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Perspectives on the secondhand clothing trade in Kenya: A socioeconomic and environmental analysis

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Abstract

This paper gave a unique perspective about second-hand clothing trade in Kenya, the largest importer in Africa. The purpose of the study was to explore people's perspectives on the secondhand clothing trade in Kenya by conducting socioeconomic and environmental analysis. The theoretical underpinnings and the constructs of the study were based on Raworth's Doughnut sustainable model. Data was collected in Kenya on social media via virtual Qualtrics surveys, and the study yielded 246 responses from a convenient and anonymous sample. The results showed nuanced responses, suggesting complex and important differences from the participants with 85% of the respondents agreeing that second-hand clothing had economic benefits to Kenya. About 52 % viewed secondhand clothing as positive to the environment and 40% of the participants stated that they primary bought second-hand clothing to cover their bodies and not for environmental concerns. The economic benefits influenced participants' perspectives on reasons for purchasing second-hand clothing, and views that secondhand clothing was positive to the environment. Participant's perspectives leaned towards limiting but not eradicating secondhand clothing. The research contributes to the body of knowledge on sustainable fashion, and secondhand clothing trade.

Keywords: Secondhand Clothing; Sustainability; Development; Environment; Trade; Kenya

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1. Introduction

Humanity's challenge in the 21st century is to engage in sustainable development that eradicates poverty and realizes flourishing without overextending the environment (Raworth, 2012). This was recapitulated by United Nations' Sustainable Development Goals (UN, 2024) on poverty eradication, responsible consumption and production, and climate action. People, culture and a sustainable mindset are the three pillars of achieving a global society that is sustainable and inclusive. People through actinons can impact sustainability and build a culture of sustainability. It is imperative to encourage a mindset that centers sustainability in every thought and action for sustainable development to be realized (Sharma, 2024).

The secondhand clothing (SHC) global business has evolved, and it deserves full investigation of its opportunities, obstacles, and ethical perspectives. Used undesirable clothing from affluent countries is often collected by charitable bodies and sold for profit in markets whose consumers are underprivileged (Brook and Simon, 2012). Does this rob the Kenyan people of the dignity they would have had if they made their own new clothing in local industries? The arrangement of dumping unwanted clothing that may lead to local industries declining is questionable, besides, it is imperative to seek the perspectives of Kenyans on SHC trade. Kenyan textile traders reacted indignantly to proposals to ban used clothing from being exported to Kenya despite the fact that SHC causes significant environmental, social, and health problems (Fox, 2024).

The secondhand clothing (SHC) sector has become an important economic resource for over 2 million people who are directly employed in the trade, and it contributes to about 10% prolonged labor force in Kenya (USAID, 2017). Kenya is rated as the top five largest importers of secondhand clothing in the world and the top importer in Africa (Kiss, 2024). SHC currently enjoys a high degree of societal acceptance and can no longer be viewed as an alternative business. The SHC sector has increased and developed into an important economic component for many sellers and consumers and is a significant contributor to the Kenyan economy. The SHC trade in Kenya has created employment opportunities for numerous people in Kenya who would otherwise be unemployed. Hence, it is not easy to ban the importation of SHC in Kenya; it is a complex issue that poses ethical and economic dilemmas. The SHC trade in Kenya is a major economic and ethical issue that requires all involved in the trade to have a serious discourse so that a middle ground is reached that benefits all.

1.1. Significance of the study

There is need for more research on poverty and environmental justice, and this study accentuates the need for a more critical examination of environmental justice, and how it intertwines with poverty. Pursuing environmental justice diminishes environmental risks for the impoverished and disadvantaged communities that have been disproportionately been impacted by environmental hazards (Strayer and Stoeffler, 2024). e.g. SHC that is not regulated and can lead to polluted air and water. This study has insinuations for practice and contributes to sustainable social human development and transformation. The papers show that we need a limited amount of SHC, unlike other studies (Brooks and Simon, 2012; Opiri and Andayi, 2020), who are of the opinion that the SHC should be completely stopped from being exported to Kenya. This study has theoretical and practical recommendations and contributes to the body of literature on SHC, sustainable development, and the ecological perspectives of SHC consumption. This research made a unique contribution to the literature by applying the donut sustainable model to secondhand clothing trade that leads to transformational sustainable development.

Thus, the purpose of the study was to explore people's perspectives on the secondhand clothing trade in Kenya by conducting socioeconomic and environmental analysis. The dichotomy of the SHC trade narrative demands a closer examination of what is happening in Kenya.

2. Literature review

2.1. Theoretical framework

The theoretical underpinnings of this study were based on Raworth's Doughnut sustainable model (Raworth, 2012), which advocates a safe and ethical space for humanity (see figure 1). Raworth's doughnut sustainable model proposes two boundaries: society boundaries and environmental boundaries, in which the created space between these two provides a safe and just space for humanity to thrive. Inclusive and sustainable development also occurs in this safe space.

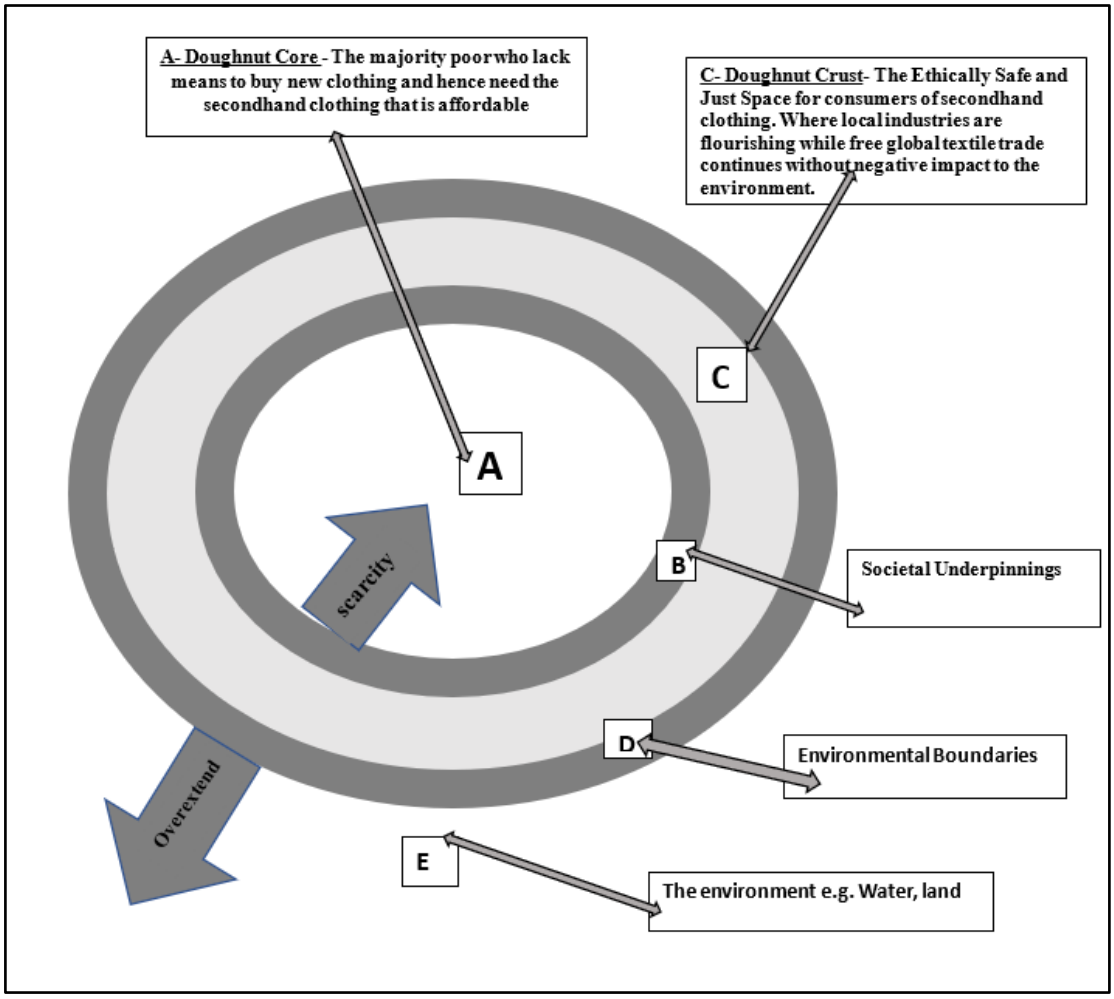

Figure 1. Theoretical Framework – *Application of Raworth (2012) Doughnut sustainable model to Kenya's SHC trade*

According to Raworth (2012), humanity ought to rapidly shift to a new model of prosperity, in which economic development is achieved, the environment is preserved, and equity is central and emphasized. Not everyone lives within the safe doughnut boundaries. Poverty and inequality cause many people to be deprived of basic human needs, causing them to live far below doughnut boundaries. At the same time, the environment, if overexploited, may lead to unsustainable development. Any vision for sustainable development ought to recognize that poverty eradication and achieving an ethical society are inherently linked to guaranteeing environmental stability and revitalization.

In this study, Raworth's (2012) doughnut sustainable model is used to call for an ethically sound SHC trade in Kenya that takes care of the needy while advocating for an ethically safe and just consumption of secondhand clothing (see Figure 1). Hence, the local Kenyan industries are allowed to flourish, while free textile trade with the global north is moderated so that SHC is still available. The SHC trade in Kenya should foster societal underpinnings of a safe, ethical, and economically sound Kenyan textile and apparel industry. This should be done without taking advantage of the underprivileged, so that they do not suffer from the depravity of clothing, unemployment, and the environment is not overextended by the dumping of unsellable SHC.

Raworth's sustainable model notes that wealthy people stress the environment through overconsumption. Hence, the wealthy global north overconsumption of clothing leads to the dumping of unwanted SHC in countries like Kenya. Thus, if the wealthy global north could reduce its consumption of clothing, this would reduce the amount of SHC dumped in Kenya. Social institutions, such as government policies and local garment industries, which provide employment, income, and dignity for the deprived ought to be at the heart of this SHC discourse. When the heart of the discourse is equity and flourishing for all, policy decisions made on the way forward will be more ethical.

2.2. Benefits of the secondhand clothes trade

There are many benefits that come with the business of SHC. The most important and notable benefit is that secondhand clothing provides basic clothing needs to impoverish Kenyans who would not have otherwise afforded locally made garments that are more expensive (Imo and Mayo, 2012). In addition, people doing the business accrue business skills that they can transfer to other forms of business in their lifetime. Second, SHC trade is often conducted by women, and it is a great employer for women. Notably, SHC trade provides government revenues for the government, as business owners acquire licenses to trade and pay rent to local counties (Imo and Mayo, 2012).

The global trade of SHC is more than $1billion each year, and SHC trade creates employment opportunities in receiving countries, such as distributors, transport, cleaning, repairers, and retailers. SHC traders in Kenya may not necessarily be classified as low-income earners because, at times, they earned 2.5 times more than casual traders. For many sub-Saharan countries such as Kenya, SHC is a major trade feature, comprising over a quarter of the total value of clothing imports. SHC benefits those with low purchasing power, and trade supports hundreds of thousands of livelihoods (Baden and Barner, 2005).

According to USAID (2017), SHC provides basic clothing needs for about 40% of the population. The distribution of SHC is highly organized, with high-end wholesalers selling gently worn well-known brands,

whereas low-level retailers reach low-income urban centers and rural areas. Rural households and lower-income households buy clothing from both new and second-hand suppliers; this implies that these are complementary markets and not replacements to each other. Phasing out SHC trade would not increase incomes, nor would there be sufficient demand to stimulate production and success of locally produced new garments. (USAID, 2017).

Recently, secondhand clothing, when viewed from the lens of vintage clothing, has become popular, especially when worn by rich and famous people. The stigma that vintage clothing is for the underprivileged is no more; in fact, it has become fashionable to wear vintage clothing. SHC also gives people the opportunity to wear designer clothing that they would not have otherwise afforded. Wearing brand names also helps the wearer express their identities through clothing.

According to Herjanto et al. (2019), the reasons why consumers purchase SHC are multifaceted: Concerned environmental individuals think it is more ethical to purchase secondhand clothing; Nostalgia, because fashion is always repeating itself; hence, secondhand clothing brings back the feeling of good old days; Self-expression and treasure hunting because second-hand clothing is unique and one can hunt and find something outstanding and different; Economic and social pressures, because second-hand clothing is more affordable and appealing to people who are frugal.

2.3. Negative impact of secondhand clothes trade

The dilemma of SHC needs to be addressed, and courageous ethical and not just economic policies should be implemented. Market liberalization allowed for the importation of lower-priced clothing goods to Kenya, leading to the expansion of the SHC business. The market for SHC grew tremendously because it was priced lower than clothing made in Kenyan local textile industries. This led to the decline and closure of many Kenyan textiles and apparel industries that thrived before the influx of SHC (Imo and Mayo, 2012).

Notably, SHC accounts for over 50 percent of the clothing market volume in many sub-Saharan African countries including Kenya. Sub-Saharan Africa has experienced a reduction in industrialization since the early 1980s, which coincides with the liberalization of markets, allowing the influx of secondhand clothing. This is because SHC undermines the production of local new clothing, which has caused the industry to contract significantly and has led to the loss of many job opportunities (Brook and Simon, 2012).

With increasing awareness of taking care of the environment, SHC is seen as better for the environment. However, with the current production of fast fashion, the clothing produced does not last long, and it is disposed to the environment, causing the current SHC to be more detrimental to the environment. A study conducted by Wohlgemuth (2022) reports that the Global North has discovered a backdoor to get rid of its textile trash, which is pressing nations from the Global South to deal with the effects of fast fashion as SHC is dumped to them. In Kenya, 185,000 tons of SHC were imported in 2019, of which about 40% were of such inferior quality that they could not be sold anymore, and this has led to approximately 150–200 tons of textile waste per day. Waste from SHC is sometimes burned, leading to bad air quality issues, and many apparel contaminate rivers and drains. In addition, decomposing clothes releases methane, a harmful greenhouse gas that causes climate change, and synthetic fabrics, such as polyester and lycra, which can take hundreds of years to biodegrade.

2.4. The dilemma of SHC trade in the textile global complex

In the context of the textile global complex, the Kenyan government ought to decide on a way forward for the SHC trade by considering what benefits its' citizens, what gives them a sense of pride, and choose to be winners in the SHC global trade. Radical steps should be taken to promote industrialization, development, and employment opportunities for the unemployed youth in Kenya.

Notably, for countries to industrialize, the easiest industry to accelerate industrialization is the garment industry (Jensen, 2022). This is because the garment industry is labor intensive and provides employment for numerous citizens. Kenya has a robust young population that can readily provide the labor needed for the garment industry. In the 1960s and the 70's, the Kenyan economy was propelled by the textile industry through cotton growing, ginning, fabric production, garment production, tailoring, garment, and cotton export. The textile and apparel sectors were leading employers in the country, however, by the mid -1980s, production declined due to the policy and importation of cheap SHC. Revitalizing the garment industry can create many employment opportunities in the country. Additionally, the African Opportunity Act (AGOA) has expedited the restoration of the textile and apparel industry and is projected to continue its growth in the global market.

As a labor-intensive industry, apparel offers the best option for Kenya's economic development, which has a limited manufacturing base. The textile industry has generated catalytic growth in manufacturing in many countries, particularly Southeast Asian countries. Domestic markets do not offer sufficient growth, and products need to look for outward markets in the global north in order to make use of economies of scale and provide numerous creative jobs that will raise people out of poverty.

The discourse on SHC trade is significant because it has negatively impacted local textile industries. Notably, Kenya's SHC increased by 23% in 2016, when Tanzania and Uganda reduced their SHC imports (USAID Report, 2017). Kenyan consumers tend to prefer garments and brands from developed countries. They perceive these brands to be of higher quality and purchase them through SHC purchases.

The Kenyan garment industry has low capacity and does not benefit from economies of scale. Thus, the government needs to invest in the garment industry to become large, competitive, and profitable both locally and internationally. The government can also consider reducing costs and taxes in the garment industry so that more of the industry can be revitalized and garments are available to consumers at more competitive price points (Mwenda, 2018). The government could also consider reducing clothing imports, which would give more room for local garment industries to grow and operate at a more level playing ground. According to Mwenda (2018), the Kenyan garment industry should listen to consumer preferences for price and quality. Mwenda argues that if local garments are of high quality, they would attract more local consumers. If local textile industries produce affordable beautiful fabrics, then industries and local tailors can produce garments that are more authentic and durable than fast fashion clothing dumped through SHC trade.

Kenya has been reinvesting in the textile and apparel sector to provide a good impetus to its economy. Kenya's Vision 2030 identified and prioritized the clothing sector as a leader of industrialization underneath the manufacturing pillar. Kenya supports domestic garment industries, encouraging 'Made in Kenya.' (Government of Kenya -Vision, 2030, 2007 and KenInvest, 2021). Some argue that stringent measures like banning SHC imports would bring more meaningful results to bolster the economy. In fact, Kenyan neighboring country of Rwanda, has boosted it textiles and apparel industry by recently banned the importation of SHC and invested in developing its own textiles and garment industries (Opiri and Andayi, 2020).

Notably, the China factor is a major drawback to Kenyan local textile industries: China exports low-cost apparel and African textile prints to Kenya, and these pose a direct competition to the local textile industries that the Kenyan Government would be trying to grow by minimizing importation of SHC. According to the USAID, 2017, it is logical to conclude that Chinese clothing imports would also pose a serious threat to Kenyan textile industries. This argument leads to the conclusion that banning SHC would not necessarily grow the local textile industry, because of the influx of new apparel and textiles from China. Evidently, by phasing out SHC, Kenya is likely to lose about 355,000 jobs, lose costume revenue to the tune of US$140M, and about 40 percent of the population would have fewer options for clothing, which is a basic human need. In addition, informal importation of SHC would increase, and the jobs and customs revenue from AGOA would cease because a free trade agreement cannot exist if SHC is banned (USAID, 2017)

3. Research hypothesis and research model

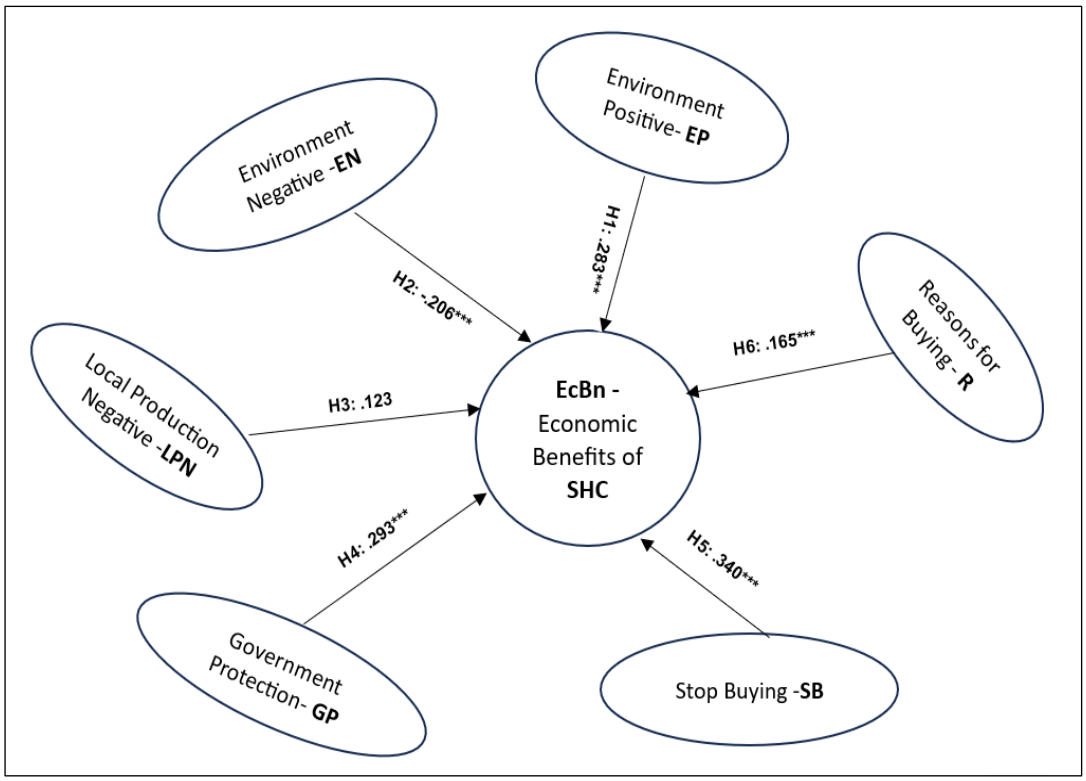

Figure 2. Research model on perspectives of SHC trade in Kenya

Based on the theoretical framework and the literature review from this manuscript, six hypotheses were formulated.

- H_1 Perspectives that SHC was positive to the environment were positively related to the economic benefits of SHC.
- H_2 Perspectives that SHC is negative to the environment are negatively related to the economic benefits of SHC.

- H_3 Perspectives that SHC was negatively impacting local clothing production, was negatively related to economic benefits of SHC.
- H_4 Perspectives on government protection of SHC was positively related to economic benefits.
- H_5 Reasons to stop buying SHC were positively related to economic benefits of SHC.
- H_6 Reasons to buy SHC were positively related to economic benefits of SHC.

Based on the Raworth theoretical framework, the literature review, and the hypothesis for this study, a research model was created (see Figure 2). In Kenya, the economic benefits of SHC are the main reason SHC trade in Kenya has continued, this was based on the Raworth framework that put the deprived in the center of the doughnut economic model. Hence, the economic benefits of SHC served as exogenous variables, while the endogenous variables included reasons for buying SHC, positive impact on the environment, negative impact on the environment, negative impact on local production, government protectionism, and reasons to stop buying SHC.

4. Material and methods

The study was a descriptive cross-sectional survey on perspectives about SHC trade in Kenya, focusing on socioeconomic and environmental factors. The survey was the main instrument used to collect the perspectives of the participants about SHC. Below is how the survey was developed.

4.1. Survey development;

Raworth's Sustainable Model application to Kenya's SHC Trade (See Figure 1), guided the survey development and selection of constructs of the study as follows;

- A – The doughnut core represents the needy, who favor SHC because it is affordable. This was captured in survey questions that asked the reason for buying SHC and the economic benefits of the SHC. It is in the doughnut core or hole that scarcity can occur if SHC trade is eradicated completely and individual lose the basic need of clothing.
- B- Societal Underpinnings of the Doughnut model refer to essential needs that individuals need to ensure a basic standard of living and wellbeing. This include among other things, education, work, occupation, and income to pay for health, food, and housing. Most of these constructs guided the demographic questions that were asked in the survey which asked about employment, education and income.
- C- The Donut crust represent an ethically safe space for consumers of SHC. This is where local industries flourish while free global trade of SHC continues without negative impact on the environment, while still creating numerous jobs and livelihoods for individuals. This was captured in questions on how SHC economic benefits and impact local production and perspectives government protection.
- D - Doughnut outer circle represents the environmental boundaries, or ecological limits that do not exceed and impede a flourishing and thriving SHC to continue. This was captured on questions about SHC being good for the environment.

- E - The Environment over the doughnut represent environmental overextension and overexploitation which lead to unsustainable development of SHC. This was captured in questions about negative impact of SHC to the environment.

The survey was developed by the study authors and the survey questions were based on the above-described Raworth theoretical framework and literature review of SHC discussed in this paper. The survey comprised seven scales -1) SHC Economic Benefit; 2) Reasons for Buying; 3) Positive to Environment; 4) Environmentally Negative; 5) Local Production Negatively; 6) Government Protectionism/Limit; and 7) Stop Buying SHC. Please (see Table 2) for details of the items on each scale. The survey was on developed on Qualtrics and was reviewed and approved by the Host institution in the USA.

Written informed consent letter was the first item included in the virtual survey that the participants read to decide whether to complete the virtual survey. Completing the anonymous survey, it meant the participant was 18 years old and had agreed to participate. If a participant did not consent to complete the anonymous survey, they did not progress with the survey. Hence the survey was completely anonymous and completely voluntary. There was no renumeration of any sort for the participants.

4.2. Human subjects' permission

Approval to collect data from human subjects was obtained from two research boards, first from Belmont university in the USA and second from Kenya. The Institutional Review Board (IRB) of the host University in the USA gave permission for human subjects' participation in this research. In Kenya, permission for human subjects' participation in this study was also granted by the National Commission for Science, Technology, and Innovation (NACOSTI). Convenient sampling was applied, and the sample population was about 500 aged 18 years and above residing in Kenya, East Africa. An ex-post facto research design was used; hence, the variables were not treated.

Data was collected via virtual surveys using only the Qualtrics survey link. The survey link was shared widely in Kenya through the internet to all willing adults (18 years and over) through email, social media, and WhatsApp groups and the survey took about 10 minutes to complete.

5. Results

5.1. Demographics

The total number of participants in the study was 246 of whom 56.9% identified as female. Table 1 shows the demographics of the participants, and it reveals that over 95% of them participants were younger than 60 years. Over 70% of the respondents had a bachelor's degree, and income disparity was evident with 18.3% of the respondents not having a job; and conversely, 19.1% of the participants earned over USD 2000 per month. On SHC, 46.7% of the participants bought SHC monthly, 70 % of the participants gave away their used SHC, and 43.1% used the SHC for several years. About a third of the participants, 33.7%) spent between USD$10 and $30 per month on purchasing SHC. About 43.2% of the participants were urban who purchased SHC more than their rural counterparts.

Table 1. Participant's demographics

N= 246	
Age	
18-25 years	52 (21.1%)
26-35 years	49 (19.9%)
36-45 years	72 (29.3%)
46-59 years	66 (26.8%)
60-69 years	6 (2.4%)
Missing	1- (0.4%)
Place you live	
Nairobi City	116 (43.2%)
Other	130 (56.8%)
Gender	
Males	102 (41.5%)
Females	140 (56.9%)
Education	
High school	10 (4.1%)
Two-year diploma	51 (20.7%)
Bachelor's degree	106 (43.1%)
Master's degree	54 (22.0%)
PhD. Degree	25 (10.2%)
How Often Buy SHC	
Always	51(20.7%)
Often	96 (39%
Sometimes	66(26.8%)
Rarely	29(11.8%)
Never	4(1.6%)
Often Buy SHC	
Everyday	3(1.2%)
Weekly	21(8.5%)
Monthly	115(46.7%)
Yearly	95 (38.6%)
Never	9(3.7%)
SHC Owned Clothes	
Almost all	52 (21.1%)
Alot	66 (26.8%)
Moderate	80 (32.5%)
A little	43 (17.5%)
None	5 (2.0%)
Disposing SHC	
Throw	31 (12.6)
Give it away	167 (67.9%)
Recycle	33 (13.4%)
Other	14 (5.7%)
SHC Duration of use	
A few days	3 (1.2%)
Few weeks	1 (.4%)
A month	4 (1.6%)
Several months	52 (21.1%)
One year	78 (31.7%)
Several years	106 (43.1%)
Profession	
Business	29 (11.8%)
Teacher	24 (9.8%)
Student	7 (2.9%)
Sales	7 (2.9%)
Professor	6 (2.4%)
Other	151 (61.4%)
Missing	22 (8.9%)
Money spent to buy SHC per Month	
US$10 (Ksh. 0-1,000)	69 (28.0%)
US$10 - 30 (Ksh. 1,000-3,000)	83 (33.7%)
US$30 -50 (Ksh. 3,000 - 5,000)	46 (18.75)
US$50 -100 (Ksh. 5,000-10,000)	26 (10.6%)
US$100 -200 (Ksh. 10,000- 20,000)	15 (6.1%)
US$200 -500 (Ksh. 20,000-50,000)	1 (.4%)
< US$500 (< Ksh. 50,000)	2 (.8%)
Missing	4 (1.6%)
Income	
I have no job	45 (18.3%)
0 to US$50 (Ksh. 0-5,000)	7 (2.8%)
US$50 -100 (Ksh. 5,000-10,000)	13 (5.3%)
US$100 -200 (Ksh. 10,000-20,000)	20 (8.1%)
US$200 -400 (Ksh. 20,000-40,000)	22 (8.9%)
US$400-800 (Ksh. 40,000 -80,000)	35 (14.2%)
US$800 -1000 (Ksh. 80,000-100,000)	22 (8.9%)
US$1000 -2000 (Ksh. 100,000-200,00	30 (12.2%)
< US$2000 (Ksh. 200,000 and above)	47 (19.1%)
Missing	5 (2.0%)

5.2. Descriptive statistics results

Table 2 presents descriptive statistics of the scales used in this study. The Participants agreed that SHC created employment opportunities for those who sold the clothing (85.0%). In addition, 84.6% agreed that SHC trade brought economic benefits to Kenyans who sold the clothes. Reasons people bought SHC were that they were readily available (93.5%), SHC is of good quality (91.1%), SHC is affordable (90.7%), and it is common to buy SHC (88.2%). Notably, 32.1 % of the participants agreed that they bought SHC because they could not afford new clothing. Regarding the environment, 39.4% of the participants stated that they did not care about the environment and that they just wanted clothes on their bodies.

Regarding SHC being negative to the environment, 39.4 % of the participants agreed that they had seen lots of thrown SHC that were damaging to the environment. Approximately 44.7% agreed that wealthier nations dumped SHC in Kenya, this negatively impacted the environment. Despite the negative impact of SHC clothes on the environment, 14.2% of the participants thought it was unethical to continue SHC trade in Kenya. In addition, 68.7% of the participants agreed that SHC was environmentally friendly and 30.9% agreed that SHC is better than producing new clothes in Kenyan industries.

Regarding protectionism, 64.6% agreed that the government should limit or regulate the amount of SHC being dumped in Kenya. Conversely, only 15.9% agreed that the government should stop the importation of SHC in Kenya. About 57.3% agreed that SHC trade made Kenya dependent on other wealthy countries and 64.25% agreed that SHC trade in Kenya weakened the production of local new clothing. In addition, 50.4% agreed that local fashion designers would flourish if there was SHC trade in Kenya. About 37.4% agreed that SHC trade has led to unemployment for people who would otherwise be employed in local textiles and apparel industries. Few participants agreed with reasons to stop buying SHC – poor quality (15.9%) and sizes did not fit (18.7%).

Next, Exploratory Factor Analysis (EFA) was conducted for every item on each scale to explore the factor loading. Only the items that yielded significant factor loadings of <0.5< 1 were preserved in the scales. Cronbach's alpha for each revised scale was then calculated, and all the scales yielded a significant α >0.70; please (see Table 2) for more details.

Table 2. Scales

SCALES and Variable Type	Agree & Strongly Agree N(%)	Exploratory Factor Analysis Loadings - λ	Reliability (Cronbach's alpha) - α
SHC Economic Benefit – EcBn (Exogenous Variable)			0.951
1. SHC trade in Kenya - benefit the poor who buy and who could not afford new clothes.	190 (77.2%)	0.823	
2. SHC trade in Kenya -brings economic benefit to Kenyans who sell the clothes.	208(84.6%)	0.806	
3. SHC trade in Kenya create employment opportunities for those who sell the clothing.	209(85.0%)	0.908	
4. SHC trade in Kenya helps the poor to get clothing.	198 (80.5%)	0.576	
5. SHC trade in Kenya is economically advantageous and should continue.	182 (74.0%)	0.991	

Reasons for Buying SHC - R (Exogenous Variable)			0.757
1. The SHC have luxury brand names at an affordable price.	203 (82.5%)	0.722	
2. The SHC have unique styles	223 (90.7%)	0.620	
3. The SHC are readily available.	230 (93.5%)	1.00	
4. It is common and normal to buy SHC.	217(88.2%)	0.695	
Positive to Environment – EP (Endogenous Variable)			0.764
1. SHC is better to the environment than producing new clothes in Kenyan industries.	76(30.9%)	0.502	
2. SHC are recycled clothing hence they help protect the environment.	132(53.7%)	1.00	
Environmentally Negative - EN (Endogenous Variable)			0.823
1. I have seen lots of thrown away SHC and this is damaging to the environment.	97(39.4%)	0.855	
2. Wealthier nations dump SHC in Kenya and this negatively impacts the environment.	110(44.7%)	0.655	
3. I am concerned about how SHC waste may affect the environment negatively?	104(42.3%)	0.868	
4. SHC harm the environment	53(21.5%)	0.625	
Local Production Negatively affected by SHC – LPN (Endogenous Variable)			0.931
1. SHC trade in Kenya -weakens the production of local new clothing.	158(64.25)	0.864	
2. SHC trade in Kenya has caused the local clothing industries to close down.	130(52.8%)	0.585	
3. Local clothing industries would flourish if there was no SHC trade in Kenya.	118 (48%)	0.555	
4. Local fashion designers would flourish if there was no SHC trade in Kenya.	124 (50.4%)	1.00	
Government Protectionism/limit SHC- GP (Endogenous Variable)			0.881
1. The government should stop the importation of secondhand clothing in Kenya.	39(15.9%)	0.778	
2. The government should limit /regulate secondhand clothing being dumped in Kenya.	159(64.6%)	0.889	
Stop Buying SHC – SB (Endogenous Variable)			0.757
1. SHC have poor quality	39(15.9%)	0.819	
2. SHC are unhygienic	69(28.0%)	0.850	
3. The SHC sizes do not fit well	46(18.7%)	0.837	
4. I just prefer new clothes	70(28.5%)	0.757	

5.3. Structural equation modeling

IBM Analysis of Moment Structures (Amos) software was used to conduct Structural Equation Modeling (SEM) to test hypotheses on variable relationships and gain new insights from the data. Two recursive models were created in which the endogenous variables were determined one at a time in sequence with the exogenous variable.

Model one had one exogenous variable (EcBn), and this was based on the Raworth framework that put the deprived in the center of the doughnut economic model, while the other six variables were endogenous variables (see Figure 3). Model 1 exhibited a good fit with a GFI (goodness of fit index (GFI) of 1.000, which indicates a perfect fit, and a CFI (comparative index (CFI) of 1:000, which also indicates a good fit (see figure 1 for more details). This model was adopted in this study, as shown in Figure 2.

The regression weights for EP, EN, GP, and SB in the prediction of EcBn were significantly different from zero at the 0.001 level (two-tailed). Conversely, the regression weight for LPN in the prediction of EcBn was not significantly different from zero at the 0.05 level (two-tailed). Hence, these hypotheses were supported: H1, H2, H4, H5, and H6; however, H3 was not supported (See Table 3).

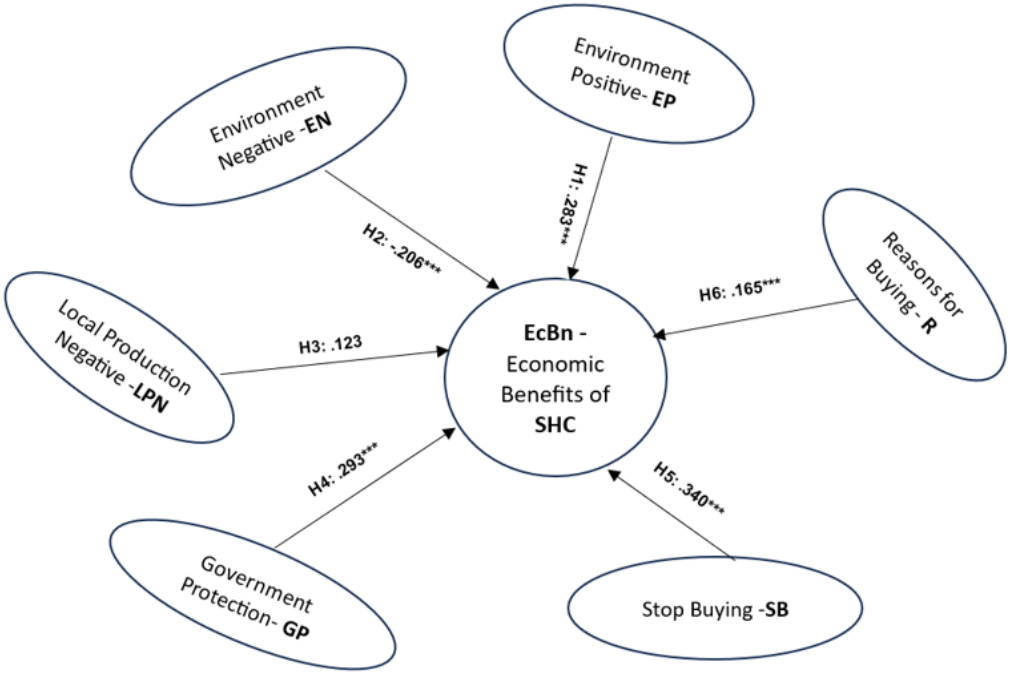

Figure 3. Model 1 Based on the SEM results

GFI = 1.000; CFI - 1.000; RMF = 0.000; P value = 0.000

Notes for Model 1:

GFI (goodness of fit index (GFI) of 1 indicates a good fit.
CFI A comparative fit index (CFI) close to 1 indicates a good fit.
*RMR A root mean square residual (RMR) of zero indicates a good fit; the smaller the **RMR** is, the better.*
P < 0.001 is significant.

Table 3. Model 1 fit and hypothesis testing based on the SEM results

			Standardized Regression Weights Estimate	*P* Value	Hypothesis testing
EcBn	<---	EP	.283	***	Hypothesis 1 is supported
EcBn	<---	EN	-.206	.002	Hypothesis 2 is supported
EcBn	<---	LPN	.123	.069	Hypothesis 3 is **not** supported
EcBn	<---	GP	.293	***	Hypothesis 4 is supported
EcBn	<---	SB	.340	***	Hypothesis 5 is supported
R	<---	EcBn	.165	***	Hypothesis 6 is supported

Notes for Table 3:

**P < 0.001 is significant.*
Regression weight explanation: When EP increases by one standard deviation, EcBn increases by 0.283 standard deviations. (The same principle applies to LPN, GP, and SB).
However, When EN increased by one standard deviation, EcBn decreased by -0.206 standard deviations.

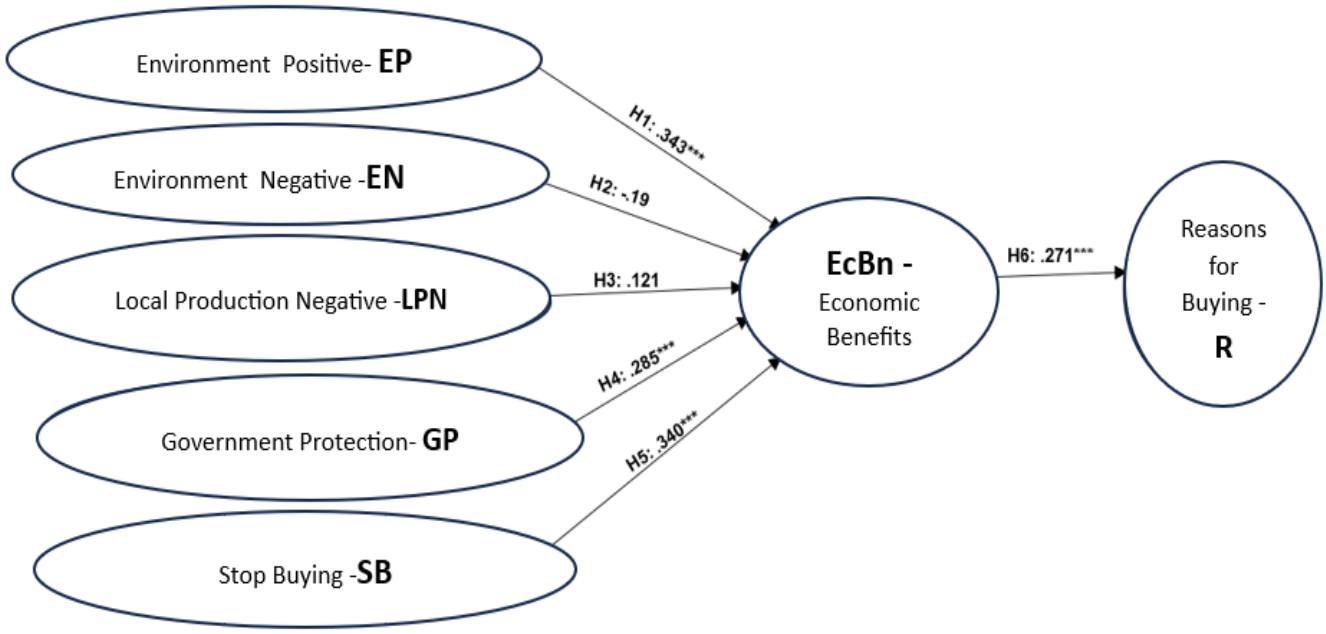

Figure 4. Model 2 based on the SEM results

GFI =0.968: CFI = 0.965 RMF = 0.460: P value: 0.000

Notes for Model 2:

GFI (goodness of fit index) should be close to 1 to indicate a good fit
CFI A comparative fit index (CFI) close to 1 indicates a good fit
*RMR (root mean square residual): the smaller the **RMR** is, the better the fit.*
**P Value of <0.001*

Model 2 had two exogenous variables (EcBn and R), whereas the other five variables were endogenous variables (see Figure 4). Model 2 exhibited a good fit, with a GFI (goodness of fit index (GFI) of 0.968 and a CFI (comparative fit index (CFI) of 0.965, which also indicates a good fit (see figure 4). Notably, Model 1 had a superior fit to Model 2; thus, Model 2 was not adopted in this study. Nonetheless, Model 2 regression weights and p values were comparable to Model 1 and hence Model 2, supported H1, H2, H4, H5, and H6 but H3 was not supported (See Table 4).

Table 4. Model 2 fit and hypothesis testing based on the SEM results

			Standardized Regression Weights Estimate	P Value	Hypothesis testing
EcBn	<---	EP	.343	***	H1 supported
EcBn	<---	EN	-.198	.003	H2 supported
EcBn	<---	LPN	.121	.080	H3 **not** supported
EcBn	<---	GP	.285	***	H4 supported
EcBn	<---	SB	.340	***	H5 supported
R	<---	EcBn	.271	***	H6 supported

Notes for Table 4:

**P Value of <0.001*
Regression weight explanation: When EP increases by one standard deviation, EcBn increases by 0.343 standard deviations. (The same principle applies for EN, LPN, GP, and SB.)
However, When EN increased by one standard deviation, EcBn decreased by -0.198 standard deviations.

6. Discussion

The economic benefits of SHC dominated participants' perspectives on SHC being positive to the environment, government protectionism, and reasons to buy SHC. This agrees with Raworth economic model that put the deprived in the center of the doughnut economic framework. This observation agrees with studies that have found that SHC supports numerous livelihoods and provides affordable clothing for many (Dissanayake and Pal, 2023; Hur, 2020; USAID, 2017). This view agrees with a study by the USAID in 2017 that estimated that the SHC trade has created job opportunities for approximately 121,000 direct and 27,000 indirect jobs. In Kenya, importers of SHC paid approximately US$63M in duties and taxes. This study supports the notion that the SHC sector has developed into an important economic resource for many Kenyans. Conversely, this study conflicts with Opiri and Andayi (2020), who proposed that stringent measures, such as banning SHC imports, would bring more meaningful results in bolstering the Kenyan economy.

This study found that when consumers perceived SHC to be positive to the environment, it influenced them to perceive it as economically beneficial. This study concurs with Ek Styvén and Mariani (2020), who found that perceived sustainability and economic motivations positively influence attitudes toward SHC. This study reveals that the majority of the participants hold the perspective that SHC is, in fact, positive to the environment. Recently, there has been an emphasis on sustainability and reduction of the environmental footprint of the fashion industry.

Thus, in an effort to take care of the environment, people purchase second-hand clothing. This study agrees with Hur (2020) in that the major drivers of SHC were not only economic, but also ecological, and were connected to social values.

Conversely, when consumers perceived SHC to be negative toward the environment, the economic benefits of SHC was perceived more negatively. However, despite the negative impact that SHC clothes have on the environment, very few participants wanted SHC trade to be stopped, but more were of the opinion that SHC trade should be limited. However, there is not much support for the idea that SHC negatively impacts the environment. The participants indicated that they used SHC for many years before putting it away. This perspective is different from the common narrative that SHC is adversely affected by the environment. This perspective concurs with Wu et al. (2023) that the way SHC is disposed determines whether it is reused or sent to garbage or landfills.

The study revealed that the majority of the participants realized that SHC trade had negatively impacted local clothing production efforts, which concurs with Brooks and Simon (2012) that SHC has caused a decline in the African clothing industry. The SHC trade created numerous employment opportunities as people distributed and repaired clothes. However, employment in the informal SHC sector did not provide social or legal protection for individuals. It was difficult to quantify how many job losses were caused by importation of SHC in Kenya, making it even more difficult to conclude whether the SHC trade is good or bad for Kenya (Baden and Barner, 2005). Overall, there was little support to stop the SHC trade in Kenya.

6.1. Recommendations based on study

The results of this study have theoretical and practical recommendations and contribute to the body of literature on SHC, sustainable fashion, and the ecological impact of SHC consumption. This study provides a practical and empirical understanding of the key factors that need to be considered, since there are many political and economic factors that need to be considered to understand the impact of used clothing trade on the Kenyan economy (Brook and Simon, 2012; USAID, 2017). According to Njiri (2018), the performance of Kenya's textile and apparel industry is affected by government policy, SHC lower prices and higher quality, and consumers' preferences. This study proposes that the government should limit SHC trade but not ban it, which concurs with Mwenda's (2018) study that upheld that the government could reduce SHC imports to give more room for the local garment industries to grow and operate at a more level-playing ground.

The perspectives in this study indicate that SHC is generally consumed in Kenya because it is viewed as environmentally friendly. The study participants indicated that they bought and used the SHC for many years before giving it away and rarely disposed of the used SHC. This ecologically friendly narrative about SHC has implications for decision makers in the light that people buy SHC because it fulfills their clothing needs as a basic human need.

SHC trade in Kenya has the benefits of creating numerous jobs and providing affordable clothing. Though the importation of SHC caused a decline in textile and apparel manufacturing in Kenya, it is not easy to ban SHC from being imported into Kenya. The ethical dilemma of SHC trade needs to be addressed, and the Kenyan government consider implementing policies that will best benefit its citizens, such as the strategies in Kenya: Vision (2030). SHC trade is an economic and ethical dilemma that requires all sides to have a serious discourse so that a middle ground is reached that benefits all. When the heart of the discourse is equity and flourishing for all, courageous policy decisions can be made on the way forward to be more ethical and equitable. The suggestions made from

this study are relevant in formulating fairer strategies for sustainable development and promote relevant research on how to approach SHC trade and consumption.

6.2. Limitations and future research

This study has some limitations that suggest interesting opportunities for future research. This study used surveys to collect perspectives on the SHC trade in Kenya. The current has limited generalizability because a convenient sample was used via social media which tilted the sample towards educated and urban populations, hence future research can conduct random sampling that would be more representative of the general Kenyan population. A larger sample would also facilitate a better model fit for the RMSEA value, which is sensitive to sample sizes, and in small sample sizes as in this study, it is common to observe a higher value (Kenny, Kaniskan and McCoach, 2015).

Future research can make use of the current study model by using the questionnaire tool developed in this study and the questions with significant factor loadings. Furthermore, future research can extend the current models and use them in other countries to gain perspectives on SHC trade. In addition, future research can conduct qualitative research by using interview schedules and focus groups to gain a more in-depth perspective on this important topic. The qualitative study can compare the views of various stakeholders and conduct a more comprehensive value chain analysis.

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