has reached it end of life but they choose to bring it here,"* framing it as a deliberate offloading of an insoluble problem. These collective testimonies paint a picture of a broken global system that exploit Ghana as a sink for textile waste under the guise of charity or commerce.

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Theme 2: Transactional acceptance and shifting perceptions

In stark contrast to the first theme, a distinct group of participants reported no ethical concerns with their sourcing, reflecting a purely pragmatic or commercially focused viewpoint. Some upcyclers exhibit a purely transactional perspective. Participant 10 was unequivocal, stating, *"I have no issues. Do you think I will complain? I am here to work with whatever is given me as long as it is clothes in exchange for money."* Similarly, Participants 11, 14, 15, 16, and 18 focused on the fact that they pay for the materials, which for them seems to resolve any ethical questions, framing it as a simple business exchange. A more nuanced perspective, offered by Participant 17, touches on a cultural and perceptual shift. They identified a potential ethical concern from the consumer's side a superstition or fear about wearing clothes from a fellow Ghanaian but noted that this stigma does not apply to *"the white man's old clothes."* They argued that this notion is changing as upcycled products become *"so beautiful"* that their origin becomes irrelevant. This suggests that for some, the ethical conversation is less about the source and more about the transformation and the perceived value of the final product.

Navigating the final frontier of circularity: End-of-life textile management

The analysis reveals that the management of production waste and end-of-life products represents a significant challenge and a clear limit to the circularity of the upcycling practice at Kantamanto. While the core business diverts large volumes of textile waste, the residual scraps generated during production present a persistent problem. The strategies for handling this waste form a clear hierarchy, captured in three central themes.

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Theme 1: Collaborative diversion: The secondary waste economy

The most common strategy for handling waste is to channel it into a secondary, informal economy where other actors find value in the scraps the upcyclers cannot use. This creates a vital, though often unreliable, ecosystem of waste diversion. A network of collectors regularly visits the workshops to gather scraps for specific downstream uses. Participants 4, 5, 7, 12, and 15 all reported that their scraps are taken by people who use them to *"stuff"* other products, such as pillows, shoes, and doormats. Another common use is as a fuel source, with Participants 5, 7, and 12 mentioning the scraps are used to light fires for boiling water or other purposes. A more formalised collaboration was mentioned by Participants 13, 14, 16, and 18, who donate their smallest scraps to organisations like *"All People's Foundation"* and *"Revival,"* which process them into new materials, such as the composite wood for furniture noted by Participant 14. This collaborative network is essential, yet its informal nature means it is not a guaranteed solution for all waste.

Theme 2: The inevitability of landfill disposal

Despite the existence of a secondary waste economy, a significant number of upcyclers admitted that when alternative channels are unavailable or overwhelmed, landfill disposal remains the default, albeit undesirable, option. This highlights a critical gap in the local circular infrastructure. Participants expressed a sense of resignation about this practice. Participant 1 was candid, stating, *"I just discard my waste... I throw them away in the refuse bin, which I do not like but I still do it any way."* This sentiment was shared by Participants 2, 7, and 9, who all use the term *"throw them away"* to describe their final recourse. Participant 7 specifically noted the waste is *"taken to the landfill site,"*

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demonstrating an awareness of the final destination. The frustration of this reality was captured by Participant 5, who pointed out the paradox: *"It is interesting how I manage waste that are imported into this country and yet I am unable to manage the waste I generate by myself here."* This theme underscores that without more robust and scalable systems, the upcycling process itself generates a residual waste stream that ultimately leaks into the environment.

Theme 3: Proactive prevention through design and material choice

A minority of upcyclers adopt a more proactive approach by focusing on preventing waste at the source through innovative design and careful material selection. This represents the most advanced and principled stance on waste management. Participant 8 embodies this philosophy, declaring, *"For me, fabric waste is gold in my hands,"* and explaining that they strive to be *"more innovative so that I can use all the bits and pieces."* This involves creative practices like patchwork to ensure nothing is discarded. A different preventive strategy is employed by Participant 17, who focuses on material composition. They actively avoid polyester due to its uncomfortable properties and its problematic end of life behaviour, describing how it *"drips like how polythene bags burn."* By selecting natural fibres that are more biodegradable and comfortable in the local climate, they pre-emptively reduce the environmental burden of their products at the end of their life. Participant 6 also practices a form of prevention by hoarding scraps for future use, believing *"if I am not thinking about it now, I will think about it later,"* thereby delaying and potentially preventing disposal.

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Innovative Design Practices Adopted by Upcyclers of Secondhand Clothing in Line with the Circular Economy Principles

Ingenuity in action: Innovative techniques for a circular fashion system

The analysis reveals that upcyclers at Kantamanto are not merely repurposing materials but are actively developing and implementing a range of innovative techniques to minimise waste and maximise resource efficiency. Their approaches are deeply practical, creative, and often born from necessity, demonstrating an understanding of circular economy principles in action. The findings are structured into three central themes that capture the core of their innovation.

Theme 1: Creative material transformation and product diversification

A primary innovative technique is the continuous expansion of how materials are used, ensuring that textiles are cycled through multiple product lifecycles and that even scraps are assigned new value. Participants demonstrate remarkable creativity in transforming waste into new product lines. Participant 2 and 3 have developed techniques to use their fabric scraps to produce new items; Participant 2 creates *"slippers and bags,"* while Participant 3 stuffs *"toys and make pencil cases,"* identifying an untapped market.

Participant 5 employs a specific technique of nested cutting, where a single shirt disassembled into multiple products: *"I cut shorts from a shirt and if it is long sleeve, I use the sleeve to sew trouser for babies."* This approach maximises the yield from a single garment. Furthermore, Participant 7 has innovated by diversifying their core product range from only boxers to include *"knickers,"* which increases their income and utilises a wider variety of materials. Participant 17 describes perhaps the most artistic

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innovation, *"joining scraps together to create entirely new patterns and designs,"* effectively creating new textile surfaces from waste.

Theme 2: Precision and zero-waste design strategies

At the design and production level, upcyclers are innovating through techniques that prioritise material conservation from the very first cut, ensuring that waste is designed out of the process. A key strategy is mindful pattern cutting and reconstruction. Participant 6 is experimenting with designs *"that will not need to rip the entire clothe,"* preserving the original structure and integrity of the garment to minimise disruptive waste. Participant 19 highlighted the learned skill of cutting *"effectively"* to *"manage fabrics better,"* a fundamental technique for reducing off-cuts. Participant 10 employs a different form of precision, focusing on invisible mending and alteration techniques that maintain the *"quality of finishing... from factory,"* thereby extending the garment's life without compromising its value. The most labour-intensive and dedicated technique is the practice of patchwork, which Participant 18 explicitly identifies as a way to *"make fabrics from patchwork,"* acknowledging that while it is *"stressful,"* it crucially *"increases our resource"* efficiency by creating new material from nothing but scraps.

Theme 3: Collaborative and technological system building

Looking beyond their individual workshops, several upcyclers point to collaborative and technological innovations as the next frontier for waste reduction. This represents a systemic view of innovation that leverages external expertise and machinery. Participant 1 innovates through strategic collaboration, engaging a network of specialists with specific machines for tasks like adding press-studs and eyelets. This ensures a high quality finish without

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the need for every upcycler to own every machine, optimising resources across the community. On a larger scale, Participants 8 and 13 envision advanced technological integration. Participant 8 cited the transformative potential of having a waste to product factory, recalling how an NGO converted their tiny pieces into a beautiful centre table. Participant 13 revealed forward-thinking plans to acquire a *"shredder to reprocess textiles entirely,"* which would represent a quantum leap in their ability to handle end of life materials and close the loop completely, moving from upcycling to true recycling.

Living the loop: The embedded circular economy of Kantamanto upcyclers

The analysis reveals that circular economy principles are not just techniques but the very foundation of the upcycling practice at Kantamanto. While the formal terminology is often unfamiliar, the practices of reuse, repair, and upcycling are deeply ingrained and intuitively applied. The findings illustrate a multi-layered approach to circularity that operates as a default business model. These practices are structured into three central themes.

Theme 1: Upcycling as the foundational principle

The core circular principle universally adopted by all participants is upcycling transforming waste materials or unwanted products into new items of higher quality or value. This is not an add-on but the essence of their work. Participants 1, 5, 6, 7, 9, 10, 11, and 15 all explicitly stated that their entire operation based on using "*secondhand"* or *"old things"* as their sole raw material. Participant 12 beautifully summarised the outcome of this principle as *"giving new life to old things."* For many, this is such a fundamental part of their identity that the formal term "circular economy" is new, with Participant 1 laughing that it was the *"new name for this work"* and Participant 7 joking

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about being in a *"classroom."* Their practice demonstrates a pure form of circularity where the entire production system is built on diverted post-consumer waste, with Participant 14 specifically noting they *"use other people's waste to work."* This establishes upcycling as the primary and most visible loop in their circular model.

Theme 2: Extending garment lifespan through repair and alteration

Beyond creating new products, upcyclers actively incorporate principles that extend the usable life of existing garments, thereby slowing the flow of materials through the economy. This involves direct intervention to repair damage or update styles. Participant 3 and Participant 13 explicitly include *"repair"* in their suite of services, with Participant 13 emphasising they will alter clothes *"if only it will extend the life span of the garment."* Participant 19 also identified *"repairing clothes for it to last longer"* as a key part of their work. A common service is redesigning clothes for clients who are tired of a style but do not want to discard the garment, a practice mentioned by Participant 3 and inherent in the work of many others. Participant 18 detailed advanced techniques for life extension, including *"re-dyeing, make embroidery to hide small faults or screen printing to enhance some clothes,"* which are innovative methods to renew a garment's aesthetic appeal and functionality without consuming new virgin resources.

Theme 3: A forward looking and culturally grounded circular vision

The upcyclers' relationship with circularity is both forward-looking, aiming to close loops even further and deeply rooted in a recognition of its alignment with African tradition. This theme captures a reflective and aspirational dimension to their work. Participant 17 provided the most profound

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insight, reframing circularity not as a foreign concept but as an indigenous practice. They argued, *"Sustainability was core in African tradition,"* citing how *"our parents put all these fabrics scraps together to make clothes for us kids."* This grounds their work in cultural heritage and asserts that circularity is *"in our blood,"* challenging the notion that it is a Western import. Looking to the future, Participants 8 and 13 demonstrate a strategic vision for deepening circularity. Participant 8 practices proactive resource management by salvaging *"details from the article that I am upcycling"* for future use, while Participant 13 looks ahead to incorporating more advanced loops, stating, *"Very soon we will downcycle and recycle."* This indicates an evolving understanding and ambition to achieve a fully closed-loop system where every material flow is accounted for.

The art of transformation: A showcase of upcycling in practice

The analysis reveals that experimentation with upcycling and reuse is not an occasional activity but the definitive characteristic of every participant's work at Kantamanto. The question itself prompted demonstrations and proud displays of their craft, underscoring that their entire business is a continuous experiment in material transformation. The findings are structured into three central themes that categorise their innovative approaches.

Theme 1: Garment-to-garment metamorphosis

The most common form of upcycling involves the direct transformation of one type of garment into another, demonstrating a deep understanding of pattern cutting and design to give clothing a new sartorial life. Participants provided specific and vivid examples of this practice. Participant 5 detailed a nested design approach: *"I use shirt to cut shorts and the sleeves to cut shorts*

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for babies," maximising the yield from a single item. Participant 6 described a range of conversions, including changing *"long sleeve shirts into short sleeve"* and transforming *"jeans trousers into skirts."* Participant 11 offered a live demonstration, dynamically cutting a short dress into a new top to illustrate the simplicity and immediacy of the transformation. These practices represent a core skill set among the upcyclers, allowing them to directly respond to fashion trends and consumer demands by re-engineering existing clothing, thereby extending the functional life of textiles within the fashion system.

Theme 2: Cross-category material innovation

A significant demonstration of creativity is the practice of converting textiles from one category of product into a completely different category, unlocking new value from discarded materials. This requires envisioning the potential of a material beyond its original form. Several participants excel at this. Participant 2 reported creating *"bags," "slippers and shoes"* from old clothes. Similarly, Participant 8 has *"upcycled bedsheet to bags (traveling bags),"* and Participant 9 specialises in using *"corduroy to sew bags."* This cross-category leap is a powerful innovation, as it finds productive uses for items like used bedsheets that may not be suitable for clothing but possess high-quality, durable fabric. It represents a key strategy for diverting a wider range of textile waste from landfills and creating valuable, functional goods.

Theme 3: The strategic reuse of components and embellishments

Beyond the main fabric, upcyclers exhibit a meticulous commitment to circularity by salvaging and repurposing every element of a garment, including hard components and decorative details. This practice ensures that the maximum value extracted from every item that enters their workshop.

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Participant 1 provided a comprehensive list, stating, *"Zippers, buttons, appliqué, elastic, and fabrics are all from secondhand clothes."* They highlighted that these salvaged accessories contribute to the uniqueness of their final product, as it is *"difficult to get the same"* components twice. Participant 4 also confirmed that they *"accessorise clothes to make them look new and the accessories too is from secondhand clothes."* This meticulous attention to detail underscores a holistic approach to reuse, where nothing is considered waste. By building an inventory of reclaimed components, these upcyclers not only reduce their costs but also eliminate the need for new, virgin materials in every aspect of their production, closing the loop with remarkable thoroughness.

The dual dividend: Business and environmental benefits of upcycling at Kantamanto

The analysis reveals that the innovative practices adopted by Kantamanto upcyclers yield a powerful dual dividend, generating significant benefits for both their business viability and the local environment. The participants clearly articulate a compelling value proposition where profitability and planetary health are intrinsically linked. The findings are structured into three central themes that capture these interconnected benefits.

Theme 1: Enhanced business competitiveness and economic resilience

The primary driver for many upcyclers is the clear economic advantage their practices confer, creating a business model that is both cost-effective and commercially unique. A key benefit is significant cost reduction. Participant 5 stated it is *"economical because the fabric would have been expensive if I had bought from store,"* and Participant 10 elaborated that they only buy thread and needles, as all fabrics and trimmings are sourced from waste, making their

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operation highly efficient. Beyond cost savings, upcycling creates a unique market position. Participant 1 highlighted that the use of reclaimed accessories makes their work *"unique"* and impossible to duplicate, a point echoed by Participant 17 who emphasised they create *"unique pieces that nobody else has."* This uniqueness directly translates to increased profitability and passion. Participants 2, 3, 4, 7, and 9 all explicitly connected their practices to generating more *"income"* and *"money,"* with Participant 4 noting it has *"improved my upcycling skills which has generated more income,"* and Participant 6 stating it has *"increased my passion in the business."*

Theme 2: Tangible local environmental remediation

The environmental benefits are not abstract concepts but are described in terms of direct, visible improvements to the participants' immediate surroundings and community well-being. The most frequently cited impact is waste reduction and a cleaner environment. Participant 3, 4, and 16 directly linked their work to *"waste reduction,"* with Participant 13 providing a stark visual, noting that landfills are *"70% textile waste"* and expressing pride in *"helping to reduce it."* Participant 14 observed the tangible result: *"there are no piles of clothes in the market like there used to be."* Furthermore, upcyclers see themselves as providing a critical public health service. Participant 6 connects waste minimisation to *"prevent sickness,"* while Participant 8 finds deep satisfaction in knowing their work prevents waste from *"choking our drainage"* or polluting the beach. Participant 17 explicitly links this to preventing urban flooding, showing a clear understanding of the environmental consequences of textile waste.

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Theme 3: A Shift in awareness: From profit to purpose

For some participants, the interview process itself catalysed a reflection on the broader impact of their work, revealing an evolving awareness where the initial motivation of profit is being complemented by a sense of environmental purpose. Several participants experienced a moment of realisation regarding their environmental role. Participant 11 admitted, *"I do not really know about the environment. Ever since I started it has been for money, you just explained the environmental aspect and I am glad I am helping."* Similarly, Participant 12 stated, *"the environment is not my focus... but I have learnt the environment from you."* For others, this purpose was always present. Participant 16 stated they are *"doing this work for environmental purposes,"* and Participant 18 expressed a forward-looking belief that *"waste will keep on reducing drastically as many people get the exposure."* This theme highlights that the upcycling practice itself, along with increased dialogue, is fostering a more conscious and purpose driven community, where the dual benefits of their work are becoming fully recognised and integrated into their professional identity.

An imperative for Ghana: The multifaceted need for circular fashion

The analysis reveals an overwhelming and resounding consensus among Kantamanto upcyclers on the critical necessity of circular fashion in Ghana. Their perspectives, grounded in daily experience, articulate a powerful case that spans environmental survival, economic development, and cultural revival. The findings are structured into three central themes that capture the urgency and depth of this need.

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Theme 1: Environmental imperative: A national waste crisis

The most immediate and visceral argument for circular fashion is the critical role it plays in managing the deluge of textile waste, which participants describe as a threat to public health and urban infrastructure. They position themselves as the first line of defence against an environmental disaster. Participant 1 framed the need in starkly practical terms, asking, *"Imagine if we do not upcycle clothes here, where would all these we call waste go?"* They concluded that the landfill sites would be vastly larger, making the area unliveable. This sentiment of managing an overwhelming influx of waste was universal. Participant 16 declared it *"a must,"* stating forcefully that *"waste is drowning our country. Specifically, textile waste, so we need to adopt it and help ourselves as a country."* Participants directly link this waste to tangible dangers, with Participant 4 noting it *"protect the environment from deteriorating"* and is *"good for our health,"* while Participant 7 simply stated circular fashion *"will get rid of textile waste in our environment."* Their work is seen not as a choice, but as an essential service for national sanitation and well-being.

Theme 2: Economic imperative: Job creation and financial resilience

Beyond environmental management, participants powerfully argue that circular fashion is a vital engine for economic growth, job creation, and making fashion affordable for ordinary Ghanaians. This is a core justification for its necessity. A primary benefit identified is mass employment. Participant 3 stated it *"create jobs for the youth to boost economic growth,"* a point echoed by Participants 2, 7, 10, 13, 14, and 19. Participant 10 highlighted that it has *"created job opportunities for the youth who love this kind of business otherwise they would have stayed home doing nothing."* Furthermore, the

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model fosters financial accessibility and resilience. Participant 6 explained that upcycling makes fashion affordable, as *"it is not everyone who can get money to buy new clothes,"* and the practice allows people to save money. Participant 2 also pointed out that it is a *"lucrative business venture"* that promotes broader economic growth, positioning circularity as a foundation for a robust, self-sustaining green economy.

Theme 3: Systemic and cultural imperative: The call for recognition and a return to roots

The final argument for circular fashion involves a call for systemic support and a reclamation of cultural identity, suggesting that its full potential can only be realised with official recognition and a return to indigenous values. Participants expressed a need for institutional recognition and support. Participant 18 voiced a common frustration, noting, *"We upcyclers help the government in reducing the waste but they do not recognise and help us."* Participant 13 called for *"education on this topic... to promote it,"* and Participant 15 believed that if people came together to learn, they could achieve much more. Most profoundly, Participant 17 framed the need not as something new, but as a cultural revival. They argued, *"We need to go back to our roots and remember what our grandmothers taught us,"* positioning circular fashion as a re-discovery of indigenous African sustainability that has been forgotten in the pursuit of Western fast fashion. This frames the need for circular fashion as both a forward-looking systemic shift and a return to culturally congruent, climate appropriate practices.

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Navigating the obstacle course: Barriers to a circular fashion economy in Ghana

The analysis reveals a complex web of interconnected barriers that hinder the full integration of circular economy principles into the Ghanaian fashion industry, as experienced by the upcyclers of Kantamanto. These challenges ranges from systemic economic pressures to deep-seated cultural perceptions. The findings are structured into four central themes that capture the primary obstacles.

Theme 1: Systemic and economic constraints

A significant barrier is the lack of enabling infrastructure and the pervasive financial precarity that makes investment in circular practices difficult. Upcyclers operate in an environment without the foundational systems needed to close the loop. A major infrastructural gap is the lack of recycling facilities. Participant 2 explicitly cited the *"Lack of factories that will convert the waste into something useful,"* leaving them with no destination for their own production scraps. Financially, participants face a volatile and costly supply chain. Participant 6 and 12 identified the fluctuating dollar rate and high import duties as direct barriers, making their raw material supply unpredictable and expensive. Participant 11 and 12 emphasised that a simple *"lack of money"* and capital prevents them from scaling their operations. Furthermore, there is a noted lack of institutional support, with Participant 18 stating that authorities *"underestimate and do not promote it,"* and Participant 14 calling for machinery and training to make their work easier.

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Theme 2: A critical knowledge and awareness gap

Perhaps the most frequently cited barrier is a widespread lack of understanding of circular principles, which affects both the upcyclers' own practices and the broader public's appreciation for their work. There is a clear need for education among practitioners. Participants 13, 15, and 16 directly identified *"lack of knowledge"* as the main barrier, with Participant 16 stating, *"we do not know about those principles so we cannot practice it."* Participant 8 critiqued the short-sightedness of some upcyclers who, focused only on money, discard valuable details instead of saving them for future use, indicating a misunderstanding of core zero-waste principles. Beyond the workshop, there is a lack of public awareness and appreciation. Participant 4 stated that *"Many people do not appreciate upcycled clothes,"* and Participant 17 noted a *"preference for new things over recycled things."* This lack of market awareness stifles demand for circular products.

Theme 3: Problematic material flows and quality

The very foundation of their circular model the supply of secondhand clothing, is itself a major barrier due to the declining quality and usability of the imported textiles. Participants described a crisis in their raw material input. Participant 3, 4, and 10 all vehemently criticised the *"quality of clothes that come into the country,"* with Participant 3 suspecting that Ghana receives the lowest grades (3 or 4), which are often *"not reusable."* Participant 10 made a direct plea to the government to *"look at it for us."* This influx of poor quality, near-waste material makes it exceptionally difficult to create high value, durable products, forcing upcyclers to work with substandard inputs that contradict their

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goals of quality and longevity, thereby undermining the perceived value of circular fashion.

Theme 4: Market resistance and cultural preferences

A final, critical barrier is the weak local demand for upcycled products, which is influenced by cultural attitudes and a preference for newness, often leading upcyclers to rely on export markets. Participant 7 provided a stark example of this, revealing that *"Surprisingly, Ghanaians do not patronise what we do here instead, majority of these are sent to Togo and Burkina Faso to sell."* This indicates that the local market has not yet embraced the value of circular fashion. Participant 17 provided the cultural context for this, explaining that a significant barrier is that Ghanaians have *"forgotten our own traditions,"* and now view sustainability as a foreign concept while simultaneously valuing new, often Western-style, clothing over repurposed items. This cultural shift creates a disconnect between the upcyclers' work and local consumer demand, making it difficult to build a self-sustaining circular ecosystem within Ghana.

A policy blueprint for circularity: Demands for a supportive ecosystem

The analysis reveals that upcyclers at Kantamanto have clear, practical, and urgent recommendations for policymakers and institutions to foster the growth of a circular fashion economy in Ghana. Their proposals form a coherent blueprint that addresses the entire value chain, from the point of import to consumer awareness. The findings are structured into four central themes that outline a clear path for institutional intervention.

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Theme 1: Regulate and upgrade material imports

The most urgent and consistent policy demand is for the government to establish and enforce strict quality standards for imported secondhand clothing to stop the influx of unusable textile waste. Participants view this as the foundational step without which other efforts are undermined. There is a strong call for import regulation and quality control. Participant 3 explicitly demanded *"a policy that will regulate the secondhand clothes that come into the market to ensure quality, safety and fair trade,"* directly linking this to preventing the *"dumping of low quality, unsellable clothes."* This was echoed by Participants 10, 13, 15, and 16, with Participant 13 urging the government to *"reject goods below... standards to reduce waste,"* and Participant 16 calling for *"strict principles in the importing of secondhand clothes."* Participant 17 specifically targeted the *"import of bad quality polyester fabrics,"* framing it as an environmental and public health hazard. This collective demand highlights the need to transform the supply of raw materials from a waste stream into a reliable source of quality inputs for the circular economy.

Theme 2: Invest in education and capacity building

Participants overwhelmingly called for institutional investment in training and knowledge sharing to elevate the skills, standards, and philosophical understanding of upcyclers. This includes both technical skills and a deeper grounding in circular principles. There is a clear need for practical skills training. Participant 7 asked for a *"facility that will train us well to sew to meet international standard,"* while Participant 8 suggested partnerships with *"bigger companies... to educates upcyclers on how to do proper upcycling."* Alongside technical training, there is a demand for education in

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circular theory. Participant 2, 5, 6, and 9 all highlighted the need for *"education,"* with Participant 9 focusing specifically on *"how to create zero waste,"* acknowledging the current gap between aspiration and practice. Participant 17 uniquely argued for an educational campaign that reconnects Ghanaians with their own sustainable heritage, stating the government should *"educate people about our own traditions and how sustainability was always part of African culture."*

Theme 3: Provide financial and technological support

To overcome the significant economic barriers they face, upcyclers recommend direct financial intervention and access to appropriate technology to scale their operations and improve efficiency. A primary request is for stabilisation of the economic environment. Participant 12 and 14 called for the government to *"make the prices more stable"* and "*stabilise the prices of goods,"* referring to the volatility caused by currency fluctuations. Furthermore, there is a direct appeal for equipment and machinery. Participant 12 specifically mentioned the need for *"electric scissors for easy cutting,"* and Participant 14 broadly called for "*machinery to make our work easy."* This indicates that access to appropriate technology is a major constraint to increasing productivity and achieving the quality needed to compete in broader markets.

Theme 4: Launch national awareness and promotion campaigns

Finally, participants recognise that a circular economy cannot thrive without market demand, and they propose high-level initiatives to change public perception and celebrate their work. There is a strong call for public sensitisation. Participants 4, 5, 6, and 19 all used terms like *"public sensitisation"* and *"public education,"* with Participant 6 specifying the need to

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educate the public *"to accept upcycling."* Beyond general awareness, there are innovative ideas for strategic promotion. Participant 18 proposed a modern marketing approach: *"If only they can get some influencers or celebrities to wear some upcycled clothes they could promote the brand and start a trend."* Participant 11 also called for simple recognition, arguing that since upcyclers are *"doing some of the governments work,"* they deserve to be praised and officially acknowledged for their environmental service, which would in turn raise their profile and the status of their work.

The path to collective power: Strategies for collaboration among Ghanaian fashion designers

The analysis reveals a complex and sometimes contradictory landscape of perspectives on collaboration among Upcyclers to promote circular economy principles. While a strong desire for unity exists, it is tempered by a culture of individualism and practical barriers. The findings are structured into three central themes that capture both the proposed pathways for cooperation and the underlying tensions.

Theme 1: Formalising collective action through associations and events

A prominent suggestion is for designers to create formal structures and platforms that can amplify their collective voice, showcase their work, and facilitate structured learning. This approach seeks to move beyond informal networks to established institutions. Participants recommended forming unified associations or groups. Participant 9 explicitly called for fashion designers to *"form an association where we can meet and have conversations on these issues,"* a sentiment echoed by Participant 11, who noted the benefits of existing associations for discussing pricing and other shared concerns. Furthermore,

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there is a strong push to use collective marketing and awareness events. Participants 2, 6, and 8 highlighted the power of organising "fashion shows," "fashion festivals," and "seminars" to "create awareness about upcycling." These events are seen as crucial for educating the public, building a brand for circular fashion, and reaching new markets collectively, which would be difficult for individual designers to achieve alone.

Theme 2: Cultivating a culture of knowledge and resource sharing

Beyond formal structures, participants emphasised the importance of organic, peer-to-peer collaboration based on the open exchange of ideas, skills, and resources. This theme focuses on building a supportive community. Participant 17 articulated this most clearly, stating, *"We need to share knowledge... We should teach each other the old ways and combine them with new techniques."* This highlights knowledge sharing as a form of cultural preservation and innovation. Participant 3 simply but powerfully stated the need to *"come together to share ideas,"* lamenting the current lack of collaboration. This extends to practical support, as mentioned by Participant 19, who suggested supporting peers by *"sewing for them or motivating them."* Participant 11 also pointed to the practical collaboration that already exists, such as recommending *"styles [and] bale sellers"* to one another, demonstrating a foundational level of mutual aid that could be expanded.

Theme 3: Navigating the tension between individualism and collective good

A significant finding is the clear tension between the recognised need for collaboration and a deeply ingrained culture of individualism and competition. This theme captures the internal and external barriers to a unified front. A strong sense of individual autonomy and competition was expressed.

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Participant 1 was direct in their resistance, stating, "*I cannot go and tell someone to do this or that neither can someone come and tell me to do same,"* viewing other designers as competitors for the same goal: money. Participant 15 acknowledged that collaboration *"will be an issue,"* noting that the principles are *"time consuming and requires more thinking,"* which may deter collective action. Alongside this, participants highlighted the need for external catalysts and support. Participant 14 expressed a need to be gathered and shown how to work together, while Participant 18 pointed to a major practical barrier: the high cost of self-promotion and a desire for institutional help to offset these costs. This suggests that while the will to collaborate exists, it may require external facilitation and resources to overcome inertia and financial constraints.

Pillars of support: A multi-faceted framework for enabling circular fashion in Ghana

The analysis reveals a clear and cohesive vision from Kantamanto upcyclers for the specific resources and support required to catalyse the transition to a circular fashion economy in Ghana. Their recommendations form a multi-pronged framework that addresses infrastructure, finance, market access, and education. The findings are structured into four central themes that outline the essential pillars of support.

Theme 1: Investment in shared infrastructure and technology

The most frequently cited need is for tangible, physical infrastructure that would enable upcyclers to work more efficiently, process waste comprehensively, and access advanced machinery. Participants envision this as a public good that would benefit the entire ecosystem. There is a strong demand

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for centralised production and recycling facilities. All of Participants 1, 2, 4, and 8 called for factories dedicated to handling textile waste. Participant 8 elaborated on a visionary model of a government-stocked factory where upcyclers could work for a fee, which would "*bring upcyclers together, foster good relationship,"* and allow for peer learning while enabling the government to *"monitor zero waste."* Alongside this, there is a universal call for access to modern machinery. Participants 1, 12, 14, 16, 18, and 19 explicitly mentioned the need for machines to make their work "*faster"* and *"easier,"* with Participant 16 noting this would allow them to incorporate new techniques whose skills could be available, but no equipment to support.

Theme 2: Financial mechanisms and economic stabilisation

Upcyclers identified critical financial barriers that prevent the scaling up of their businesses and require targeted economic interventions to create a viable circular industry. A primary request is for direct capital injection and affordable credit. Participant 3 called for *"low-interest loans for upcyclers,"* while Participant 5 and 11 emphasised that *"money"* is the key support needed to buy more materials and invest in their businesses. Participant 11 stressed that with capital, they could expand into activities like dyeing. Furthermore, there is a need for macro-economic stabilisation and cost reduction. Participant 6 urged authorities to *"look at the value of the dollar"* and reduce taxes on bales, and Participant 3 suggested *"tax exemptions on secondhand clothes."* Participant 1 also proposed *"subsidies"* on imported goods to make business more flexible, highlighting how fiscal policy directly impacts their raw material costs and operational viability.

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Theme 3: Regulatory intervention and quality control

Participants consistently pointed to the poor quality of imported secondhand clothing as a fundamental threat to their work, demanding robust government regulation to ensure a usable and safe material supply. This is seen as a non-negotiable prerequisite for a functional circular system. There is a powerful consensus for strict import quality standards. Participant 9 stated simply that the *"government should control the secondhand clothes that come into the country, the waste is too much."* This was echoed by Participants 5, 10, and 17, with Participant 17 specifically advocating for *"policies that discourage the import of poor-quality synthetic fabrics."* This regulatory action is viewed as essential to stop Ghana from being a dumping ground and to ensure that the raw materials entering the circular economy are fit for purpose, thereby increasing efficiency and the potential for creating high-value products.

Theme 4: Comprehensive education and skills development

To ensure the long-term growth and professionalism of the circular fashion sector, upcyclers highlighted the need for ongoing education targeting both themselves and the general public. Participant 7 explicitly called for a *"training centre"* and "*public education,"* arguing that if the public understands their work, it will be very helpful. This dual focus was supported by Participants 13 and 19, who listed "*education"* as a primary need for promoting circular economy principles. Participant 17 framed this as a need to support the *"local designers who are already doing this work,"* suggesting that education should build upon existing indigenous knowledge while introducing new skills and business acumen to help them scale and professionalise their operations.

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How Circular Economy Principles can be Integrated into the Fashion Industry through a Structured Framework

The analysis reveals a holistic vision from Kantamanto upcyclers for a national circular economy framework. Their recommendations, drawn from frontline experience, outline a multi-level strategy that addresses the entire system, from education and infrastructure to regulation and cultural change. The findings are structured into four central, interconnected pillars that constitute the key elements of an effective framework.

Theme 1: A foundation of comprehensive education and mindset shift

Participants overwhelmingly identified education as the cornerstone of any successful framework, targeting upcyclers, the public, and the next generation to foster a deep-seated cultural transformation. This element is seen as crucial for building both skill and demand. The framework must include training and skills development for upcyclers. Participants 1, 3, 4, 7, and 9 explicitly called for training centres and education to help them *"minimise waste or to create zero waste"* (P3) and improve the quality of their finishing (P10). Beyond technical skills, there is a critical need for public awareness and early education. Participants 12, 14, 15, and 16 emphasised the importance of educating the broader public and integrating circular economy principles into school curricula. Participant 15 argued it should be *"mandatory"* in schools, while Participant 17 stressed that education must include the message that *"sustainability is African!"* to drive a mindset shift and overcome the stigma against secondhand and upcycled goods.

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Theme 2: Investment in physical infrastructure and technology

A recurring and vital element is the creation of tangible infrastructure to manage material flows and provide access to advanced tools, ensuring that waste is systematically captured and valorised. Participants envision a network of facilities that support their work from start to finish. The most frequently mentioned need is for centralised recycling and sorting facilities. Participants 2, 4, 5, 6, and 9 all called for a *"factory"* that would be responsible for sorting non-usable clothes and transforming all waste into new, profitable products. This is viewed as the essential end-point for achieving a zero-waste system. Complementing this, the framework must ensure access to modern machinery. Participant 11 provided a poignant example, explaining that access to better cutting and sewing devices would alleviate physical pain and increase efficiency, preventing the high rate of attrition among new entrants who find the work too slow and difficult with basic tools.

Theme 3: Robust policy and regulatory standards

To ensure the quality and viability of the entire system, participants demand strong government intervention to regulate the inflow of materials, which they see as the primary source of the waste problem. This element is about controlling the input to improve the output. The framework must enforce strict import controls and quality standards. Participants 13, 17, and 19 were clear that the government must regulate the quality of secondhand clothing and fabrics entering the country. Participant 13 called for *"standards for importation and not just anything,"* while Participant 17 specifically targeted *"regulations on fabric quality - no more bad polyester!"* This element is deemed non-negotiable for preventing Ghana from being a dumping ground

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and for ensuring that the raw materials feeding the circular economy are actually fit for circular use.

Theme 4: Financial and collaborative support systems

The final essential pillar involves creating enabling mechanisms that provide the capital for growth and the platforms for collective action, ensuring the economic sustainability of circular businesses. Participant 8 succinctly captured several of these elements, listing *"Funding for sustainable projects"* and *"Platforms for collaboration and visibility"* as key requirements. This highlights the need for access to capital and financial incentives, such as the grants and low-interest loans mentioned in previous discussions, to help upcyclers scale their operations. Furthermore, the framework should facilitate networking and market access, creating structured opportunities for upcyclers to collaborate, share ideas, and gain visibility for their work, thereby strengthening the entire ecosystem and allowing it to compete effectively with the linear fashion industry.

Discussion

This discussion interprets the study's findings by evaluating how the principles, practices, and ethical navigation of Kantamanto's upcyclers both align with and challenge current circular economy theory, while examining the practical implications for sustainable fashion in informal economies.

Principles adopted by upcyclers of secondhand clothing at Kantamanto Market

The findings from Kantamanto reveal that the principles adopted by upcyclers represent a context-driven interpretation of circular economy (CE) theory, both aligning with and significantly adding on to the existing literature.

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The dominant principle of material-led design intelligence, where designers *"listen to what the fabric is saying"*, directly operationalises the core CE tenet of "closing resource flows" (Bocken et al., 2016). However, while global CE discourse often focuses on planned modularity (Pal & Gander, 2018), the upcyclers' practice is one of emergent modularity, where design possibilities are not pre-determined but discovered through an intuitive, responsive dialogue with heterogeneous material waste streams. This finding suggests that in highly resource-constrained, informal settings, the CE principle of "narrowing" flows is achieved not through industrial design but through adaptive, on-the-spot creative intelligence.

Furthermore, the principles of market-mediated creativity and client-centred co-creation provide a critical nuance to the understanding of sustainability in non-Western contexts. The literature highlights the bespoke, artisan-led model of African fashion systems (Essel, 2019), and our findings confirm this, demonstrating how it functions as a powerful vehicle for circularity. The act of imitating trends from social media and co-creating with clients is not a deviation from sustainability but a pragmatic adaptation that ensures economic viability. This aligns with the Resource-Based View, where market responsiveness and deep client relationships are intangible resources that ensure resilience. This challenges the notion that circular fashion must be anti-trend or solely designer-led; at Kantamanto, circularity is socially negotiated and market-embedded, ensuring that sustainable garments are also culturally relevant and desirable, thereby extending their use phase as intended by Niinimäki et al. (2020).

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Most profoundly, the embedded ethos of utility and care and the motivations of environmental stewardship reveal a moral dimension to circularity that is often understated in techno-economic CE models. The drivers cited by upcyclers from witnessing polluted beaches to a simple hatred of waste, illustrate that their principles are rooted in a direct, visceral connection to local environmental degradation. This moves beyond the abstract goal of "minimising resource inputs" (Geissdoerfer et al., 2020) to a practice of "dressing to survive" in a literal sense. This ethos of care for the local environment and community well-being, fused with a commitment to quality and durability, represents a powerful, values-driven foundation for the circular economy that is cultivated from the ground up, rather than imposed from the top down.

The collaborative networks observed are the enabling infrastructure that allows these principles to sustain against significant challenges. The strategic sourcing relationships and waste management synergies effectively create a decentralised, informal industrial symbiosis, ensuring materials are efficiently channelled and residual waste is minimised. This finding implies that the CE at Kantamanto is not an individual endeavour but a collective achievement of an entire ecosystem. However, the severe systemic challenges related to material quality and economic precarity highlight the limits of this grassroots model.

The fact that upcyclers are thwarted by the "tyranny of material quality" and fluctuating exchange rates underscores a critical contradiction: their circular practice is dependent on a linear global system of waste export that is fundamentally unstable and degrading. This suggests that while the principles and ethics are robust at the local level, their long-term viability is precarious

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without systemic interventions that address the quality and economics of the global secondhand clothing trade.

Practices adopted by upcyclers of secondhand clothing at Kantamanto Market

The findings from Kantamanto reveal a multi-layered implementation of circular practices that both confirms and significantly deepens the understanding of sustainable operations within informal fashion economies. The upcyclers' practices demonstrate a profound operationalisation of circular principles that extends far beyond the basic reuse of materials described in the literature (Sandin & Peters, 2018). The core practice of maximising material utility and lifespan, particularly the systematic pursuit of zero waste through complete material utilisation (P11, P17), represents a radical implementation of "closing resource flows" (Bocken et al., 2016). This goes beyond the literature's focus on reusing finished garments to include a meticulous, creative engagement with production waste, transforming scraps into new products like slippers and patchwork. This finding suggests that in resource-constrained environments, circularity is driven by a necessity that fosters unparalleled material efficiency, achieving a level of waste minimisation that many formal sector initiatives strive for but rarely attain.

Furthermore, the commitment to quality and durability provides a critical counter-narrative to the perception of upcycled goods as lower-quality alternatives. The participants' unwavering focus on "quality work" (P1) and "perfect finishing" (P9) directly enacts the CE principle of "slowing" resource loops by creating garments that are built to last. This practice aligns with, but is more deeply embedded than, the "intrinsic slowing" noted in the literature

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review. It is not a passive by-product but an active, strategic choice that challenges the disposability of fast fashion at its core. This commitment, often linked to replicating high construction standards (P5), positions these upcyclers not as mere recyclers, but as artisans whose practice of care is a fundamental tenet of their environmental mission. This underscores that in a truly circular system, quality craftsmanship is not a luxury but a prerequisite for sustainability.

The sourcing practices uncovered offer a profound theoretical implication. The finding that 100% of materials are sourced from within the Kantamanto ecosystem as a single source presents a radical model of a geographically bounded, hyper-local circular supply chain. This contrasts sharply with the literature, which highlights the common practice of supplementing local materials with imports (Essel, 2019; Sarpong et al., 2011). The upcyclers' complete reliance on diverted global waste streams, coupled with strategic sourcing through trusted networks, creates a resilient, self-contained system that effectively eliminates the concept of virgin resource input. This model demonstrates a practical implementation of a closed-loop supply chain that operates without the complex traceability technologies often advocated for in global north contexts (Huynh, 2022), relying instead on social capital and embedded local knowledge.

However, the findings also reveal significant tensions between aspiration and reality. The practices of customer education and service innovation, such as take-back schemes (P8) and client education (P17), show a forward-thinking approach to fostering a circular culture. This indicates an intuitive understanding that systemic change requires consumer buy-in, a dimension often underdeveloped in small-scale operations. Yet, the challenges

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in navigating waste reduction, where collaborative disposal networks are essential but sometimes fail, exposing the limits of circularity (P2, P7, P9), highlight a critical vulnerability. This demonstrates that even the most dedicated grassroots circular systems are ultimately constrained by the quality and volume of the linear waste stream upon which they depend and the lack of larger-scale recycling infrastructure. This finding suggests that while the upcyclers are masters of reuse and repair, achieving a fully circular model requires synergistic support from formal waste management and policy interventions.

Finally, the varied approaches to cultivating a culture of sustainability ranging from active advocacy to limited engagement due to competition and secrecy paint a complex picture of community dynamics. This aligns with the literature's mention of investment in training as a key practice (Siaw et al., 2025), but shows its informal, peer-to-peer manifestation. The fact that knowledge is shared through NGOs (P8) and that profitability is a key promotional tool (P11) suggests that scaling these practices requires both formalised education and clear demonstrations of economic benefit. The structural barriers of competition and isolation reveal that the social capital required for a unified circular economy is as critical as the technical skills, pointing to a need for interventions that build trust and collaborative business models within the Kantamanto community.

Ethical issues that come with the practices that upcyclers of secondhand clothing at Kantamanto Market are employing

The findings from Kantamanto provide a powerful, ground-level confirmation and deepening of the ethical issues outlined in the literature, particularly around the global dynamics of waste and local production

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challenges. The most striking finding, the vehement condemnation of the quality of imported textiles, gives a human voice to the statistical reality of "waste colonialism" (Manieson & Ferrero-Regis, 2023). When Participant 5 decries the receipt of clothes "stained with... poo" as an "inhumane thing," it moves the discussion beyond the abstract concept of a "toxic landfill" (Gupta & Saini, 2020) to a visceral indictment of a global system, that dehumanises Ghanaians. This finding powerfully validates the literature's claim of an "unethical burden" but adds a critical dimension: the psychological and social impact of this trade is one of profound disrespect, reinforcing global power imbalances. The unresolved question posed by Participant 2 "where do those clothes go?" highlights a systemic failure in global waste management that the upcyclers, despite their best efforts, are left to grapple with, confirming the "structural weaknesses in enforcement" noted by Siaw et al. (2025).

At the local level, the findings reveal ethical complexities in business relationships that the literature had only partially anticipated. While previous research highlighted challenges with unskilled labour (Sarpong et al., 2011) and substandard working conditions (Boateng et al., 2024), the findings uncover more nuanced dilemmas. The tension described by Participant 6, where clients demand exact replicas of unique upcycled items, illustrates a fundamental ethical conflict between the creative, non-replicable nature of circular design and a consumer mindset still conditioned by the standardised output of the linear economy. This directly relates to the struggle faced by designers like "Efia" in communicating the value of sustainable practices (Appiah et al., 2023), but here it manifests as a specific ethical pressure to compromise artistic and circular principles for customer satisfaction. Similarly, the issues of professional

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unreliability within artisanal networks (P8, P10) point to an under-discussed ethical challenge: the fragility of trust-based supply chains in the informal economy, which can jeopardise business viability and reputations.

The findings also introduce a philosophical layer to the ethical discourse that significantly expands upon the literature. Participant 17's conscious rejection of polyester on the grounds that it is a "misrepresentation of [our] tradition" provides a profound, place-based ethical framework. This goes beyond the literature's concern with cultural appropriation of patterns (Ameyaw et al., 2023) to argue that the very materiality of clothing can be ethically misaligned with cultural identity and environmental context. This represents a deep, intrinsic understanding of sustainable and ethical design that challenges the very composition of the global waste stream they receive. Furthermore, the emerging issue of fair value distribution, where traders begin charging for previously free waste (P11), introduces a new ethical tension. While Participant 13 frames paying for waste as an ethical act to prevent trader loss, the dynamic described by Participant 11 suggests that the circular economy can create new forms of value that may not be distributed equitably, potentially commodifying waste in ways that could exclude the most vulnerable upcyclers.

Conversely, the findings on fair treatment reveal a robust, self-regulating ethical infrastructure that challenges the literature's focus on systemic failures. The widespread practice of transparent and standardised payment systems (P1, P7, P9) acts as a powerful market-based mechanism that pre-empts the labour exploitation concerns raised by Siaw et al. (2025). This built-in norm of pre-payment at standard rates ensures a baseline of fairness that formal sectors often struggle to enforce. More significantly, the practices of inclusive collaboration

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and relational trust demonstrate a move beyond transactional fairness to a model of ethical engagement that fosters loyalty and quality.

When Participant 17 reframes workers as "partners" and Participant 13 gives individual credit to designers, they are creating an ethical business culture that directly counters the anonymity and poor conditions noted by Essel (2019). The testimony of Participant 19, who stays despite owning his own shop because of the good relationship with his boss, is powerful empirical evidence that fair and respectful treatment is not just an ethical ideal but a practical business asset that builds resilient and productive enterprises. This suggests that the most significant ethical innovations at Kantamanto may not be in waste management alone, but in the cultivation of equitable and collaborative human relationships that form the bedrock of a truly sustainable circular economy.

How upcyclers of secondhand clothing at Kantamanto Market addressing ethical issues in their industry

The findings reveal that Upcyclers at Kantamanto are addressing ethical issues through a complex combination of condemnation, pragmatic adaptation, and innovative problem-solving, demonstrating both agency and constraint within the global fashion system. The most significant finding concerns their response to the ethical crisis of "waste colonialism," where their vocal condemnation serves as a powerful form of resistance and awareness-raising.

The passionate testimony from upcyclers describing imports as unsanitary and dehumanising (P3, P5) provides crucial empirical evidence for the theoretical concept of "waste colonialism" (Brooks, 2019; Manieson & Ferrero-Regis, 2023). While previous literature notes Ghana's role as a recipient of textile waste (Brooks et al., 2017), these findings show that upcyclers are not

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passive victims but are actively naming and shaming this practice, framing it as a fundamental ethical violation. This collective voice represents a grassroot form of advocacy that aligns with but goes beyond the calls for policy action noted by Essel (2019), demonstrating a growing consciousness of global injustice that could fuel broader political mobilisation.

In addressing waste management, the upcyclers demonstrate high-level systems-thinking through their development of a collaborative diversion network. This creation of a "secondary waste economy" represents a practical, community-based solution to the limitations of their circular practice. While the literature highlights the environmental burden of textile waste in Ghana (Gupta & Saini, 2020), these findings reveal how upcyclers are building resilient, informal recycling networks that channel scraps to stuffers, fuel users, and formal processors. This aligns with but significantly expands upon the concept of industrial symbiosis in circular economies (Bocken et al., 2016), showing how it can operate effectively through social rather than purely commercial relationships in an informal context. However, the persistent reality of landfill disposal (P1, P5) underscores what Huynh (2022) identifies as the substantial challenges of recycling, revealing the limits of these grassroots solutions when faced with systemic infrastructure gaps.

The most advanced form of issue resolution comes from designers practicing proactive prevention through design and material choice. Participant 8's philosophy of treating "fabric waste as gold" and Participant 17's strategic avoidance of polyester represents an integration of ethical and environmental considerations into the core design process. This approach moves beyond problem management to problem prevention, embodying the CE principle of

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"designing out waste" at its most fundamental level (Ellen MacArthur Foundation, 2017). Their material intelligence considering both the production waste and end-of-life impact of their choices demonstrates a level of circularity thinking that matches or exceeds that of many formal sector initiatives. This finding suggests that these grassroots practitioners are developing context-appropriate, advanced circular strategies that could inform broader industry practice.

The contrasting perspective of Transactional Acceptance among some upcyclers (P10, P11) highlights an important nuance in how ethical concerns are prioritised. For these practitioners, immediate economic survival takes precedence over systemic ethical critiques, reflecting the pragmatic reality of operating in a resource-constrained environment. This finding complicates the literature's emphasis on collective advocacy (Essel, 2019) by showing that ethical engagement varies significantly based on individual business models and perspectives. However, even within this pragmatic approach, Participant 17's observation about changing consumer perceptions suggests that education and quality demonstration can gradually shift both producer and consumer behaviour toward greater sustainability.

In conclusion, the Kantamanto upcyclers are addressing ethical issues through a multi-layered approach that includes vocal resistance to global injustice, the creation of collaborative local solutions, and the development of preventative design strategies. Their responses demonstrate that ethical circularity requires action at multiple levels from global advocacy to local ecosystem building to individual material choices. The findings suggest that supporting these efforts requires parallel interventions: international policy to

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address waste dumping, local investment in recycling infrastructure to support their collaborative networks, and platforms to amplify their innovative design solutions as models for sustainable fashion practice.

Innovative design practices adopted by upcyclers of secondhand clothing in line with the circular economy principles

The findings reveal that Upcyclers at Kantamanto have developed a spectrum of innovative design practices that both align with and meaningfully expand upon conventional circular economy principles. Their approach demonstrates a unique fusion of material intelligence, cultural heritage, and pragmatic adaptation that challenges top-down CE models. The most significant innovation lies in their material-led design intelligence, where designers engage in a responsive dialogue with textiles, allowing the fabric's properties and history to dictate the creative outcome. As Participant 17 articulated, "I always listen to what the fabric is saying to me." This practice of emergent design represents a radical departure from the planned modularity emphasised in mainstream CE literature (Pal & Gander, 2018) and instead demonstrates an intuitive, adaptive approach to "closing resource flows" (Bocken et al., 2016) that is perfectly suited to working with heterogeneous waste streams.

The findings further reveal that innovation at Kantamanto operates on multiple interconnected levels. at the proactive material stewardship level, designers like Participant 17 demonstrate an innovation through conscious material curation, actively avoiding polyester and focusing on natural fibres that align with both environmental principles and cultural traditions. This practice of "listening to the fabric and respecting our African traditions" represents a significant innovation in culturally-grounded circular design that directly

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addresses the limitations noted in the literature regarding the marginal use of sustainable materials (Siaw et al., 2025). Furthermore, the development of collaborative networks for waste management, where scraps are channelled to stuffers and processors, constitutes an organisational innovation that creates a decentralised industrial symbiosis. This addresses the "exceptionally weak" recycling compliance noted by Siaw et al. (2025) by creating an informal but effective ecosystem for material recovery that operates without the advanced technologies mentioned in global literature (Huynh, 2022).

However, the study also reveals significant constraints on innovation capacity. The widespread acknowledged powerlessness over systemic issues like poor-quality imports highlights how global inequities directly inhibit local innovation. When designers receive materials "stained with faeces" (P3), their creative potential is fundamentally constrained by the quality of their raw materials. This finding provides crucial context for understanding why advanced circular practices have "not yet taken root" in Ghana, as noted in the literature review. The predominant isolation of most upcyclers from formal support networks further compounds these challenges, limiting their access to the training and resources that could foster more systematic innovation. This isolation exacerbates the skills deficit identified by Sarpong et al. (2011), suggesting that the solution lies not only in training but in better connecting existing innovators with support systems.

The most promising finding lies in the designers' clear articulation of a blueprint for change that integrates systemic, educational, and capacity-building interventions. Their demands for government regulation of imports, centralised recycling infrastructure, comprehensive education, and financial

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support represent an understanding of the multi-level changes needed to scale innovation. This vision aligns with but significantly expands upon the literature's recommendations for vocational training (Sarpong et al., 2011) by situating skill development within a broader framework of regulatory reform and infrastructure investment. The emphasis on consumer education as a necessary complement to designer innovation represents a particularly insightful contribution to CE theory, suggesting that successful circular systems require aligned awareness throughout the value chain.

In conclusion, the innovative practices at Kantamanto demonstrate that circular fashion innovation in the global south context is not merely about adopting Western technical solutions but involves developing context-specific approaches that blend material intuition, cultural knowledge, and collaborative ecosystems. However, these grassroots innovations remain constrained by systemic barriers that require coordinated intervention at policy, educational, and infrastructural levels. The findings suggest that supporting circular innovation in contexts like Kantamanto requires a dual approach: valuing and scaling the unique design intelligence already present while simultaneously addressing the structural inequities that limit its full expression.

How circular economy principles can be integrated into the fashion industry through a structured framework

Figure 2 presents an integrated, four-pillar framework designed to overcome the specific barriers faced by Ghana's fashion upcyclers and create a supportive ecosystem for a circular economy. Its structure is both logical and actionable.

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The goal: At the right is the Overarching Goal: a "Thriving and Equitable Circular Fashion Industry." This is the ultimate outcome that all pillars and enablers work together to achieve.

The four foundational pillars: These are the main areas of intervention, directly addressing the core problems identified in the research.

***Pillar 1: Robust policy & regulation*:** This forms the foundational governance structure necessary for a functioning circular fashion economy in Ghana. Its primary purpose is to establish a fair and supportive regulatory environment that protects local upcyclers from exploitative global practices and creates a stable economic landscape for their businesses to thrive. This pillar directly confronts the critical barrier of "waste colonialism" through its first component: Import Quality Control. This involves implementing and enforcing strict standards on imported secondhand clothing to prevent Ghana from being a dumping ground for unsanitary and unusable textiles, thereby ensuring upcyclers have access to quality raw materials that are fit for circular production.

The second crucial component, Tax Breaks & Subsidies, addresses the pervasive economic precarity identified by the upcyclers. By creating fiscal incentives such as tax exemptions on secondhand clothing bales and subsidies for business operations, this policy aims to stabilise the volatile supply chain plagued by fluctuating foreign exchange and high import duties. This intervention makes essential raw materials more affordable and business planning more predictable, thereby shielding the vulnerable upcycling sector from external economic shocks and enabling designers to invest in scaling up their sustainable practices with greater financial security.

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Pillar 2: Infrastructure & technology: This addresses the critical physical and technological deficits that currently limit the scale and efficiency of circular fashion practices in Ghana. Its core purpose is to provide the tangible systems and advanced tools necessary for upcyclers to transition from small-scale, labour-intensive operations to a more industrialised and efficient model. This pillar recognises that the remarkable ingenuity of Kantamanto's designers is currently constrained by a lack of basic infrastructure, and it seeks to build the physical backbone for a truly circular system.

The first component, Shared Workshops, directly tackles the challenge of limited capital and access to technology. By establishing communal spaces equipped with industrial machinery such as electric cutters, professional sewing machines, and embroidery equipment this initiative would allow individual designers and small businesses to significantly boost their productivity and the quality of their finished products. This not only makes their work less physically taxing but also enhances their capacity to meet larger orders and compete in broader markets, thereby increasing their economic viability.

The second component, Recycling Facilities, is essential for closing the material loop and achieving a genuine zero-waste ecosystem. While upcyclers are masters of maximising fabric use, there remains a portion of textile scraps that are too small or degraded for their purposes. Centralised factories dedicated to processing this residual waste by shredding it into new yarn, creating insulation material, or producing composite materials would prevent these scraps from ending up in landfills or gutters. This transforms the current linear disposal problem into a circular resource stream, ensuring that every piece of

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textile entering Kantamanto is valorised, thus fulfilling the ultimate promise of a circular economy.

Pillar 3: Education & mindset shift: serves as the crucial cultural and cognitive foundation for sustaining a circular fashion economy in Ghana. Its purpose is to systematically build the knowledge, skills, and broad cultural acceptance necessary for circular practices to thrive, addressing the profound awareness gap that currently limits both the capabilities of designers and the market demand for their products. This pillar recognise technological and policy solutions alone are insufficient without a concurrent transformation in skills and public perception.

The first component is skills training which focuses on elevating the technical and business prowess of current upcyclers. Moving beyond innate talent, this involves structured education in advanced zero-waste design techniques, financial literacy, and digital marketing. Such training empowers designers to professionalise their operations, improve their economic resilience, and communicate the value of their work effectively to a wider audience.

The second component is public awareness and it directly confronts the weak local patronage for upcycled goods. Through strategic campaigns that highlight the unique style, quality, and environmental story behind these products, this initiative aims to shift consumer perceptions and combat the stigma often associated with secondhand materials. By building a proud local demand for circular fashion, it reduces the sector's reliance on export markets and creates a self-sustaining domestic ecosystem.

Finally, the school curriculum component ensures the long-term viability of this cultural shift by embedding circular economy principles into

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formal education. By instilling the values of sustainability, resourcefulness, and appreciation for upcycled products in the next generation, this measure fosters a deep-seated mind set change, cultivating future consumers, designers, and policymakers who inherently understand and champion a circular model for Ghana's fashion industry.

Pillar 4: Finance & market access: addresses the critical economic and commercial barriers that constrain the growth and sustainability of circular fashion businesses in Ghana. Its fundamental purpose is to ensure the economic viability of upcycling enterprises by providing them with the necessary capital to operate and scale up while simultaneously creating robust market pathways to connect their unique products with conscious consumers locally and globally. This pillar recognises that creativity and ethical practice cannot flourish without a solid economic foundation and access to viable markets.

The first component, grants and loans, directly tackles the pervasive issue of financial precarity identified by the upcyclers. By providing access to start-up capital, low-interest loans, and business grants, this initiative enables designers to make crucial investments in raw material inventory, essential equipment, and workspace expansion. This financial support liberates them from the cycle of hand-to-mouth operations, allowing for strategic business growth, investment in higher quality materials, and the capacity to fulfil larger orders that can significantly increase their income and economic stability.

The second component, branding and promotion, confronts the challenge of market invisibility and the lack of consumer recognition for upcycled products. Through collective marketing initiatives such as establishing, a unified "Kantamanto Circular" brand this strategy aims to build

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a powerful narrative that communicates the unique value proposition of these garments: their quality, cultural significance, and environmental benefit. By telling their story collectively and gaining visibility through fashion shows, digital platforms, and strategic partnerships, upcyclers can transcend their individual anonymity, access premium markets, and command fairer prices for their work, thereby ensuring that their ethical and creative labour is properly valued and compensated.

The cross-cutting enablers: These two elements are the "glue" that binds the pillars together and ensures the framework is community-driven.

Enabler 1: Formal Collaboration (Associations & Networks): This represents the need for designers to organise into formal associations or cooperatives. A united voice is stronger for advocacy (influencing policy), pooling, resources (accessing infrastructure and finance), and running collective marketing campaigns.

***Enabler 2: Knowledge Sharing (Peer-to-Peer Learning)*:** This ensures that skills and innovations are shared within the community. It amplifies the impact of Education and helps the entire ecosystem learn and adapt together, fostering resilience and continuous improvement.

In summary, the diagram argues that success requires a synchronised approach. You cannot just provide training (Pillar 3) without also addressing the poor quality of imported materials (Pillar 1). You cannot expect zero-waste without building recycling facilities (Pillar 2). In addition, none of this is sustainable without financial viability and market demand (Pillar 4), all while fostering a collaborative, learning-focused community (The Enablers). This framework provides a comprehensive roadmap for policymakers, Non-

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Governmental Organisation, and the upcyclers themselves to build a resilient and equitable circular fashion industry in Ghana.

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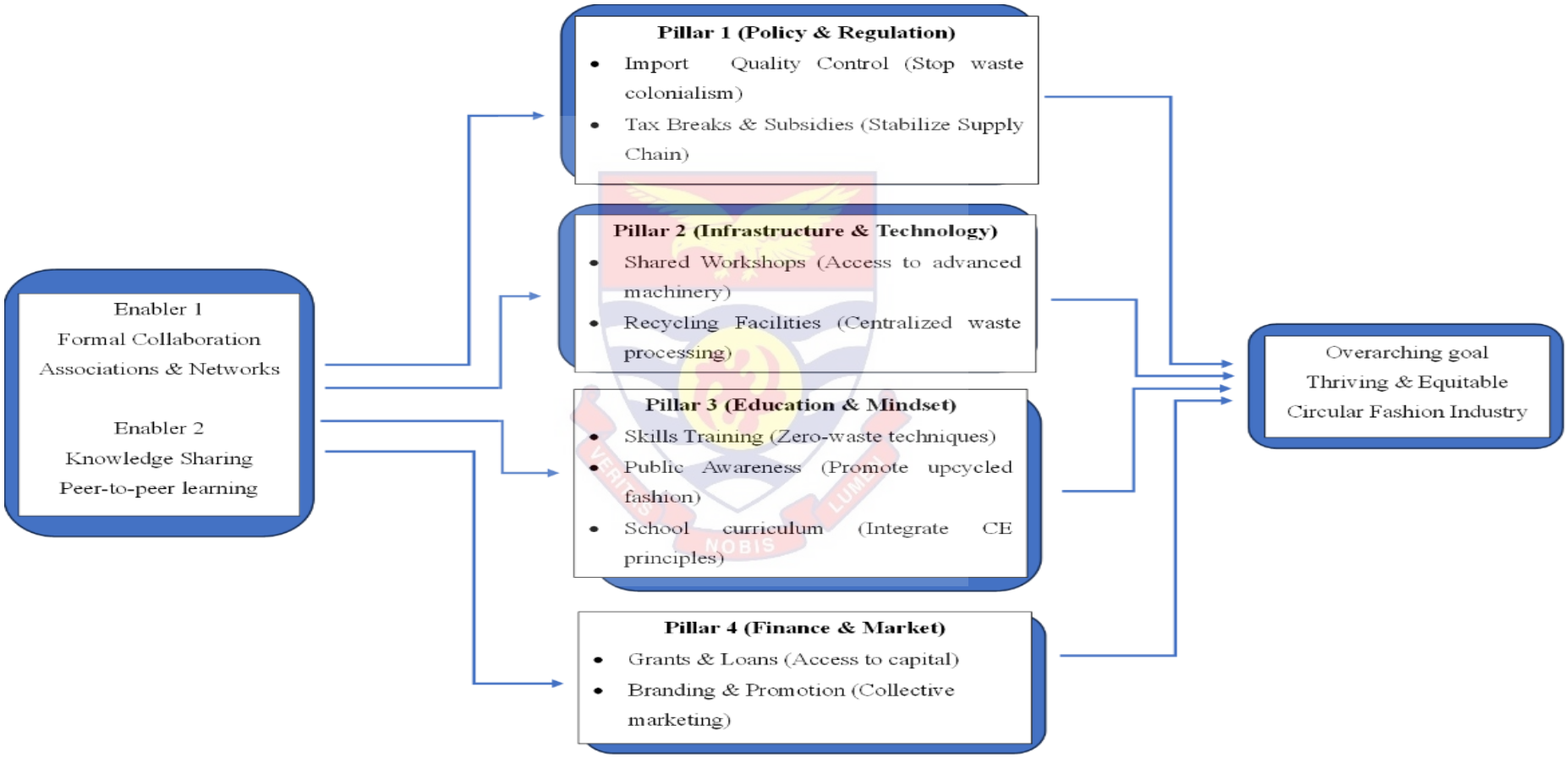


Figure 2: Proposed framework for integrating circular economy principles into Ghana's fashion industry

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Chapter Summary

This chapter's analysis reveals that Kantamanto's upcyclers have developed a context-driven model of the circular economy, characterised by principles of material-led design and an embedded ethos of environmental care, which they operationalise through radical waste minimisation, a hyper-local supply chain, and collaborative networks. However, their practices are constrained by systemic ethical issues, primarily "waste colonialism" and infrastructural gaps, which they navigate through vocal advocacy, community-based solutions, and preventative design, demonstrating that a truly sustainable circular model requires both grassroot innovation and systemic interventions to address global inequities and local capacity limitations.

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CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This study explored circular economy principles and ethics among upcyclers of secondhand clothing at Kantamanto Markert in the Greater Accra Region of Ghana. The chapter revisits the five research questions that guided the inquiry, focusing on the principles adopted, practices implemented, ethical issues encountered, and strategies employed by these grassroot circular economy practitioners. It summarises the qualitative research methodology employed, including the case study approach and in-depth interviews with 20 upcyclers that formed the primary data collection method. The chapter then systematically presents the key findings and draws substantive conclusions about circular economy implementation in informal fashion sectors. It also proposes targeted recommendations for policy, industry practice, and future research aimed at strengthening circular fashion ecosystems in Ghana and similar contexts.

Summary of chapters 1 to 3

Chapters One to Three provided the conceptual, theoretical, and methodological foundation upon which the findings presented in this chapter are interpreted. Chapter One introduced the research problem by situating the study within the sustainability challenges of the global fashion industry and the growing relevance of circular economy practices in informal production contexts, leading to the formulation of the study's objectives and research questions focused on upcycling practices and ethical considerations at Kantamanto Market. Chapter Two reviewed relevant literature across

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conceptual, theoretical, and empirical domains, conceptualising the circular economy as a restorative alternative to the linear fashion model and highlighting key dimensions such as resource efficiency, sustainable business models, ethical labour, and consumer engagement, while employing the Resource-Based View (RBV) and the Technology Acceptance Model (TAM) as guiding frameworks for understanding upcyclers' skills, cultural knowledge, and technology adoption. Chapter Three detailed the research methods adopted for the study. This includes the use of purposive sampling to select 20 fashion upcyclers, data collection through semi-structured interviews and participant observation, and the application of thematic analysis. It also outlined the ethical considerations and acknowledged methodological limitations. Collectively, these chapters established the analytical and methodological grounding necessary for the interpretation of the key findings presented in this chapter.

Summary of key Findings

This study investigated the circular economy principles and ethical practices among upcyclers at Kantamanto Market, Accra, through qualitative research approach with 20 designers, revealing a context-driven model of circularity.

Principles adopted by upcyclers of secondhand clothing at Kantamanto Market

The study revealed that upcyclers at Kantamanto operate according to context-driven framework of principles that both align with and expand circular economy theory. Their practice is guided by four core principles: material-led design intelligence, where design emerges from an intuitive dialogue with available textiles; market-mediated creativity that adapts global trends for local

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viability; client-centred co-creation that positions customers as active participants; and an embedded ethos of utility and care rooted in environmental stewardship. These principles are sustained through collaborative networks that create a decentralised industrial symbiosis, though practitioners face significant challenges from the poor quality of imported textiles and economic precarity that threatens the long-term viability of their circular model.

Practices adopted by upcyclers of secondhand clothing at Kantamanto Market

The study identified an implementation of circular practices centred on maximising material utility through complete utilisation of textiles, including creative repurposing of production from scraps, and an unwavering commitment to quality craftsmanship that extends garment lifespan. These designers have established a hyper-local circular supply chain, sourcing 100% of materials from within Kantamanto market through trusted networks, creating a self-contained ecosystem that eliminates virgin resource input. They further demonstrate innovation through customer education initiatives and service models like take-back schemes, actively fostering circular consumption patterns. However, these practices face significant constraints, including reliance on informal waste management networks that sometimes fail, leading to landfill disposal, and community dynamics marked by competition that limits knowledge sharing, revealing both the remarkable achievements and systemic limitations of grassroots circularity.

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Ethical issues that come with the practices that upcyclers of secondhand clothing at Kantamanto Market are employing

The study revealed a complex ethical landscape, with the most prominent issue being the systemic injustice of "waste colonialism," where upcyclers receive unsanitary and end-of-life textiles they characterise as a dehumanising form of global dumping. At the operational level, ethical challenges include tensions between the unique nature of upcycled products and client demands for replication, as well as fragility within trust-based artisanal networks. The findings also uncovered philosophical concerns regarding cultural authenticity, particularly the view that synthetic materials constitute a "misrepresentation" of tradition, and emerging tension over the fair distribution of value as waste gains market price. Conversely, the study identified robust ethical infrastructures, including self-regulating payment systems that ensure fair compensation and relational business models that foster partnership and mutual respect, demonstrating that ethical practice is as much about cultivating equitable human relationships as it is about managing materials.

How upcyclers of secondhand clothing at Kantamanto Market addressing ethical issues in their industry

The study found that Kantamanto's upcyclers employ a multi-faceted approach to addressing ethical challenges, beginning with vocal condemnation of "waste colonialism" that serves as a form of grassroots advocacy against the global injustice of textile dumping. Practically, they have developed collaborative waste diversion networks that create a secondary economy for textile scraps, though these informal systems show limitations when landfill disposal becomes unavoidable. The most advanced practitioners address issues

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proactively through preventative design strategies, treating waste as valuable resource and making conscious material choices that consider end-of-life impacts. While some adopt a stance of transactional acceptance, prioritising economic survival over systemic critique, the collective response demonstrate understanding that resolving ethical challenges requires simultaneous action at global, local, and individual design levels.

Innovative design practices adopted by upcyclers of secondhand clothing in line with the circular economy principles

The study identified that Kantamanto's upcyclers have developed distinctive innovative practices centred on material-led design intelligence, where creation emerges from an intuitive dialogue with textile properties, representing a form of emergent modularity perfectly adapted to heterogeneous waste streams. Their innovation extends to proactive material stewardship through conscious curation of natural fibres aligned with cultural traditions, and organisational innovation through collaborative waste networks that create decentralised industrial symbiosis. However, these innovations are significantly constrained by systemic barriers including poor-quality material imports that limit creative potential and isolation from formal support networks. Crucially, the designers articulated a comprehensive blueprint for change calling for regulatory intervention, infrastructure development, and consumer education, demonstrating that scaling their grassroots innovations requires addressing structural inequities while valuing their context-specific design intelligence.

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Framework for integrating circular economy principles into Ghana's fashion industry

The study developed an integrated framework for embedding circular economy principles into Ghana's fashion industry. The framework comprises four foundational pillars supported by two cross-cutting enablers and directed towards the overarching goal of a thriving and equitable circular fashion industry. The four pillars are policy and regulation, focusing on import quality control and tax breaks and subsidies; infrastructure and technology, emphasising shared workshops and centralised recycling facilities; education and mindset, comprising skills training, public awareness, and integration of circular economy principles into school curricula; and finance and market, focusing on grants and loans as well as branding and promotion.

The framework is reinforced by formal collaboration through associations and networks and knowledge sharing through peer-to-peer learning, which facilitate collective advocacy, resource mobilisation, skills transfer, innovation, and continuous learning among practitioners. The framework therefore indicates that integrating circular economy principles into Ghana's fashion industry requires coordinated interventions across regulatory, infrastructural, educational, financial, and market dimensions instead of isolated interventions in any single area.

Conclusions

Based on the findings of the study, six key conclusions can be drawn regarding circular economy principles and ethics among upcyclers of secondhand clothing at Kantamanto Market.

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1. The study concludes that Kantamanto represents a community-evolved model of circularity that operates on fundamentally different principles from those commonly described in mainstream circular economy (CE) frameworks. Rather than being primarily driven by consciously formulated business strategies or formal institutional planning, circularity emerges from the upcyclers' responses to material availability, market conditions, cultural knowledge, environmental responsibility, and economic realities. Material-led design intelligence, market-mediated creativity, client-centred co-creation, and an ethos of utility and care constitute important principles that shape their work. The practice of "listening to the fabric" particularly demonstrates a context-specific approach to resource utilisation in which available materials influence the creative process. Thus, circular economy principles can emerge organically within informal economic systems and that understanding circularity in such contexts requires attention to local knowledge, adaptive practices, and community-based innovation.
2. The study concludes that Kantamanto upcyclers have developed extensive circular practices that maximise the utility and lifespan of secondhand clothing. These include the complete utilisation of textiles, creative repurposing of scraps, quality craftsmanship, sourcing materials through hyper-local networks, customer education, and take-back schemes. The upcyclers have consequently established a largely self-contained circular supply ecosystem in which materials are sourced from within Kantamanto and are repeatedly transformed into products of value. However, the effectiveness of these practices is constrained by

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the poor quality of some imported textiles and weaknesses in informal waste management systems. Therefore, although Kantamanto demonstrates substantial capacity for grassroots circularity, the full potential of these practices depends on improvements in the wider material and waste-management systems within which the upcyclers operate.

3. The study concludes that the circular practices of Kantamanto upcyclers are accompanied by significant ethical concerns that extend beyond conventional environmental considerations. The most fundamental concern is "waste colonialism," reflected in the receipt of unsanitary and end-of-life textiles that place environmental and economic burdens on the local community. Other ethical concerns involve tensions between the uniqueness of upcycled garments and customer demands for replication, vulnerabilities within trust-based artisanal networks, concerns about cultural authenticity, and questions surrounding the fair distribution of value as textile waste acquires economic value. At the same time, the existence of self-regulating payment practices and relational business arrangements demonstrates that ethical practice is also embedded in the social relationships through which circular activities are organised. Thus, circularity at Kantamanto has both environmental and ethical dimensions and should be assessed in terms of justice, dignity, cultural integrity, fair compensation, and equitable relationships.
4. The study concludes that Kantamanto upcyclers respond to ethical concerns through a combination of advocacy, collaboration, waste

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diversion, and preventative design practices. Their condemnation of "waste colonialism" provides a form of grassroots advocacy, while collaborative networks create alternative channels for diverting textile scraps and generating a secondary economy from materials that might otherwise be discarded. Some practitioners also address ethical and environmental concerns proactively by selecting materials consciously and considering their potential end-of-life consequences during the design process. However, these responses remain limited by weaknesses in informal waste-management systems and the economic pressures faced by practitioners, with some adopting transactional acceptance of problematic conditions as a means of economic survival. Therefore, addressing the ethical challenges associated with circular fashion requires action at multiple levels, including global, institutional, community, and individual design levels.

5. The study concludes that innovation among Kantamanto upcyclers is predominantly context-driven and encompasses material, design, organisational, and social dimensions. Material-led design intelligence enables practitioners to work creatively with heterogeneous and unpredictable textile inputs, while emergent modularity, conscious curation of natural fibres, and collaborative waste networks demonstrate their capacity to develop solutions adapted to their particular environment. These innovations enable the upcyclers to maximise material use and create value despite limited financial and technological resources. Nevertheless, their innovative capacity is constrained by poor-quality imported materials and limited access to formal support

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networks. Therefore, the scaling of circular fashion innovation in Ghana should build upon the existing design intelligence and collaborative practices of informal upcyclers while addressing the structural conditions that constrain their development.

6. The study concludes that the integration of circular economy principles into Ghana's fashion industry requires a coordinated and context-sensitive framework built around policy and regulation, infrastructure and technology, education and mindset, and finance and market, supported by formal collaboration and knowledge sharing as cross-cutting enablers. The framework demonstrates that policy interventions such as import quality control and fiscal support are necessary to create a stable environment for circular fashion enterprises; shared workshops and recycling facilities are required to strengthen production capacity and close material loops; skills training, public awareness, and curriculum integration are necessary to develop the knowledge and mindset required for sustained circularity; and grants, loans, branding, and promotion are necessary to improve financial viability and market access. Formal associations and networks and peer-to-peer learning provide the collaborative and knowledge-sharing mechanisms needed to connect these interventions. Hence, a thriving and equitable circular fashion industry in Ghana cannot be achieved through a single intervention but requires the synchronised implementation of regulatory, infrastructural, educational, financial, market, collaborative, and knowledge-sharing measures.

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Implications of the Study

Practical implications: This study offers crucial insights for development practitioners, NGO interventions, and business support programmes working with informal fashion sectors. The findings demonstrate that effective support must move beyond technical skills training to embrace the existing systems at Kantamanto. Practical interventions should focus on strengthening the collaborative networks that already function as a decentralised industrial symbiosis, perhaps through establishing formalised material collection systems or creating shared workspaces with improved equipment. Furthermore, the research suggests that market-based solutions should build upon the upcyclers' proven market-mediation strategies, helping them develop branding that communicates the unique value of their emergent design approach to both local and international conscious consumers. Business development support should recognise and formalise the ethical labour practices already in place, rather than imposing external standards that may disrupt effective local systems.

Policy implications: The research provides compelling evidence for policymakers at national and international levels regarding the need for regulatory frameworks that address the systemic challenges identified. At the international level, findings strongly support calls for stricter regulations on textile waste exports, potentially through extending the Basel Convention to include secondhand clothing shipments, requiring certification of quality and usability. Nationally, Ghana requires targeted industrial policy that recognises the upcycling sector as a legitimate part of the green economy, deserving of access to finance, business development services, and infrastructure support. Specifically, municipal authorities could establish dedicated textile waste

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sorting and collection systems to support the existing collaborative networks. Educational policy should integrate the unique design intelligence and ethical business models found at Kantamanto into vocational training curricula, validating and scaling local knowledge rather than replacing it with imported models.

Theoretical implications: This study significantly advances circular economy theory by challenging its Northern-centric assumptions and proposing a more pluralistic understanding of circularity. The research demonstrates that CE theory must accommodate emergent, adaptive approaches to circularity that differ fundamentally from the planned, technological models dominant in current literature. The Kantamanto case suggests new theoretical frameworks are needed that recognise circularity as a context-dependent practice rather than a universally applicable set of technical solutions. Furthermore, the study expands the Resource-Based View by showing how intangible resources like material intelligence, cultural knowledge, and trust-based collaborations can form the foundation of competitive advantage in informal settings. The findings also necessitate a rethinking of innovation theory to better account for constraint-driven innovation and community-based knowledge creation processes that occur outside formal research and development systems.

Recommendations

Based on the key findings of this study, the following recommendations are proposed to enhance the integration of circular economy principles and ethics within Kantamanto's upcycling ecosystem and similar contexts:

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To Ghanaian policymakers and municipal authorities

1. The Ministry of Trade and Industry, in collaboration with the Ghana Standards Authority, should establish a regulatory framework that prohibits the importation of unsanitary and non-viable textile waste, directly addressing the ethical crisis of "waste colonialism" identified in this study.
2. The Accra Metropolitan Assembly should invest in establishing centralised, subsidised textile waste collection and sorting facilities to serve the upcycling community. This would provide a formal, reliable channel for the "secondary waste economy," reducing the current reliance on informal and sometimes failing disposal methods.
3. The Commission for Technical and Vocational Education and Training (CTVET) should work with sector leaders, fashion institutions, and experienced Kantamanto upcyclers to incorporate principles such as "material-led design intelligence," "proactive material stewardship," "emergent modularity," and "collaborative networks" into fashion and design curriculum and establish structured mentorship programmes through which experienced upcyclers can transfer these skills and knowledge to emerging practitioners. This would move beyond conventional dressmaking education to recognise, preserve, and scale locally developed circular design expertise while ensuring its continued transmission within the industry.

To development partners and NGOs

4. Organisations such as the United Nations Development Programme (UNDP) and local NGOs should create structured forums that connect

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the upcyclers' collective voice with international policymakers and fashion brands. This would amplify their grassroots advocacy against waste dumping and open channels for equitable partnerships, moving beyond isolated training programmes to systemic engagement.

5. Financial institutions and impact investors, guided by NGO assessments, should develop accessible credit schemes and grants specifically for acquiring machinery, renting workspace, and building inventory. This directly addresses the identified constraint of "economic precarity" that limits innovation and scaling.

To the upcycling community and industry associations

6. A strong association or cooperative of upcyclers should create a "Kantamanto Circular" brand that certifies garments based on their adherence to the documented principles of quality, zero-waste, and ethical collaboration. This would help communicate their unique value proposition, combat designer anonymity, and build consumer trust, thereby addressing the challenge of communicating value and ensuring fair compensation.

Suggestions for Further Research

This study has identified several avenues for future research that could deepen understanding of circular economy practices within informal fashion systems:

1. Future research should employ a mixed-methods value chain study of the Kantamanto ecosystem to incorporate the perspectives of textile wholesalers, retailers, waste pickers, upcyclers, and consumers. Such research could map the movement of secondhand clothing from

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importation to final consumption, while quantifying value addition, profit distribution, and power relations across the value chain. It could also examine gender differences in access to financial capital, training, decision-making, income generation, and other opportunities within the ecosystem. This would provide a more comprehensive understanding of the economic, social, and ethical dimensions of circularity at Kantamanto.

2. Future research should undertake a comparative ethnographic study of Kantamanto and other major secondhand clothing and upcycling markets in West Africa, such as Cotonou in Benin and Lomé in Togo. Such research could examine similarities and differences in governance structures, circular economy practices, social networks, innovation strategies, and ethical issues across different cultural and economic settings. This would help establish which aspects of the Kantamanto experience are context-specific and which may be transferable to other informal circular economy settings.
3. Future research should employ quantitative or mixed-methods approaches to examine the prevalence and relationships among circular economy practices, ethical concerns, and innovative design practices identified in this study. Such research could include surveys and experimental techniques to investigate consumer perceptions, willingness to pay, purchase intentions, and the effectiveness of different branding and storytelling strategies for upcycled fashion products. Quantitative evidence would complement the qualitative

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insights of the present study and provide greater empirical basis for assessing the wider applicability of the findings.

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APPENDICES

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APPENDIX A

SEMI-STRUCTURED INTERVIEW GUIDE

UNIVERSITY OF CAPE COAST

COLLEGE OF EDUCATION STUDIES

FACULTY OF SCIENCE AND TECHNOLOGY EDUCATION

DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION

INTERVIEW GUIDE

Section 1: Principles Adopted by Sustainable Fashion Designers

1. What principles do you follow when designing fashion pieces for your customers?
2. What motivates you to adopt these principles in your work?
3. How important are sustainability and eco-friendliness in your design process?
4. Do you collaborate with others (e.g., suppliers, manufacturers) to ensure these principles are followed? If yes, how do you do it?
5. Can you share any challenges you face in adhering to these principles?

Section 2: Practices Implemented by Sustainable Fashion Designers

1. Can you describe some of the practices you have adopted in your fashion business to be more sustainable?
2. How do you source materials for your designs? Are they recycled or repurposed?
3. Do you engage in any waste reduction practices in your design or production process?
4. In what ways do you promote the practice of sustainability among your collegues

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Section 3: Ethical Issues in the Sustainable Fashion Industry

1. What ethical issues, if any, have you encountered in your fashion business?
2. How do you ensure the fair treatment of workers and artisans in your production process?
3. Are there any issues concerning the sourcing of materials that may raise ethical concerns?
4. How do you handle waste and end-of-life products in your designs?

Section 4: Addressing Ethical Concerns in the Industry

1. What steps have you taken to address the ethical issues in your work?
2. Do you follow any specific guidelines or codes of conduct to guide your ethical decision-making?
3. Have you worked with any organisations or networks that focus on ethical practices in the fashion industry?
4. How do you engage with your collegues to make them aware of the ethical issues surrounding the fashion business?
5. What changes do you believe are needed to improve ethical practices in the Sustainable fashion industry?

Section 5: Innovative Practices in Alignment with Circular Economy Principles

1. What innovative techniques have you incorporated in your work to reduce waste or increase resource efficiency?

2a. How do you incorporate circular economy principles (e.g., recycling, reuse, repair) into your product designs?

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2b. Have you experimented with upcycling or reusing materials in your designs? Can you provide an example?

3. What are the benefits of adopting these innovative practices for your business and the environment?

4. Do you believe there is a need for circular fashion in Ghana? Why or why not?

Section 6: Framework for Integrating Circular Economy Principles into Ghana's Fashion Industry

1. In your opinion, what are the main barriers to integrating circular economy principles into the Ghanaian fashion industry?

2. What actions should be taken at the policy or institutional level to encourage the adoption of circular economy practices?

3. How can fashion designers in Ghana work together to promote circular economy principles?

4. What resources or support do you think are needed to further encourage circular economy adoption in Ghana's fashion industry?

5. If a framework for circular economy practices were to be implemented in the industry, what key elements should be included?

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APPENDIX B

ETHICALCLEARANCE

UNIVERSITY OF CAPE COAST

INSTITUTIONAL REVIEW BOARD SECRETARIAT

TEL: 0558093143 / 0508678309
E-MAIL: irb@ucc.edu.gh
OUR REF: IRB/C3/Vol.2/0138
YOUR REF:
OMB NO: 0990-0279
IORG #: IORG0011497

13TH AUGUST, 2025

Ms. Benneta Ewuraba Baisie
Department of Vocational and Technical Education
University of Cape Coast

Dear Ms. Baisie Ewuraba

ETHICAL CLEARANCE - ID (UCCIRB/CES/2025/061)

The University of Cape Coast Institutional Review Board (UCCIRB) has granted Provisional Approval for the implementation of your study titled **Exploring Circular Economy Principles and Ethics among Upcyclers at Kantamanto.** This approval is valid from **13th August, 2025 to 14th July, 2026**. You may apply for a renewal of ethical approval if the study lasts for more than 12 months.

Please note that any modification to the project must first receive renewal clearance from the UCCIRB before its implementation. You are required to submit a periodic review of the protocol to the board and a final review to the UCCIRB on completion of the research. The UCCIRB may observe or cause to be observed procedures and records of the research during and after implementation.

You are also required to report all serious adverse events related to this study to the UCCIRB within seven days verbally and fourteen days in writing.

Always quote the protocol identification nurnber in all future correspondence with us about this protocol.

Yours faithfully,

Kofi F. Amuquandoh
Ag. Administrator

Prof Fiifi Amoako Johnson
Chairperson

CHAIRPERSON
INSTITUTIONAL REVIEW BOARD
UNIVERSITY OF CAPE COAST

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APPENDIX C

PHOTOGRAPHS OF UPCYCLING OF SECONDHAND CLOTHING AT KANTAMANTO MARKET



Pant made from table cloth

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Adding more tear to make it fashionable



Leather jacket changed into a backpack bag

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Winter jacket changed into a laptop pouch



Baby's shorts cut from the sleeve of a shirt

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Embellished leather jacket and jeans trouser to look trendy

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Bags done according to customers preference



Dress being converted into skirt

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Gym leggings being reduced as boxer short and the cut off being used as baby play pants



Bag made from clothes and shirts made from bedsheet

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