NYU STERN

Center for
Sustainable Business

The Business Case for Sustainable Apparel

Strategy for Investing in Circularity and Innovation

Phase 1: December 2020

Phase 2: April 2021

Investing in Circularity and Innovation

	Product Development/ Procurement	Manufacturing	Distribution	Retail	Consumer Engagement
Invest in Circular Product Take-Back Programs			Implement Product Take-Back Programs for Textile Recycling and Upcycling		Encourage Take-Backs for Products
			Implement Product Take-Back Programs for Resale		Encourage Resale Participation
Invest in Circular Packaging Solutions			Return Store Packaging to DC Program		Encourage Proper Disposal for Packaging & Peripheral Waste
			Utilize Re-usable Direct to Consumer Packaging		
Invest in Circular Design and Innovative Use of Materials/Processes	Use Digital Samples Instead of Physical Samples				
	Use Digital Fabric Sourcing				
	Design Product to Reuse Fabric Scraps and/or Deadstock				
Increase Product Usage and Longevity			Implement Product Rental Programs		Promote Rental Business Models
			Implement Product Repair / Refurbish Programs		Engage in Repair / Refurbish Programs
Reduce Product Returns	Invest in Improved E-Commerce Experience on Company Website	Increase On-Demand Manufacturing			

Investing in Circularity and Innovation
Overview of Sustainability Strategy and Relevant Mediating Factors

In the following slides, we will be focusing on benefits from *Investing in Circularity and Innovation*, which are categorized based on the relevant mediating factors highlighted below:

Sustainability Strategy Definition

Investing in Circularity and Innovation	**Company invests in innovation to achieve new circular business models that focus on product take-back and innovative design methods**

Relevant Mediating Factors

	Benefits that…
Operational Efficiency (OE)	**Optimize corporate and supply chain efficiencies to lower cost and increase profits**
Innovation (INN)	**Create new revenue streams using sustainable business models**
Customer Loyalty (CL)	**Attract an increasing number of conscious buyers & consumers, while reducing retention costs**
Risk Management (RM)	**Encourage risk mitigation and resilience within the value chain**
Sales & Marketing (SM)	**Increase volume of sales through brand and marketing policies**
Media Coverage (MC)	**Increase a company's media presence with the development of both traditional and social media content**

Investing in Circularity and Innovation
Overview of Benefits and Monetization Methods (1/5)

Practice	Sub-Practice	Proposed Benefits	Mediating Factors	Proposed Monetization Methods	Financial Impact Priority
Invest in Circular Product Take-Back Programs	Implement Product Take-Back Programs for *Resale*	Sales from reused items within resale programs **For strategic recommendations, working with third-parties is beneficial but there is upside to developing these capabilities in- house (incremental parent company profit, etc.)*	INN	Calculate annual profit from resale program: annual revenue from resale program sales minus costs associated with selling reused items (i.e. sorting and cleaning costs)	✓
	Implement Product Take-Back Programs for *Textile Recycling and Upcycling*	Reduced material costs from recycled fabrics	OE	Calculate the cost differential between virgin material costs and recycled material costs for the same quantity of products to achieve avoided cost savings; when looking at a scenario with recycled costs, it needs to incorporate % used for virgin and recycled materials	✓
		Reduced supply chain disruption, given decreased supplier dependency	RM	Calculate estimated reduction in # of supply chain disruptions before and after implementation of the product take-back program multiplied by cost per disruption (or loss of sales per disruption) to achieve avoided cost savings	✓
		Revenue from selling materials for textile recycling	INN	Calculate annual profit from take-back program: annual revenue from program minus costs associated with textile recycling and upcycling (i.e. collecting, sorting, processing, product development costs)	
		Revenue from selling upcycled products	INN		

✓ **= If implemented, this benefit can realize substantial financial impact**

Investing in Circularity and Innovation
Overview of Benefits and Monetization Methods (1/5 Cont.)

Practice	Sub-Practice	Proposed Benefits	Mediating Factors	Proposed Monetization Methods	Financial Impact Priority
Invest in Circular Product Take-Back Programs	Encourage Resale Participation	New purchase sales from participation in resale programs	CL SM	Calculate incremental profit to the company from sales spurred by the existence of resale programs (i.e. shopping credit to purchase products) minus associated costs (i.e. shopping credit costs)	✓
		Lower customer acquisition costs	CL SM	Calculate cost differential between total customer acquisition costs before and after resale program implementation OR calculate estimated # of customers who purchase parent company products for the first time (via the resale program) multiplied by customer acquisition costs per customer to achieve avoided cost savings	
		Unpaid earned media	MC	Calculate cost per media exposure multiplied by # of unpaid media exposures (given program visibility) to achieve avoided cost savings	
	Encourage Take-Backs for Products	New purchase sales from participation in take-back programs	CL SM	Calculate incremental profit to the company from sales spurred by the existence of take-back programs (i.e. using a gift card to purchase products) minus associated costs (i.e. gift card costs)	✓
		Lower customer acquisition costs	CL SM	Calculate cost differential between total customer acquisition costs before and after take-back program implementation OR calculate estimated # of customers who purchase parent company products for the first time (via the take-back program) multiplied by customer acquisition costs per customer to achieve avoided cost savings	
		Unpaid earned media	MC	Calculate cost per media exposure multiplied by # of unpaid media exposures (given program visibility) to achieve more efficient media spend	

Investing in Circularity and Innovation
Overview of Benefits and Monetization Methods (2/5)

Practice	Sub-Practice	Proposed Benefits	Mediating Factors	Proposed Monetization Methods	Financial Impact Priority
Invest in Circular Packaging Solutions	*Return Store Packaging to DC Program (Includes used-store packaging and peripherals as well as re-shippable containers from DC to stores) **For reuse and/or proper waste disposal* *This sub-practice can be applicable for one company and its DC / retail stores and / or one company's DC and another company's retail stores; therefore, when applying this sub-practice, the supply chain structure, key players, and respective benefits need to be determined*	Reduction in waste hauling and tipping fees, given streamlined waste disposal process (i.e. aggregate waste disposal pick-up at DC as opposed to at individual retail stores)	OE	Calculate cost differential between waste disposal & associated fees if managed at the DC level and waste disposal & associated fees if managed at the retail store-level to achieve avoided cost savings	✓
		Reduced costs associated with reusage of peripheral & packaging materials and shipping containers	OE	Calculate the cost differential between discarded packaging and peripheral costs and reusable packaging & peripheral and re-shippable container costs for the same quantity of products to achieve avoided cost savings	
		Reduced supply chain disruption, given less supplier dependency (i.e. transportation of materials, etc.)	RM	Calculate estimated reduction in # of supply chain disruptions before and after implementation of the program multiplied by cost per disruption (or loss of sales per disruption) to achieve avoided cost savings	

*Develop capabilities in-house or through a partnership

Investing in Circularity and Innovation

Overview of Benefits and Monetization Methods (2/5 Cont.)

Practice	Sub-Practice	Proposed Benefits	Mediating Factors	Proposed Monetization Methods	Financial Impact Priority
Invest in Circular Packaging Solutions	*Utilize Re-usable Direct to Consumer Packaging	Reduced costs associated with reusage of periphery and packaging materials (i.e. reuse of polybags)	OE	Calculate the cost differential between discarded packaging & peripheral material costs and reusable packaging & peripheral costs for the same quantity of products to achieve cost savings	✓
		Increased customer loyalty from offering packaging take-back program	CL SM	Calculate increase in Customer Lifetime Value (CLV) due to the increase in customer frequency and customer retention; additionally, calculate the incremental profit as a result of the increase in CLV	
		Reduced supply chain disruption, given less supplier dependency	RM	Calculate estimated reduction in # of supply chain disruptions before and after implementation of the program multiplied by cost per disruption (or loss of sales per disruption) to achieve avoided cost savings	
	Encourage Proper Disposal for Packaging & Peripheral Waste (In-person and DTC)	Increased customer loyalty from offering proper waste disposal	CL SM	Calculate increase in customer lifetime value (CLV) due to the increase in customer frequency and customer retention; additionally, calculate the incremental profit as a result of the increase in CLV	✓
		New purchase sales from participation in proper disposal for packaging & peripheral waste	CL SM	Calculate incremental profit to the company from sales spurred by the existence of proper waste disposal treatment (i.e. using a gift card to purchase products) minus associated costs (i.e. gift card costs)	
		Lower customer acquisition costs	CL SM	Calculate cost differential between customer acquisition costs before and after the proper waste disposal implementation OR calculate estimated # of customers who purchase company products for the first time (via the waste disposal treatment) multiplied by customer acquisition costs per customer to achieve avoided cost savings	
		Unpaid earned media	MC	Calculate cost per media exposure multiplied by # of unpaid media exposures (given program visibility) to achieve avoided cost savings	

Develop capabilities in-house or through a partnership, such as with LimeLoop

Investing in Circularity and Innovation
Overview of Benefits and Monetization Methods (3/5)

Practice	Sub-Practice	Proposed Benefits	Mediating Factors	Proposed Monetization Methods	Financial Impact Priority
Invest in Circular Design and Innovative Use of Materials/ Processes	Use Digital Samples Instead of Physical Samples	Reduced product development costs (i.e. less materials given reduction and eventual elimination of physical samples)	OE	Calculate cost differential of product development costs before and after digital sample implementation to achieve cost savings **May need to account for upfront technology investment*	✓
		• Reduced transaction costs (i.e. fewer personnel to manage the physical sample process) & other miscellaneous costs associated with physical samples • Reduced transportation & associated costs (i.e. packaging of physical samples) • Reduced disposable waste-associated costs	OE	Calculate cost differential between transaction, transportation, and waste disposal costs before and after digital sample implementation to achieve cost savings	✓
		Increased productivity, given quicker turnaround time during the sample process	OE	Calculate productivity level based on measurable output, such as speed-to-market and labor utilization	
		Reduced supply chain disruption, given less supplier dependency (i.e. transportation of physical samples, etc.)	RM	Calculate estimated reduction in # of supply chain disruptions before and after implementation of the digital technology multiplied by cost per disruption (or loss of sales per disruption) to achieve avoided cost savings	

Investing in Circularity and Innovation
Overview of Benefits and Monetization Methods (3/5 Cont.)

Practice	Sub-Practice	Proposed Benefits	Mediating Factors	Proposed Monetization Methods	Financial Impact Priority
Invest in Circular Design & Innovative Use of Materials/ Processes	Use Digital Fabric Sourcing * For maximum optimization, implement with use of digital samples (from Circularity and Innovation) *Ex.* *Material Exchange Swatchbook*	Reduced product development costs (i.e. less material costs given reduction and eventual elimination of physical fabric samples from suppliers)	OE	Calculate cost differential of product development costs before and after digital sourcing implementation to achieve cost savings **May need to account for upfront technology investment and partnership with suppliers*	✓
		Reduction in waste associate fees given reduction of fabric samples	OE	Calculate cost differential between waste disposal & associated fees before and after digital fabric sourcing implementation to achieve avoided cost savings	✓
		Reduce cost for storage facilities to house excess fabric waste including but not limited to fabric roles, swatches, and mutilated samples		Calculate cost differential between storage needs for excess fabric and waste disposal & associated fees if transition to digital fabric sourcing to achieve avoided cost savings	
		Increased productivity, given quicker turnaround time during the fabric selection process	OE	Calculate productivity level based on measurable output, such as speed-to-market and labor utilization	
		Increase administrative efficiencies by dealing with less fabric waste (including less handling and logistics)	OE ER	Calculate cost differential on an annual basis of hours used to organize fabric waste before and after shifting to digital fabric sourcing to achieve cost savings of annualized salaries	
		Reduced supply chain disruption, given less supplier dependency (i.e. availability of physical fabric samples, transportation of physical fabric samples, etc.)	RM	Calculate estimated reduction in # of supply chain disruptions before and after implementation of the digital technology multiplied by cost per disruption (or loss of sales per disruption) to achieve avoided cost savings	

Investing in Circularity and Innovation
Overview of Benefits and Monetization Methods (3/5 Cont.)

Practice	Sub-Practice	Proposed Benefits	Impact Categories	Proposed Monetization Methods	Financial Impact Priority
Invest in Circular Design & Innovative Use of Materials/ Processes	Design Product to Reuse Fabric Scraps and/or Deadstock	Reduced material costs (i.e., less materials given reuse of fabric scraps and/or deadstock)	OE	Calculate cost differential of material costs before and after shifting to design product using fabric scraps and/or deadstock to achieve cost savings **May need to account for engineering of garments including added labor/workmanship and limited quantity of consistent and specific materials regarding fabric scraps*	✓
		Increase sales from using fabric scraps and/or deadstock in the design of the product **Could include small batch of limited-edition product based on available of fabric scraps*	CL SM	Calculate incremental profit to the company from sales spurred by product designed using fabric scraps and/or deadstock (minus costs for marketing and change in material costs margins)	
		Increased customer loyalty from offering specialty product created from recycled resources	CL SM	Calculate increase in customer lifetime value (CLV) due to the increase in customer frequency and customer retention; additionally, calculate the incremental profit as a result of the increase in CLV	
		Reduced supply chain disruption, given less supplier dependency (i.e. Input materials etc.)	RM	Calculate estimated reduction in # of supply chain disruptions before and after shifting to design product using fabric scraps and/or deadstock multiplied by cost per disruption (or loss of sales per disruption) to achieve avoided cost savings	✓

Investing in Circularity and Innovation
Overview of Benefits and Monetization Methods (4/5 Cont.)

Practice	Sub-Practice	Proposed Benefits	Mediating Factors	Proposed Monetization Methods	Financial Impact Priority
Increase Product Usage & Longevity	Implement Product Rental Programs	Sales from rental programs	INN	Calculate annual profit from rental programs: annual revenue minus costs associated with the programs (i.e. maintenance costs such as dry-cleaning, transportation, etc.) **If the rental service is not in-house and through a third party (i.e. Rent the Runway), then the company will have to pay a fee to the third party, who will also shoulder some of the operating costs (i.e. dry-cleaning, mailing)*	✓
		Reduced product development costs, given reduced number of products (due to product longevity)	OE	Calculate cost differential between product development costs before and after rental program implementation to achieve cost savings	
	Implement Product Repair / Refurbish Programs	Sales from repair / refurbish programs	INN	Calculate annual profit from repair / refurbish programs: annual revenue minus costs associated with the programs (i.e. potential incentives, etc.)	✓
		Reduced product development costs, given reduced number of products (due to product longevity)	OE	Calculate cost differential between product development costs before and after repair / refurbish program implementation to achieve cost savings	

Investing in Circularity and Innovation
Overview of Benefits and Monetization Methods (4/5 Cont.)

Practice	Sub-Practice	Proposed Benefits	Mediating Factors	Proposed Monetization Methods	Financial Impact Priority
Increase Product Usage & Longevity	Promote Rental Business Models	New purchase sales from participation in rental programs	CL SM	Calculate incremental profit to the company from sales spurred by the existence of the rental program minus costs associated with the program (i.e. incentives, etc.) **This can be applied to both in-house and third-party rental programs*	✓
		Lower customer acquisition costs	CL SM	Calculate cost differential between customer acquisition costs before and after the rental program implementation OR calculate estimated # of customers who purchase parent company products for the first time (via the rental program) multiplied by customer acquisition costs per customer to achieve cost savings	
		Unpaid earned media	MC	Calculate cost per media exposure multiplied by # of unpaid media exposures (given program visibility) to achieve avoided cost savings	
	Engage in Repair / Refurbish Programs	New purchase sales from participation in repair / refurbish programs	CL SM	Calculate incremental profit to the company from sales spurred by the existence of the repair / refurbish program (i.e. shopping credit to purchase products) minus associated costs (i.e. shopping credit costs)	✓
		Lower customer acquisition costs	CL SM	Calculate cost differential between customer acquisition costs before and after the repair program implementation OR calculate estimated # of customers who purchase parent company products for the first time (via the repair program) multiplied by customer acquisition costs per customer to achieve cost savings	
		Unpaid earned media	MC	Calculate cost per media exposure multiplied by # of unpaid media exposures (given program visibility) to achieve avoided cost savings	

Investing in Circularity and Innovation
Overview of Benefits and Monetization Methods (5/5)

Practice	Sub-Practice	Proposed Benefits	Mediating Factors	Proposed Monetization Methods	Financial Impact Priority
Reduce Product Returns	Invest in Improved E-commerce Experience on Company Website	Decrease in product returns & associated costs (i.e. packaging & transportation)	OE	Calculate the reduction in product returns multiplied by the average return cost per product to achieve avoided cost savings; savings should include associated costs that are also reduced such as packaging & transportation costs	✓
		Increase in sales, given higher customer satisfaction and loyalty	CL SM	Calculate incremental profit attributed to the improved e-commerce experience (profit differential before and after) and estimated increase in customer lifetime value	
	Increase On-Demand Manufacturing	Reduction in excess inventory	OE	Calculate differential between costs of excess inventory before and after the increase in on-demand manufacturing to achieve avoided cost savings **Less upfront investment in products, but dependent on supplier technology capability or investment*	✓