

SUSTAINABLE PACKAGING DESIGN

for Plaza, an E-Commerce Fashion Start-Up

The depletion of natural resources and degradation of the environment due to increasing packaging waste, are prompting customers and businesses to seek more sustainable packaging designs that integrate into a circular economy. Plaza, an e-commerce start-up focused on sustainable fashion, aims to extend its brand ethos to its packaging, wholly embracing a circular approach. The primary objective of this thesis is to facilitate Plaza's adoption of sustainable packaging, given its limitations and constraints as a small business.

In the following, the research findings regarding the adoption of sustainable packaging design for small e-commerce businesses are summarized.

Firstly, it is important to clarify that sustainability is a moral concept created by society aimed at ensuring the fair distribution of resources and preventing environmental exploitation. This concept can be applied to a variety of cases, packaging being a prominent example due to its linear and single-use nature.

Prior to exploring the possible application of sustainability principles, it is necessary to address legal obligations, specifically, the EU Packaging and Packaging Waste Directive, which mandates sustainable packaging practices. While these regulations serve as a solid foundation, they represent the minimum legal requirements. Businesses seeking to adopt and advocate for sustainability and sustainable packaging should aim to exceed the requirements outlined in regulations, as mere compliance is expected of any business, regardless of their stance on sustainability.

To create a sustainable packaging design, environmental implications need to be balanced against functional requirements and aesthetic preferences. As this approach is still relatively broad, frameworks such as the R-Ladder of sustainability and its associated principles (Refuse, Rethink, Reduce, Repurpose, Recycle, etc.) can be used to guide implementation. The applicability of the aforementioned principles may vary depending on the context, with those discussed in this thesis specifically selected for small e-commerce businesses.

Sustainability principles and subsequent points of advice can be applied either during the design process or after the implementation of functional and aesthetic constraints. Regardless, to effectively apply these principles a thorough understanding of the topics relevant to the design must be established, enabling the identification of potential areas for flexibility and facilitating educated design decisions. To achieve that, the packaging's purpose and functions to fulfil that purpose are to be established. This includes understanding product vulnerabilities, legal obligations, shipping, packaging formats, material properties, material manufacturing and supply chain, end-of-life scenarios (e.g. landfill, recovery, recycling), and lastly brand aesthetics.

Having a comprehensive overview and knowledge of all areas is crucial, as some have a stronger influence on the packaging's sustainability. Material selection is particularly significant, as manufacturers themselves adhere to different sustainability standards, selecting production processes and raw materials accordingly. This is equally relevant for both large and small businesses when choosing a manufacturer. However, small businesses, due to their economic limitations, often select from standard off-the-shelf options rather than fully customizing packaging, limiting insights on material composition and production.

To guarantee the sustainability of the packaging, it is important to select a manufacturer that is transparent about the claims of their products. In addition, companies should be aware of the discrepancy between actual and perceived sustainability with regard to material selection. Plastic, due to its lasting persistence in the environment, is commonly perceived as less sustainable. However, depending on the specific use case, it may be more sustainable than paper-based options which are perceived as environmentally friendly by the public.

The implications of being a small e-commerce business can also be leveraged to a company's advantage. Their size, lack of large production facilities, established practices, and long-term supplier commitments also provide flexibility, enabling them to adapt more easily to new trends and developments. The small scale allows access to (niche) technologies (e.g. screen printing, manual stamping) only viable for low-volume production runs. Additionally, businesses can opt to handcraft and creatively approach certain aspects of their packaging, with a particular emphasis on environmentally friendly materials and processes. Such an approach can not only enhance the sustainability of the packaging but also add value for customers.

Applying the research findings to Plaza, the packaging design had to integrate both functional and sustainability requirements, while also reflecting the retro Mediterranean aesthetic of Plaza's product line and website. To meet these needs, a polypropylene bag was chosen as product packaging for the ready-made garments, providing necessary protection, and a recycled paper mailer was selected as transport packaging, conveying the hand-made, raw, artisanal feel that complements Plaza's brand aesthetic. The transport packaging was given a double-sided graphic design, depicted in Figure 1 and 2, featuring a revised brand logo, inside-out content declaration, thank you message, shipping and disposal information, as well as a shortened version of the fisherman's tale used to introduce customers to the product and brand ethos. The front graphic, shown in Figure 1, is designed as a template, adaptable for various formats and future collections. The design will be printed using digital or screen printing as well as a rubber stamp. All design decisions were made in accordance with sustainability, functionality, and aesthetic considerations.

Lastly, the packaging industry is an ever-changing field. Businesses seeking to successfully adopt sustainable practices should remain informed about developments in (EU) regulations, the implementation and registration of country-specific packaging waste registers, and the advancement of more efficient and sustainable technologies.

Figure 1.
Final Packaging Design
Front Side

PALETTE NO. <u>1</u>		ORDER NO. <u>142</u>	
<h1>Thank You!</h1>			
FOR YOUR PURCHASE <u>Mauricio</u>			
WINTER <input type="radio"/>		SPRING <input type="radio"/>	
		SUMMER <input checked="" type="radio"/>	
		FALL <input type="radio"/>	
ITEM NO. <u>36150</u>	ITEM NAME <u>Lobster Shirt</u>	SIZE <u>XL</u>	
  			
KEEP DRY		DO NOT OPEN WITH BLADES	
		PLEASE RECYCLE	
Thank you for your support.			
I hope you enjoy your garments!			
Love, <u>Jeanes</u>			
▼ PLACE SHIPPING LABEL HERE ▼			

EXPRESS 10:30 <small>2018-04-02 XAL/PT E.Z. 190-1004*</small>	TDM	BHL
From: ELEX Mr. Ruwinda 1156 MASSACHUSETTS AVE 08028 Barcelona Barcelona Spain	Origin BCN	Contact: 7896352410 Contact: 888422281
To: Stark Industries Mic S #4, Blue cross avenue 10001 NYC New York United States (US)	U	
C-REQ-ADS	US-ZYP-JR3	Time X10
Ref: 456	Peak/Ship Weight 0.2 kg	Price 1/1
<small>Contents: UN1266 Excess quantities X-parcels</small>		
  		
DO NOT PRINT - SAMPLE ONLY		
<small>(2L)JUS100 801</small> <small>BILL 81 9518 3905</small> <small>(7) JDD01 1000 0000 0401 8992</small>		

Figure 2.
Final Packaging Design
Back Side

