

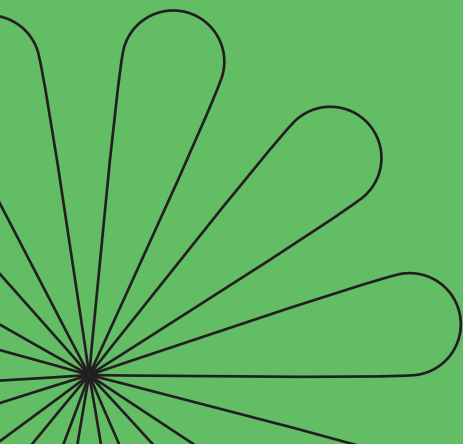
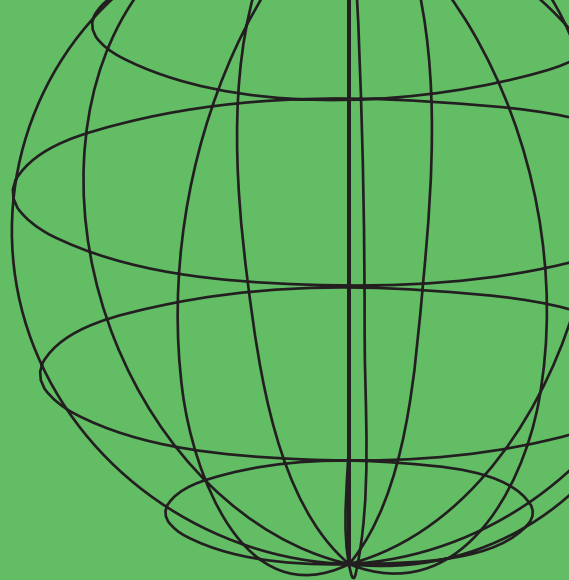
SMUTAGA

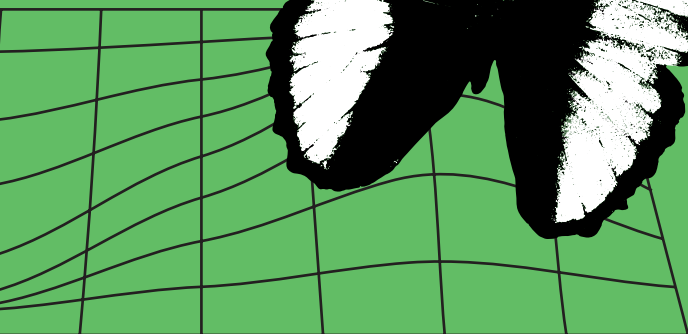
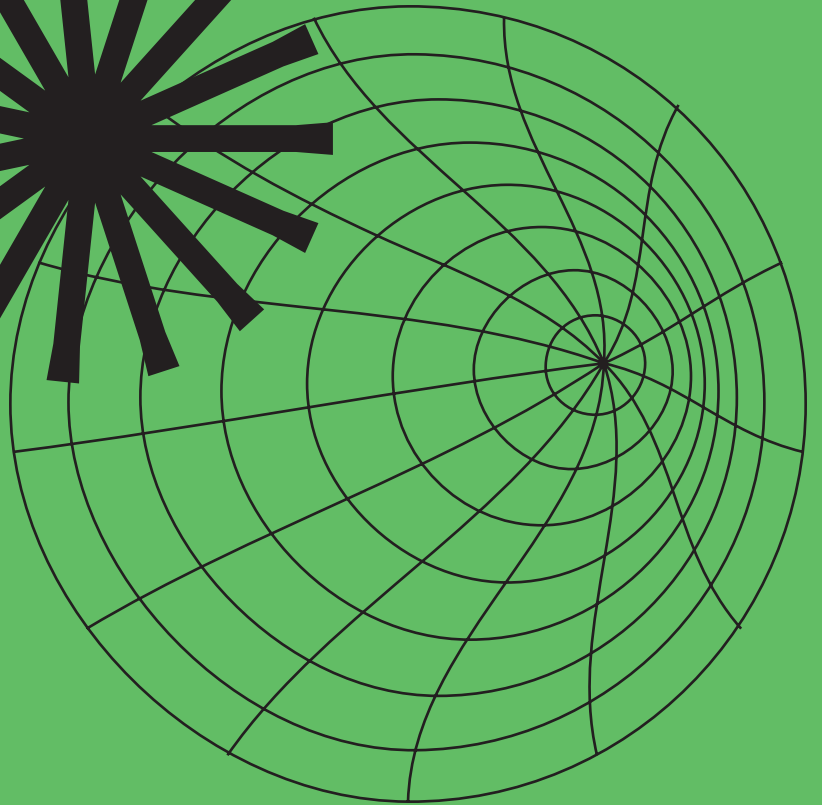
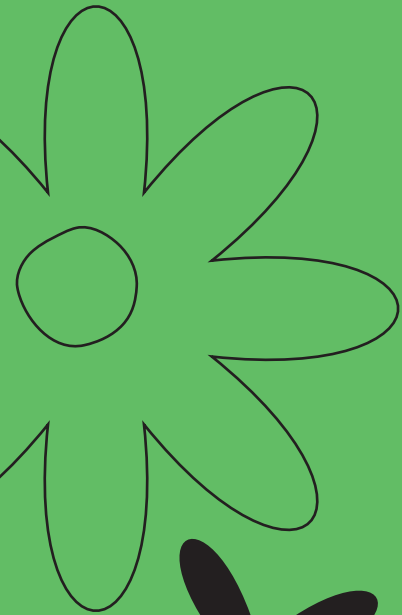
2024



TORONTO METROPOLITAN UNIVERSITY









MUTAGA

TECHNICAL ASSOCIATION OF THE GRAPHIC ARTS TORONTO METROPOLITAN UNIVERSITY STUDENT CHAPTERS © 2024

Toronto is in the 'Dish With One Spoon Territory'. The Dish With One Spoon is a treaty between the Anishinaabe, Mississaugas and Haudenosaunee that bound them to share the territory and protect the land. Subsequent Indigenous Nations and peoples, Europeans and all newcomers have been invited into this treaty in the spirit of peace, friendship and respect.

No part of this publication shall be reproduced without permission and written consent from the author(s).

Published by TMUTAGA

www.tmutaga.com

School of Graphic Communications Management

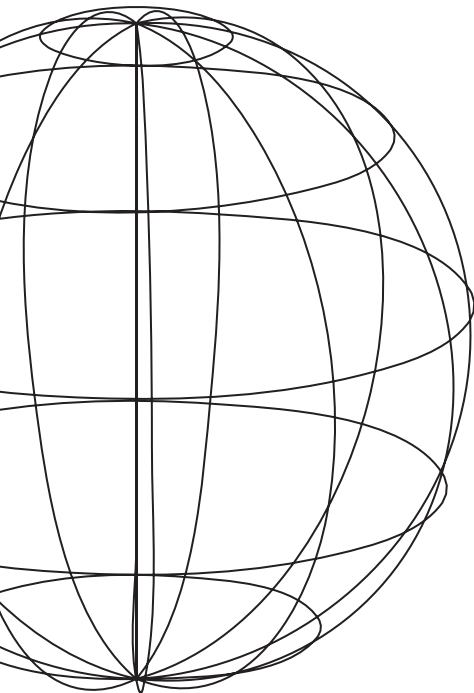
Toronto Metropolitan University

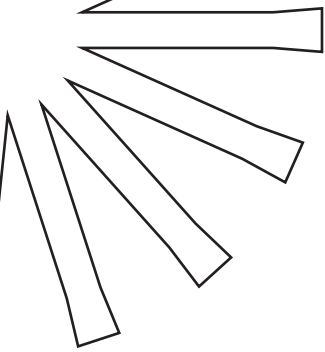
125 Bond Street

Toronto, Ontario

M5B 1Y2 Canada

www.torontomu.ca/gcm/





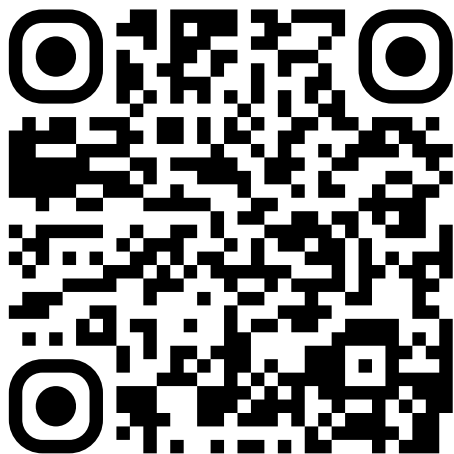
OUR INSPIRATION

This year, TMUTAGA's creative vision was to take what was made and completely remould it; we are emerging from our past. One year into its new name, we have established ourselves as TMUTAGA and have completely shed our former name.

Inspired by the life cycle of the butterfly, we have allowed ourselves to rebrand and remould ourselves into a stronger and better team. Through hard work and dedication, TMUTAGA has developed into a new life, starting with this journal.

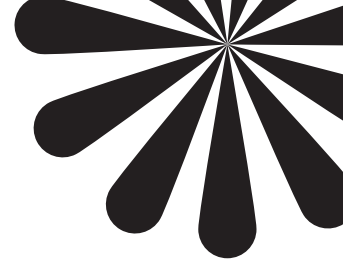
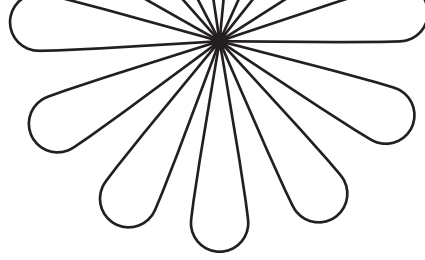
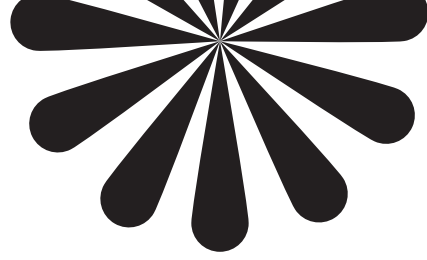
This year's journal encapsulates that, and aims to create a realm for itself that has not been done before. This was achieved through incorporating a maximalist approach to our design yet still keeping it accessible and readable.

TMUTAGA is setting the stage for future TMUTAGA journals to expand on, hoping to create an ecosystem that allows for journals to shine and explore new and innovative methods and opportunities within the graphic communications industry, acting as a reflection to the journal entries.

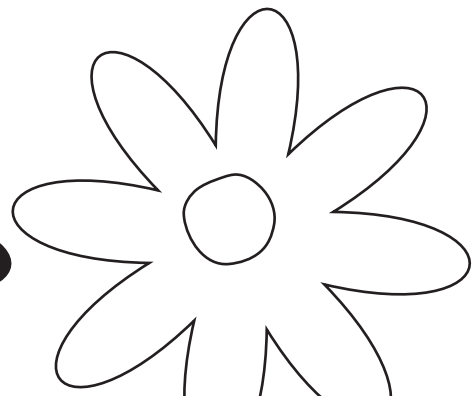
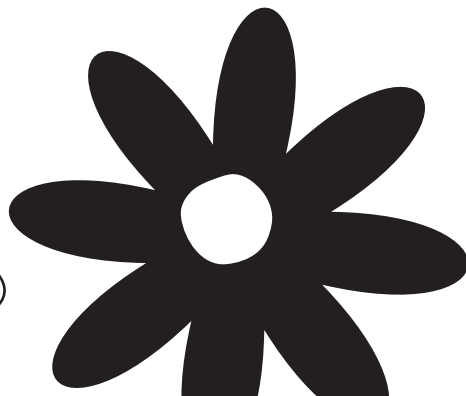
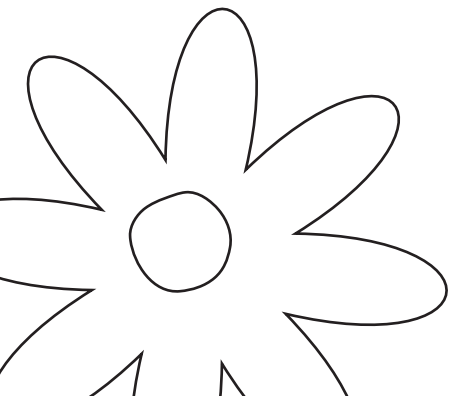
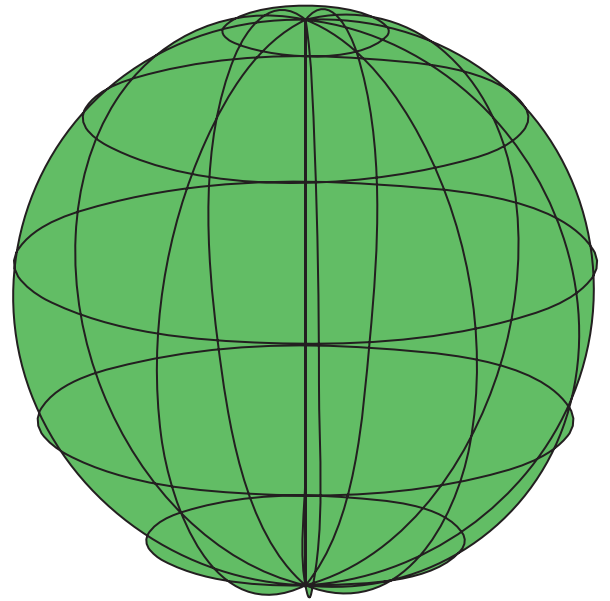


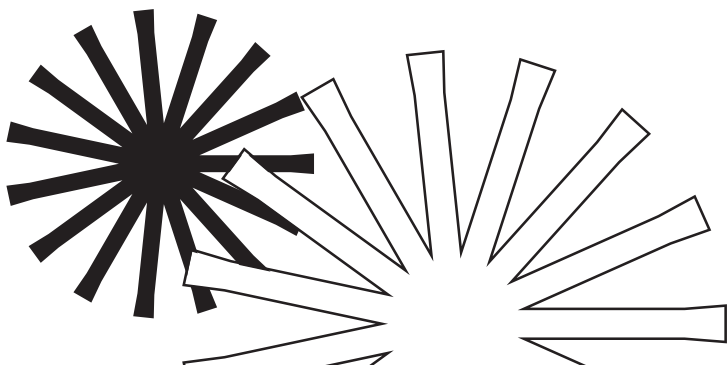
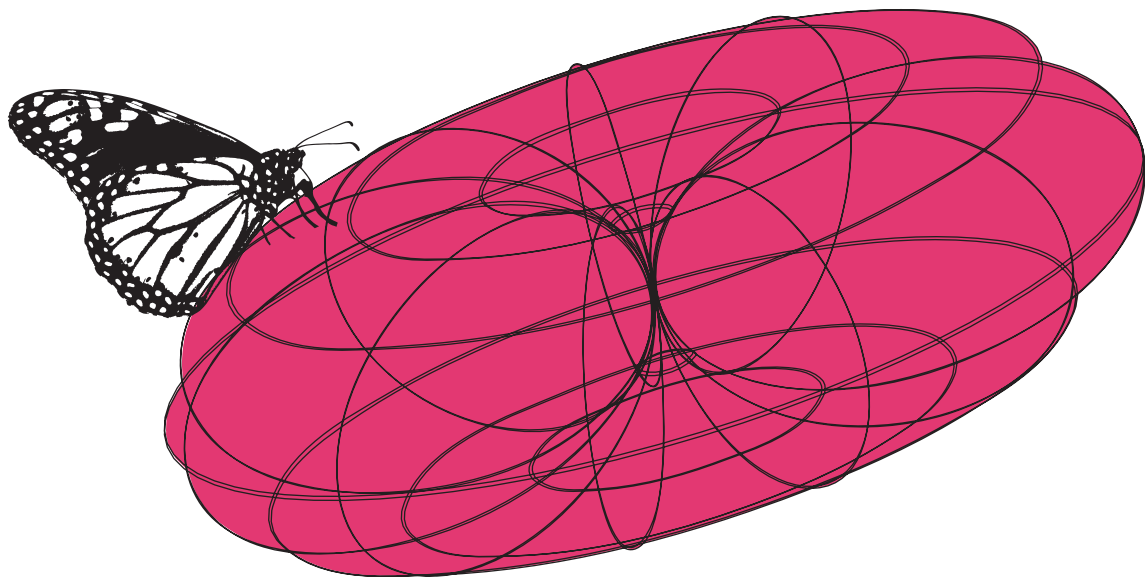
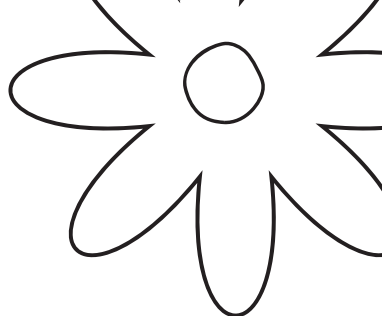
Scan this QR code to access an audiobook and a digital version of this year's papers.





*A LETTER
FROM...*





OUR FACULTY ADVISOR

Martin Habekost *HE/HIM*

Dear TMUTAGA student chapter,

It is always interesting for the advisor to see how the dynamics within the group play out. The group's success depends a lot on the leadership of the president or the co-presidents. The team behind this journal saw strong leadership from the co-presidents.

The production team has been very proactive this year and sourced material for the inside pages and the cover early in the semester. I am always amazed at how the creative person on the team comes up with the design of the journal and which fonts to use. Our marketing and multimedia also showed great creativity in designing our social media posts and creating the updated webpage.

Of course, I can't leave out all the work the editorial team did to revise the research articles published in this journal. Our admin & ops person kept excellent minutes of our meetings, so there were no questions about what was discussed.

Everyone on the team put in a lot of work and probably short nights to make this journal happen. I am proud of what you achieved.

Have an excellent conference; hopefully, you will make many new friends and win the cup!

Martin Habekost, Dr. rer. nat.
TMUTAGA Faculty Advisor



OUR CO-PRESIDENTS

Aisharja Chowdury SHE/HER +
Wendy Yang SHE/HER



Dear TAGA,

With great pride, we present to you Toronto Metropolitan University's 2023/2024 Student Publication Journal. This incredible journey began for us last March in Oklahoma during the conference when we both decided to explore the perspectives of becoming Co-Presidents. It was at that moment, fueled by excitement and shared vision, that we embarked on this ambitious endeavor. We vividly recall brainstorming the unique visions we wanted to try, setting the stage for what would unfold in the months ahead.

After months of meticulous planning, rigorous testing, and unwavering dedication, today we stand before you, proud to have come this far. This journal is a testament to the hard work and passion of 30 talented students from the School of Graphic Communications Management at The Creative School, comprising nine executive members and sixteen associate members, as well as featuring the work of five student authors whose theses are showcased within these pages.

As Co-Presidents of TMUTAGA, we hold immense gratitude for the opportunity to lead and collaborate with such a dedicated team. Together, we've strived to represent GCM, The Creative School, and Toronto Metropolitan University with the utmost dedication and Grit!

Our student group has had the pleasure of participating in the TAGA student competition for 16 years and counting, and every year we strive to bring something new to showcase students' bright and forward-thinking minds. This year, we journeyed into uncharted territory as a nod to our creative vision: remoulding and emerging from our past in a maximalist, innovative fashion. From experimenting with bold colours to new substrates, our journal is also much more than just a spectacle. As you flip through our work you will learn from five versatile GCM student thesis papers that explore topics in visual communication, packaging systems, ebooks, and more. We truly believe that our journal represents the emergence of new trends and innovation within the Graphic Arts industry that is worthy of exploring.

We would like to express our biggest thank you to the support of the GCM faculty, our industry sponsors, and the Graphic Arts industry. This journal could not be done without your generous support, whether it be monetary donations, materials, services, expertise or time. On behalf of the TMUTAGA team, we hope that you enjoy our journal as much as we enjoyed making it come to life.

Aisharja Chowdury
Co-President, TMUTAGA

Wendy Yang
Co-President, TMUTAGA

TABLE OF CONTENTS



- 01 REDESIGNING THE ORDINARY: THE CAPABILITIES OF AMAZON SIOC IN E-COMMERCE MARKETS

DAVID YU



- 27 DESIGN ELEMENTS IN GENDER-NEUTRAL SKINCARE PRODUCT PACKAGING

PAIGE JOHANSEN



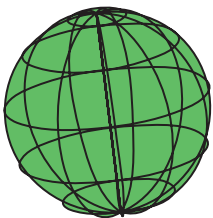
- 53 E-BOOK ACCESSIBILITY FOR USERS WITH ADHD – A CASE STUDY OF THE AMAZON KINDLE APP FOR IOS DEVICES

CAMERON MADY



- 77 HOW DO VISUAL COMMUNICATION DESIGNERS EFFECTIVELY CONVEY COMPLEX MESSAGING TO THE PUBLIC, SPECIFICALLY IN PUBLIC HEALTH CAMPAIGNS?

KIELON GERRA



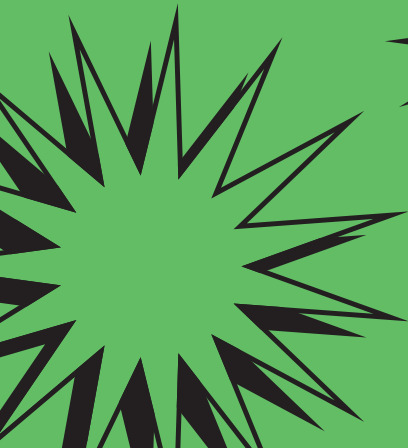
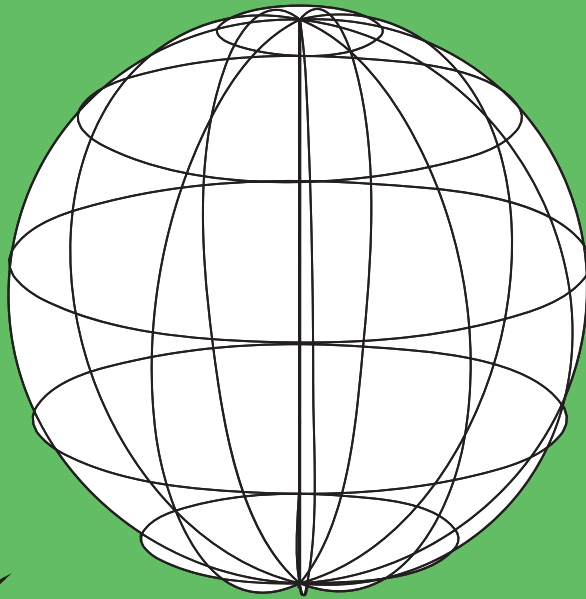
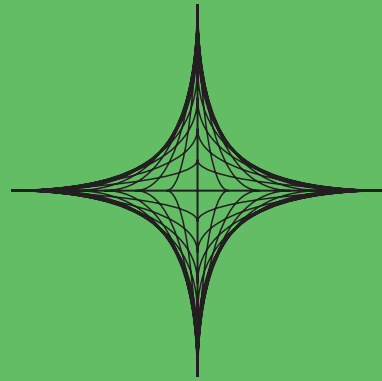
- 105 CONSUMER BEHAVIOUR PERCEPTION AND BUY IN OF REUSABLE PACKAGING SYSTEMS IN ARENAS IN CANADA

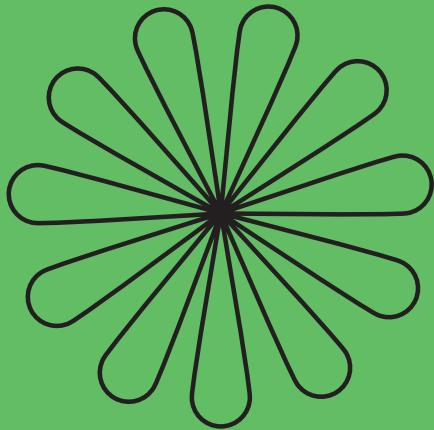
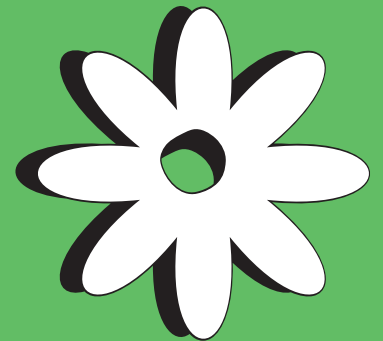
MATTHEW STEWART

- 127 CREDITS

- 136 COLOPHON

- 137 MEET OUR SPONSORS





01- DAVID YU



Scan here to access an audiobook for this chapter.



REDESIGNING THE ORDINARY: THE CAPABILITIES OF AMAZON SIOC IN E-COMMERCE MARKETS



DAVID YU

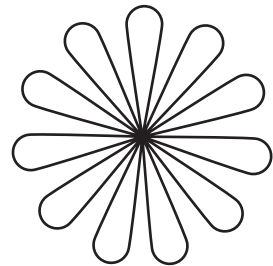
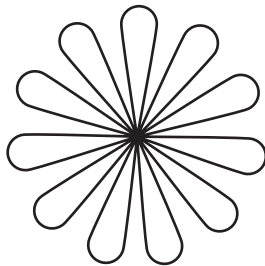
My name is David Yu, and I've always been passionate about packaging design, sustainability, and skincare. The culmination of these interests inspired me to conduct a comparative life cycle analysis between two paperboard packaging designs of a skincare product line. I hope my thesis can shed light on the impacts of design thinking with sustainability as a core competency, ultimately promoting sustainable consumerist practices. Nowadays you can find me beginning my career as a project & account manager, reading books, and learning new languages.



ABSTRACT

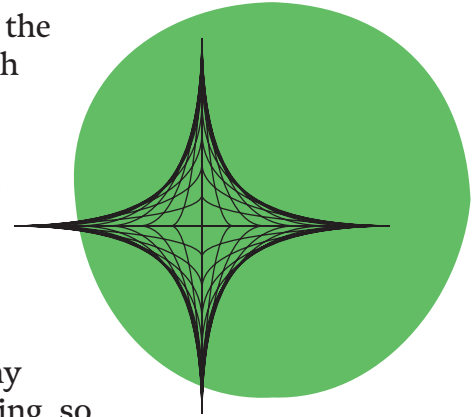
This paper will examine the efficacy of a redesigned packaging solution for The Ordinary skincare line of cosmetics, specialised for the Amazon SIOC program. This program aims to remove standardised Amazon overboxes from the supply chain, allowing vendors to ship their products as-is, with no further secondary packaging. This program ultimately aims to reduce overpackaging in a harsh e-commerce supply chain.

Testing in compliance with ISTA 6 and Amazon standards will be carried out with both a redesigned package and the current packaging solution. Comparisons will then be made to judge whether or not the redesign will be appropriate for the SIOC program. A comparative life cycle assessment (LCA) will then be conducted that will look into the endpoint impact categories of both packaging solutions from their raw material extraction and manufacturing stages of their life cycles. This paper aims to examine the potential of the SIOC program for sustainability initiatives in e-commerce supply chains through the reduction of standardised packaging and specialised solutions for each product.



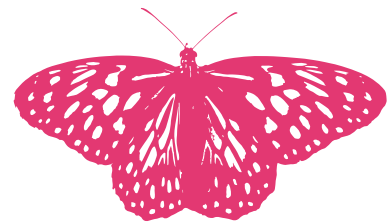
INTRODUCTION

Ordering goods from Amazon comes with a few constants. Consumers all over the world know the iconic regular slotted container (RSC) that contains a plethora of items; from hardware to electronics to pet food, the RSC has stood the test of time in e-commerce supply chains. Today, Amazon is the fifth largest company globally based on market cap (Statista Research Department, 2022). Being arguably the most “global” organisation, Amazon is intricately tracked; in 2021, the company shipped about 4.75 billion packages in the United States alone (Placek, 2022). That comes out to about 4.75 billion Amazon RSCs circulating throughout the supply chain, all of which must be manufactured, shipped, and disposed of. This raises many concerns regarding the environmental impact of their standardised packaging system; many products sold under Amazon come with their own primary packaging, so the redundancy of the RSC comes into question. Amazon may be able to ship some products as-is with no worry concerning packaging failure or product loss.

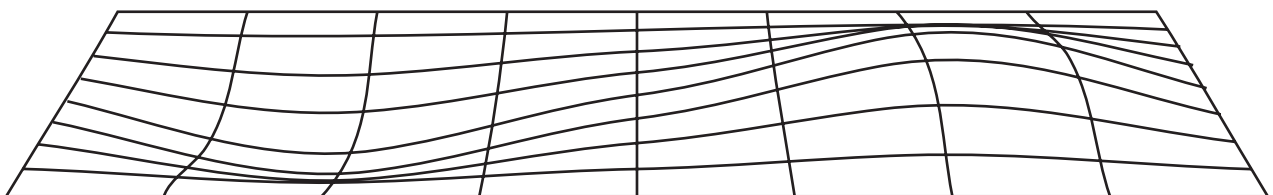


Enter Amazon SIOC (ships-in-own-container), a program under Amazon’s Frustration-Free Packaging policy. SIOC allows for products to undergo a series of tests in order to remove the Amazon RSC during shipping, and have their product ship as-is. Through this program, overpackaging can be avoided leading to improved environmental outcomes. SIOC affiliates will also enjoy a reduction in Amazon chargebacks for packaging and transportation costs, giving them an incentive to participate (Amazon Network, 2021).

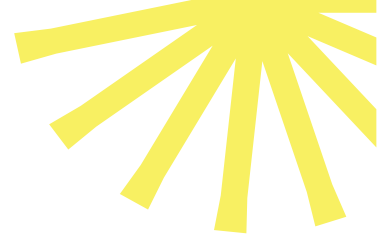
The cosmetics industry is growing with its global market expanding by 16% in 2022 (Petruzzi, 2023a). Skincare products make up a large chunk of the overall cosmetic market, comprising 41% of the global industry, and up to 60% in Asia and North America (Petruzzi, 2023b).



This paper will look at the viability of a line of cosmetic skincare products from The Ordinary for the Amazon SIOC program. Testing will be conducted on both a redesigned packaging solution intended for the SIOC program and the current packaging solution as a control. A short LCA will then be conducted to analyse impacts through the raw material extraction and manufacturing phases of both products to compare the effectiveness of the redesign to the current solution. The objective of this paper is to analyse and objectively evaluate the positive environmental impacts of the SIOC program, which aims to tackle unnecessary overpackaging in the e-commerce industry.



LITERATURE REVIEW



AMAZON TYPE CLASSIFICATIONS

Amazon's Frustration-Free-Packaging program has three levels of applications one may apply for. At Level 1, there is Frustration-Free-Packaging; any item that comes with its own primary package that is recyclable and easy-to-open is eligible (Amazon Network, 2021). Acceptance into this program will allow for a product to be shipped without an Amazon RSC as the product vendor will supply their own alternative. At Level 2, there is SIOC, which allows a product to be shipped without an Amazon overbox after undergoing testing according to ISTA Type 6 regulations (Amazon Network, 2021). On Level 3, there is Prep-Free Packaging which does not require any intervention from an Amazon Warehouse in order to ship as the vendor will handle all logistics themselves while continuing to use Amazon web services to sell their product (Amazon Network, 2021).

LIFE CYCLE ASSESSMENT RESOURCES

Life Cycle Assessment resources often come in the form of benchmarking materials for raw materials and distribution channels for e-commerce markets. These quantitative analyses help policymakers make decisions regarding environmental policy and sustainability moving forward (Civancik-Uslu et al., 2019). Notably, packaging for e-commerce is gaining increased traction from both the consumer market and academic community, with more journals and publications being produced year-over-year (Mucowska, 2021). There are five main areas of concern among the scientific community (Mucowska, 2021):

1. Carbon emissions
2. City logistics, management, and stakeholders
3. Ecommerce
4. Crowdshipping and freight transport
5. Environmental impacts and cost efficiencies

All five of these categories make up the changing landscape of e-commerce and are going to be the focus of the LCA that will be conducted in this research.

The question of e-commerce chains versus retail chains still persists from a sustainability perspective. Sustainability metrics in shipping in bulk to where individual consumers must go themselves to pick up a product in a car-centric culture as opposed to shipping individual products to many consumers all at once is a subject of great debate. There is evidence to suggest that e-commerce distribution channels are actually more efficient in the environmental impacts measured, depending greatly on the use of air freight (Matthews et al., 2001). Air transportation, which is present in both retail and e-commerce chains, is an extremely large contributor to negatively affecting environmental impacts. The most efficient method of



reducing environmental impacts would be limiting air transit as much as possible. This would result in domestically or locally produced goods that can be shipped via land.

METHODOLOGY & REGULATIONS

The product to be approved for Amazon SIOC is a glass cosmetic bottle with a liquid dropper cap. Testing for the control will be conducted with the original paperboard primary packaging placed inside the smallest standard-sized Amazon RSC with B-Flute double-wall corrugate. Testing for the redesign will be done through an upsized version of the original primary package consisting of B-Flute corrugate rather than the current paperboard.

In order to be approved for Amazon SIOC, the packaging must undergo a series of testing. This testing will analyse the package’s protective and preservative properties via shock, humidity, compression, and leak tests (International Safe Transit Association, 2018). For drop testing, packaging faces must be labelled properly. Package faces are to be labelled with different numbers that will be used to distinguish which faces, edges, and corners are to be drop-tested (Amazon Network, n.d).

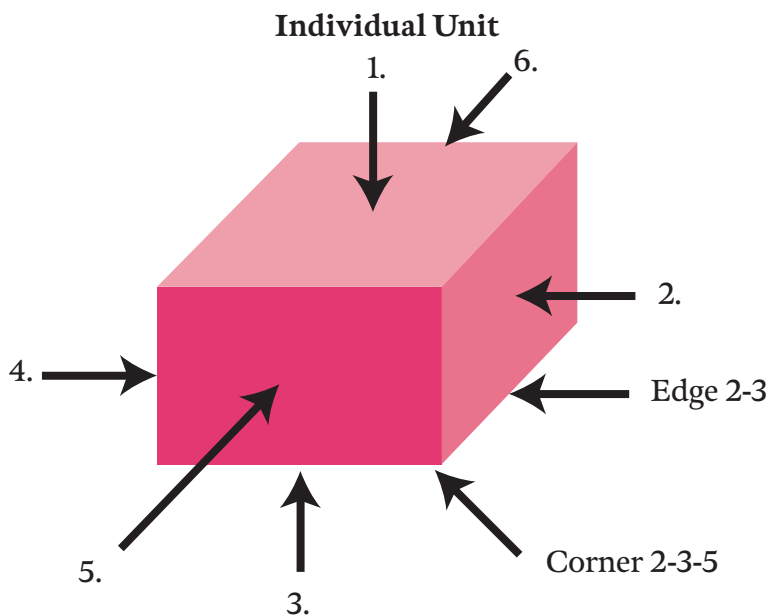


Figure 1: Packaging face labeling standard (Amazon Network, n.d)

AMAZON VENDOR DROP TESTING

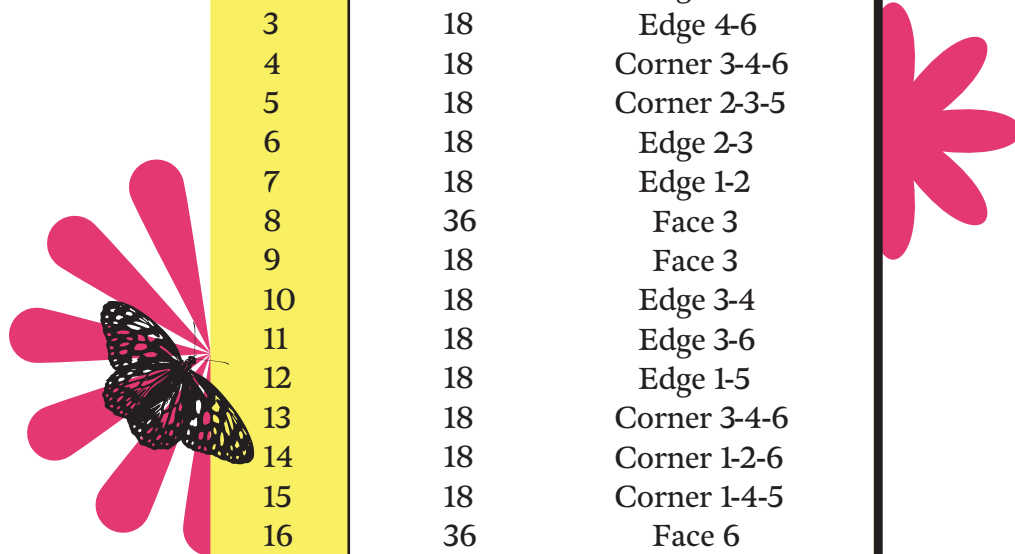
Amazon Vendor Drop Testing (AVD Test) is conducted for non-fragile products that weigh less than 50 lbs and have a total perimeter of less than 165” (Amazon Network, 2021). Success in passing the AVDTest would allow products to be shipped with its primary packaging in addition to the Amazon RSC over it; this is the testing parameter for Amazon’s Tier 1 FPP program. Although the test subject is considered a fragile product and would require five samples for SIOC testing, the Amazon FPP program requires only three samples as the inclusion of an RSC would render the subject non-fragile (Amazon Network, 2021). The results from this testing will be the control group, with the current primary packaging placed in an RSC to simulate current distribution solutions. The RSC will be the Amazon OAO



size, which measures 9.25” x 6.5” x 2.25”; it is the smallest RSC currently used in Amazon end-consumer shipping, which would be appropriate for this product (Awesomers, n.d). The current primary package measures 1.3” x 1.3” x 4.5”.

The AVD Test has only one sequence of testing per sample (Amazon Network, n.d):

1. Shock drop test; 17 drops from varying heights and faces



Drop #	Height (in)	Orientation
1	18	Edge 3-4
2	18	Edge 3-6
3	18	Edge 4-6
4	18	Corner 3-4-6
5	18	Corner 2-3-5
6	18	Edge 2-3
7	18	Edge 1-2
8	36	Face 3
9	18	Face 3
10	18	Edge 3-4
11	18	Edge 3-6
12	18	Edge 1-5
13	18	Corner 3-4-6
14	18	Corner 1-2-6
15	18	Corner 1-4-5
16	36	Face 6
17	18	Face 3

Figure 1: Amazon Vendor Shock Drop Testing Chart (Amazon Network, n.d)

ISTA TYPE 6 A TESTING

Amazon classifies various testing methods and regulations based on product weight, product type, total package dimensions, and product fragility. Based on such criteria, the test subject, a cosmetic product that weighs less than 50 lbs, would fall under ISTA Type 6 Standards for the SIOC program testing (Amazon Network, 2021). ISTA Type 6 A Testing standards are applied to product applications to the SIOC program that weigh less than 50 lbs and have a total perimeter of less than 165”. Additionally, if the test subject is 50% or more glass and would be considered a fragile product;5 five samples would be required for testing rather than one as required for non-fragile products (Amazon Network, 2021). This set of testing will be the experimental group, with the redesigned packaging solution being the test subject.



ISTA 6 Type A testing goes in the following sequence per sample (International Safe Transit Association, 2018):

1. Temperature and humidity testing at room ambient temperatures for 12 hours
2. An optional controlled temperature and humidity test for an additional 12 hours
3. Shock drop testing; 9 drops from varying heights and faces.
4. Vibration testing; random forces with and without top loads
5. Second shock drop test; 8 drops from varying heights and faces
6. Leak test; 8 hours

SHOCK - DROP	
Step 1	Action Follow the table below to determine the height and orientation for the first 9 drops
	Drop # <32 kg (70lb) Standard
	1 460 mm (18 in) Edge 3-4
	2 460 mm (18 in) Edge 3-6
	3 460 mm (18 in) Edge 4-6
	4 460 mm (18 in) Corner 3-4-6
	5 460 mm (18 in) Corner 2-3-5
	6 460 mm (18 in) Edge 2-3
	7 460 mm (18 in) Edge 1-2
	8 910 mm (36 in) Face 3
9 460 mm (18 in) Face 3	
Step 2	Shock test is now complete. Go to TEST BLOCK 3 (Vibration Under Dynamic Load).

Figure 2: ISTA 6 Type A first set of drop tests (International Safe Transit Association, 2018),





SHOCK - DROP

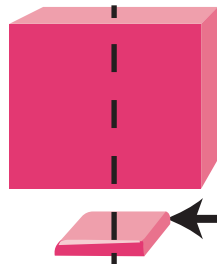
Step
1

Action
Follow the table below to determine the height and orientation for the final set of 8 drops.

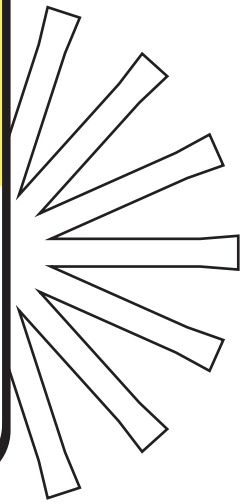
Drop #	Drop Height	Standard
10	460 mm (18 in)	Edge 3-4
11	460 mm (18 in)	Edge 3-6
12	460 mm (18 in)	Edge 1-5
13	460 mm (18 in)	Corner 3-4-6
14	460 mm (18 in)	Corner 1-2-6
15	460 mm (18 in)	Corner 1-4-5
16	910 mm (36 in)	Face 6 or Face 4 - Most critical or damage-prone flat orientation
17	460 mm (18 in)	Face 3

2

For drop 17, the test specimen should strike the hazard midpoint across the longest dimension of the face and parallel to the shortest dimension of the face being impacted. The required drop distance is to the impact surface, not to the hazard. The diagram below shows this concept:



Hazard parallel to the shortest dimension of face 3 OR face 2

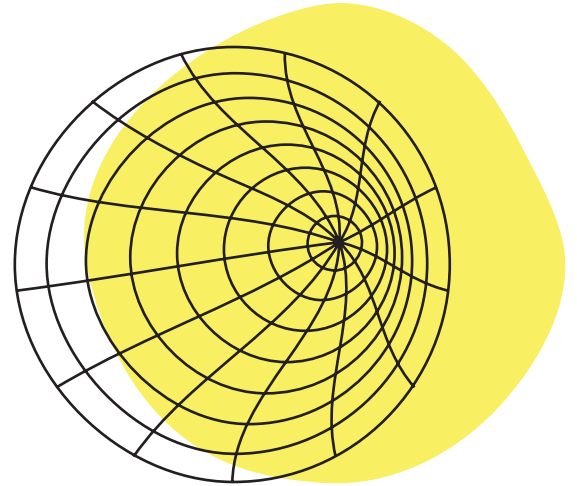


Due to a lack of vibration testing equipment, Step 4 of testing must be skipped and will instead be replaced with a calculation of the compression strength of the redesigned package.

Products to be admitted into SIOC must have packaging that measures at least 6” x 4” x 0.375”, which the current packaging solution does not meet (Amazon Network, 2021). Therefore, the redesign will upsize this package in order to fit two products rather than one.

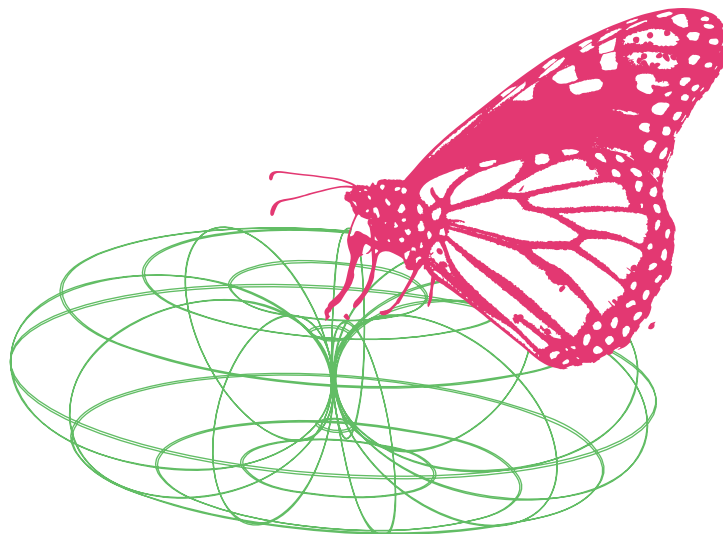
FAILURE MEASURES

All evaluations for drop testing are to be done via visual inspection. After each drop test, the package must be examined for any damage (Amazon Network, 2021). Any major damages include unsealed flaps, protrusions, box deformation, punctures, ruptures, or tears, and would lead to a failure to pass testing (Amazon Packaging Lab, 2018).



LCA METHODOLOGY

The LCA will take the weight from the redesign, and the combined weight of the RSC and current primary package. The life cycle inventory database to be used is ELCD. The corrugated material will be under the technology mix, production mix, 16.6% primary fibre, 83.4% recycled fibre, EU-25S inventory set. Recipe is the life cycle impact assessment method to be used. The results will ultimately yield the endpoint impact ratings for human health, ecosystem quality, climate change, and resources, allowing for a comparison of those metrics to be made between the current and redesigned packaging solution.



RESULTS

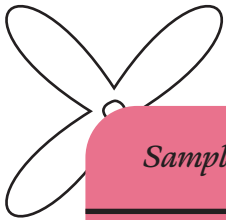
CONTROL GROUP TESTING (ORIGINAL PACKAGING SOLUTION)

Sample #1 Shock Testing:



Drop #	Height (in)	Orientation	Result
1	18	Edge 3-4	No damage
2	18	Edge 3-6	No damage
3	18	Edge 4-6	No damage
4	18	Corner 3-4-6	No damage
5	18	Corner 2-3-5	No damage
6	18	Edge 2-3	No damage
7	18	Edge 1-2	No damage
8	36	Face 3	No damage
9	18	Face 3	No damage
10	18	Edge 3-4	No damage
11	18	Edge 3-6	No damage
12	18	Edge 1-5	No damage
13	18	Corner 3-4-6	No damage
14	18	Corner 1-2-6	No damage
15	18	Corner 1-4-5	No damage
16	36	Face 6	No damage
17	18	Face 3	No damage





Sample #2 Shock Testing:



Drop #	Height (in)	Orientation	Result
1	18	Edge 3-4	No damage
2	18	Edge 3-6	No damage
3	18	Edge 4-6	No damage
4	18	Corner 3-4-6	No damage
5	18	Corner 2-3-5	No damage
6	18	Edge 2-3	No damage
7	18	Edge 1-2	No damage
8	36	Face 3	No damage
9	18	Face 3	No damage
10	18	Edge 3-4	No damage
11	18	Edge 3-6	No damage
12	18	Edge 1-5	No damage
13	18	Corner 3-4-6	Slight crease on primary package
14	18	Corner 1-2-6	No damage
15	18	Corner 1-4-5	No damage
16	36	Face 6	No damage
17	18	Face 3	No damage



Sample #3 Shock Testing:

Drop #	Height (in)	Orientation	Result
1	18	Edge 3-4	No damage
2	18	Edge 3-6	No damage
3	18	Edge 4-6	No damage
4	18	Corner 3-4-6	No damage
5	18	Corner 2-3-5	No damage
6	18	Edge 2-3	No damage
7	18	Edge 1-2	No damage
8	36	Face 3	No damage
9	18	Face 3	No damage
10	18	Edge 3-4	No damage
11	18	Edge 3-6	Slight creasing on corner 3-4-6 of primary package
12	18	Edge 1-5	No damage
13	18	Corner 3-4-6	Small crease on RSC on corner 3-4-6
14	18	Corner 1-2-6	No damage
15	18	Corner 1-4-5	No damage
16	36	Face 6	No damage
17	18	Face 3	No damage



All samples of the package were able to pass the ambient room temperature test. The corrugate and glass primary package experienced no visible damage or change in structure.

EXPERIMENTAL GROUP (REDESIGNED PACKAGING SOLUTION)

Sample #1 Shock Testing:



Drop #	Height (in)	Orientation	Result
1	18	Edge 3-4	No damage
2	18	Edge 3-6	No damage
3	18	Edge 4-6	No damage
4	18	Corner 3-4-6	No damage
5	18	Corner 2-3-5	No damage
6	18	Edge 2-3	No damage
7	18	Edge 1-2	No damage
8	36	Face 3	No damage
9	18	Face 3	Very slight flute pronunciation on face 3
10	18	Edge 3-4	No damage
11	18	Edge 3-6	No damage
12	18	Edge 1-5	No damage
13	18	Corner 3-4-6	No damage
14	18	Corner 1-2-6	Small crease on corner 1-2-6
15	18	Corner 1-4-5	No damage
16	36	Face 6	No damage
17	18	Face 3	No damage





Sample #2 Shock Testing:



Drop #	Height (in)	Orientation	Result
1	18	Edge 3-4	No damage
2	18	Edge 3-6	No damage
3	18	Edge 4-6	No damage
4	18	Corner 3-4-6	No damage
5	18	Corner 2-3-5	Very small creasing on corner 2-3-5
6	18	Edge 2-3	No damage
7	18	Edge 1-2	No damage
8	36	Face 3	No damage
9	18	Face 3	Small scuff mark on face 3
10	18	Edge 3-4	No damage
11	18	Edge 3-6	No damage
12	18	Edge 1-5	No damage
13	18	Corner 3-4-6	No damage
14	18	Corner 1-2-6	No damage
15	18	Corner 1-4-5	No damage
16	36	Face 6	No damage
17	18	Face 3	No damage





Sample #3 Drop Testing:



Drop #	Height (in)	Orientation	Result
1	18	Edge 3-4	Small crease on edge 3-4
2	18	Edge 3-6	No damage
3	18	Edge 4-6	No damage
4	18	Corner 3-4-6	Small scuff mark on corner 3-4-6
5	18	Corner 2-3-5	No damage
6	18	Edge 2-3	No damage
7	18	Edge 1-2	No damage
8	36	Face 3	Flute pronunciation on face 3
9	18	Face 3	No damage
10	18	Edge 3-4	No damage
11	18	Edge 3-6	No damage
12	18	Edge 1-5	No damage
13	18	Corner 3-4-6	No damage
14	18	Corner 1-2-6	No damage
15	18	Corner 1-4-5	No damage
16	36	Face 6	No damage
17	18	Face 3	No damage

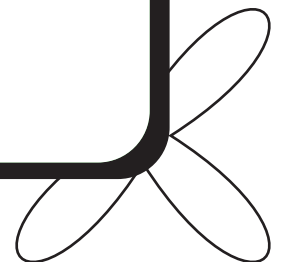




Sample #4 Drop Testing:



Drop #	Height (in)	Orientation	Result
1	18	Edge 3-4	No damage
2	18	Edge 3-6	No damage
3	18	Edge 4-6	No damage
4	18	Corner 3-4-6	No damage
5	18	Corner 2-3-5	Small bend on corner 2-3-5
6	18	Edge 2-3	No damage
7	18	Edge 1-2	No damage
8	36	Face 3	No damage
9	18	Face 3	No damage
10	18	Edge 3-4	No damage
11	18	Edge 3-6	No damage
12	18	Edge 1-5	No damage
13	18	Corner 3-4-6	No damage
14	18	Corner 1-2-6	No damage
15	18	Corner 1-4-5	No damage
16	36	Face 6	No damage
17	18	Face 3	No damage





Sample #5 Drop Testing:



Drop #	Height (in)	Orientation	Result
1	18	Edge 3-4	No damage
2	18	Edge 3-6	No damage
3	18	Edge 4-6	No damage
4	18	Corner 3-4-6	No damage
5	18	Corner 2-3-5	Small bend on corner 2-3-5
6	18	Edge 2-3	No damage
7	18	Edge 1-2	No damage
8	36	Face 3	No damage
9	18	Face 3	No damage
10	18	Edge 3-4	No damage
11	18	Edge 3-6	No damage
12	18	Edge 1-5	No damage
13	18	Corner 3-4-6	No damage
14	18	Corner 1-2-6	No damage
15	18	Corner 1-4-5	No damage
16	36	Face 6	No damage
17	18	Face 3	No damage



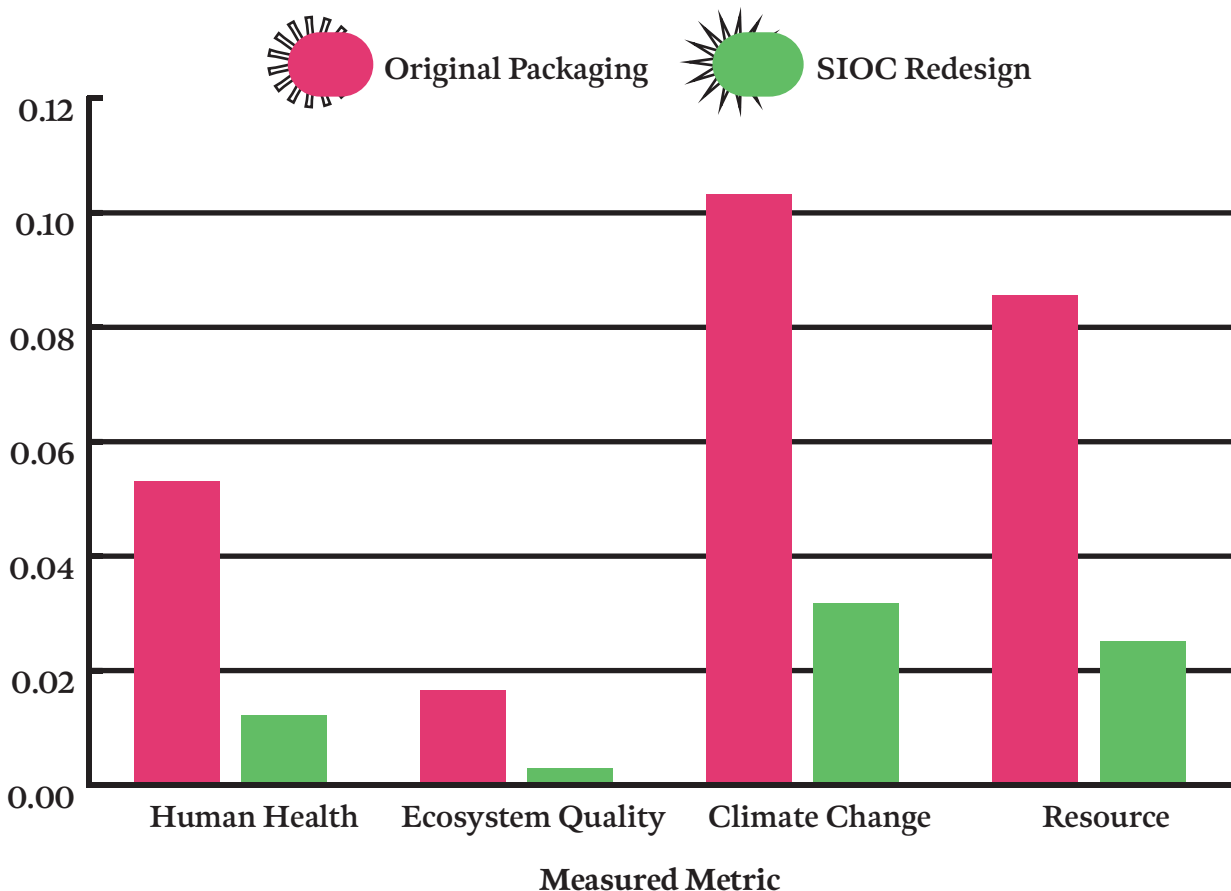
Assuming standard US GMA 48”x40” pallet standards come with 45.5” height clearance on shelves, the maximum stackable amount is seven products per pallet. Each product plus packaging weighs 90 g in total. By taking into account the amount of weight the bottom product must support, that works out to 540 g. The B-Flute corrugated board must be able to withstand a maximum load per carton of 540 g.

The subsequent leak test showed no leaks or breakages in the glass primary package.

LIFE CYCLE ANALYSIS

Measured Metric	Original Packaging	SIOC Redesign
Human Health	0.0529	0.01190
Ecosystem Quality	0.0163	0.00275
Climate Change	0.1030	0.03160
Resource	0.0854	0.02490

ORIGINAL PACKAGING AND SIOC DESIGN



DISCUSSION (ANALYSIS)

CONTROL GROUP

The results from the control group testing line up with expectations. Since this configuration is very similar to what is being used in the current market, it can be deduced that in a real testing environment, these control samples would pass regulations and qualify for shipping. The small notes of damage such as creasing on corners are negligible; this damage is not considered a failure node for this line of testing and would still be viable.



EXPERIMENTAL GROUP

The testing from the experimental group would amount to a passing result. Of the five samples tested, only slight markings and creasings were present on the samples, none of which resulted in damage to the product and glass primary package. These damages would not qualify for a node of failure under ISTA Type 6 A testing regulations.

These results could be further improved; the corrugated board used in both the experimental and control groups had been improperly stored and had dried out, leading to cracking along its crease lines before testing. In an ideal environment with properly stored material, there could be potential for even greater outcomes.

LCA INTERPRETATION

Based on the given inputs, the endpoint data clearly indicates that a redesign would greatly improve measured impact areas through the raw material extraction and manufacturing stages of the product's life cycle. Human health factors improved by nearly 80%. Ecosystem quality impact decreased by nearly 85%. Climate change saw an improvement of about 66%. Resource usage decreased by about 80%. In addition, the redesigned package has a lower volume and lower package perimeter than even the smallest Amazon RSC, which would lead to improved outcomes in efficiency for e-commerce shipping and warehousing environments. Therefore, these benefits could be even more exacerbated if more transit data was input. It is clear that skincare cosmetics packaging in e-commerce supply chains would greatly benefit from a redesigned package that would be eligible for the Amazon SIOC program.

CONCLUSION

This research aimed to test the efficacy of a specialised packaging redesign of The Ordinary line of skincare cosmetic products for the Amazon SIOC program. This redesign was then compared to the current packaging solution in e-commerce chains through an LCA that examined endpoint impacts through the raw material extraction and manufacturing stages of the product life cycle.



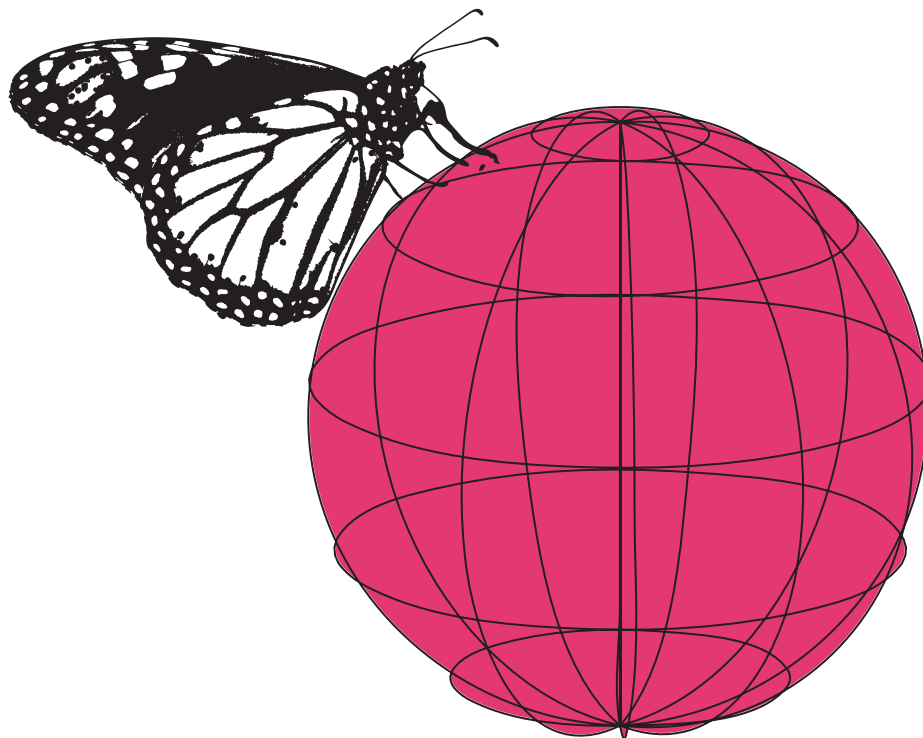
These are the 2 questions this research aimed to answer:

1. Would a redesign of fragile cosmetic packaging be viable in an e-commerce market, which is usually harsher on packages?
2. How viable is SIOC in improving environmental impact categories in comparison to current supply chain solutions?

Based on the findings, it can be concluded that this line of skincare cosmetic products would greatly benefit by repurposing their packaging solutions for the Amazon SIOC program. This redesign proved to be successful in withstanding the testing process, but it could be further improved with the use of properly stored material in a professional testing environment. The LCA showed great improvements for the redesign across endpoint impact categories, with a minimum improvement of 66% in each endpoint through the raw material and manufacturing stages of the product life cycle.



Ultimately, this research creates big implications for the potential of Amazon’s SIOC program; the removal of standardised packaging into specialised solutions for each product can be greatly beneficial for supply chains and environmental metrics. These metrics could be even further improved upon; a full-scale LCA that examines all stages of the product life cycle could prove to have even larger impacts in favour of this redesign.



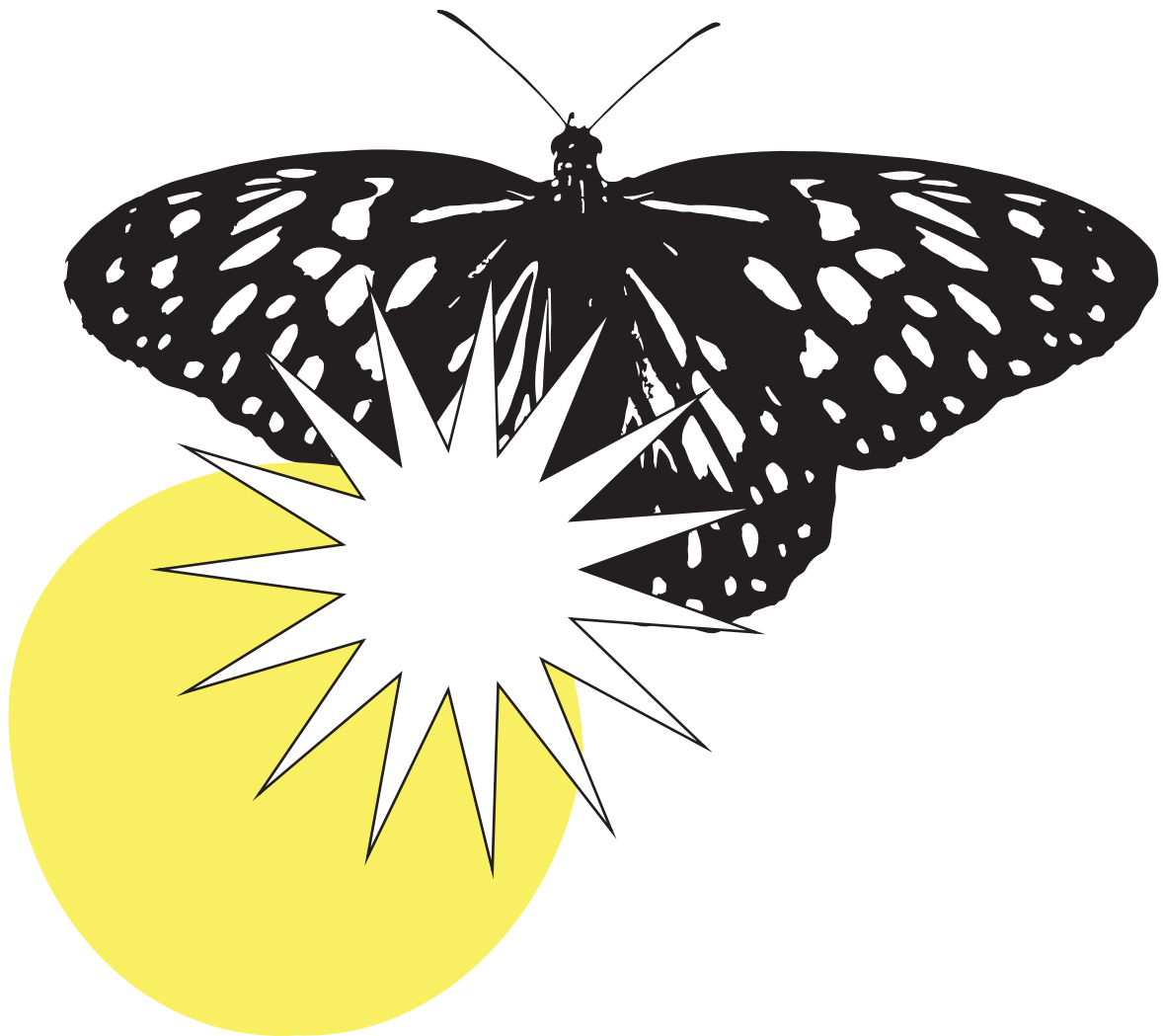
REFERENCES

- Amazon Network. (n.d). Amazon Drop Test Evaluation. About Amazon. <https://assets.aboutamazon.com/1b/c8/c2c856184705b683f7f3f7af1aea/amazon-drop-test-evaluation-external-blank-210625.pdf>
- Amazon Network. (2021, April 7). Amazon Frustration-Free Packaging Program Certification Guidelines. About Amazon. https://assets.aboutamazon.com/f9/ab/568df63a4b2c82c1ecf3b562f202/amazon-frustration-free-packaging-program-certification-guidelines-v10.4__2021.pdf
- Amazon Packaging Lab. (2018, March 12). Frustration-Free Packaging Programs: Common Failure Modes for Tier1-FFP and Tier 2-SIOC Packaging. About Amazon. <https://assets.aboutamazon.com/75/02/136865e7426e920229785e0155dd/ista-6-amazon-sioc-common-package-failure-modes.pdf>
- Awesomers. (n.d). Amazon.com Box Sizes - Complete Catalog. Awesomers. <https://www.awesomers.com/a-catalog-of-amazon-box-sizes>
- Civancik-Uslu, D., Puig, R., Voigt, S., Walter, D., & Fullana-i-Palmer, P. (2019). Improving the production chain with LCA and eco-design: application to cosmetic packaging. *Resources, Conservation and Recycling*, 151, 1-29. <https://doi.org/10.1016/j.resconrec.2019.104475>
- International Safe Transit Association. (2018, March). Ships in Own Container (SIOC) for Amazon.com Distribution System Shipment. About Amazon. <https://assets.aboutamazon.com/4e/cd/b4ec0dac471fbe8b1ec06eee2226/6amazoncomsioc-overview18-18-1.pdf>
- Matthews, H.S., Hendrickson, C.T., & Soh, D. (2001). The net effect: environmental implications of e-commerce and logistics. *Proceedings of the 2001 IEEE International Symposium on Electronics and the Environment*, 191-195. <https://doi.org/10.1109/ISEE.2001.924525>
- Mucowska, M. (2021). Trends of Environmentally Sustainable Solutions of Urban Last-Mile Deliveries on the E-Commerce Market - A Literature Review. *Sustainability*, 13(11), 58-94. <https://doi.org/10.3390/su13115894>
- Petruzzi, D. (2023a, January 26). Cosmetics industry - statistics & facts. Statista <https://www.statista.com/topics/3137/cosmetics-industry/#topicOverview>
- Petruzzi, D. (2023b, February 1). Breakdown of the cosmetic market worldwide 2011-2021, by product category.
- Placek, M. (2022, Nov 12). Packages delivered by Amazon Logistics in the U.S. 2018-2021.

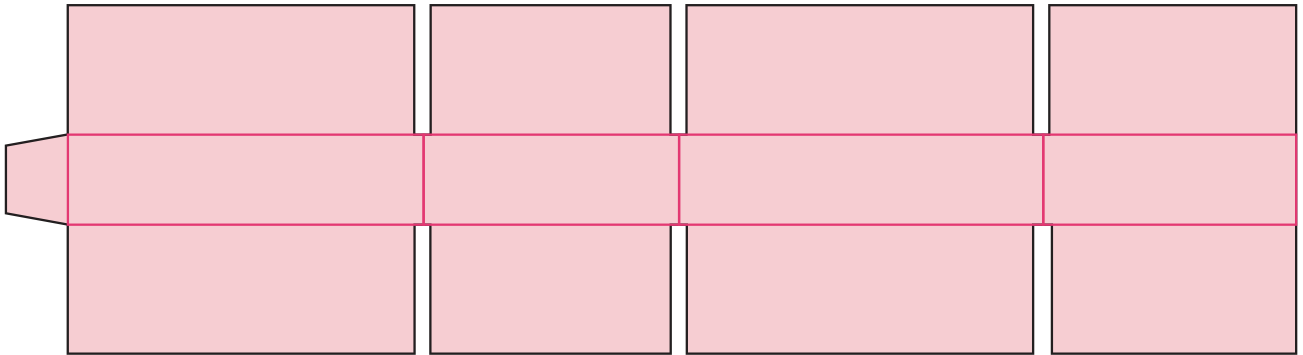


Statista. <https://www.statista.com/statistics/1178979/amazon-logistics-package-volume-united-states/>

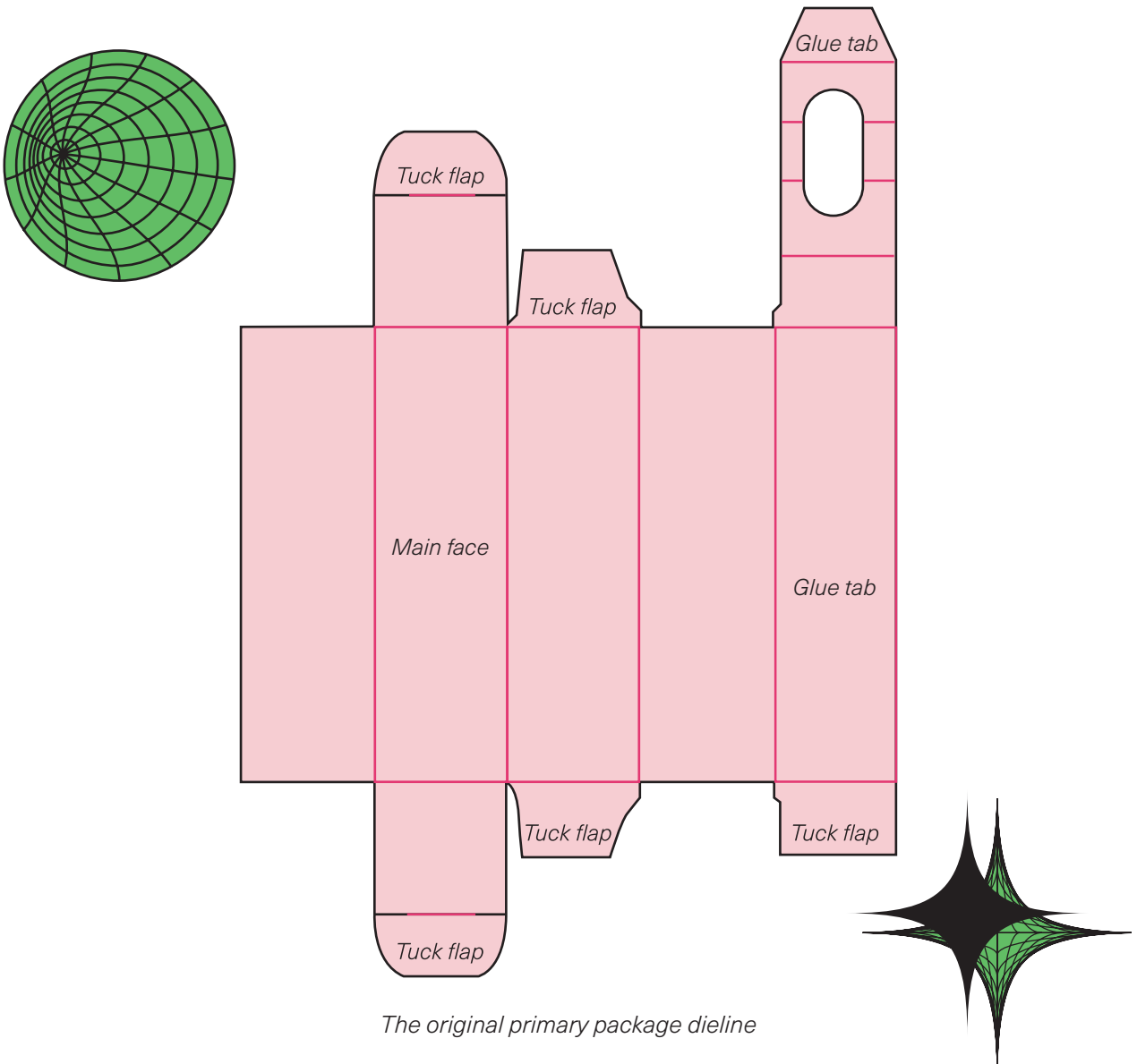
Statista Research Department. (2022, August 5). Biggest companies in the world by market value 2022. Statista. <https://www.statista.com/statistics/263264/top-companies-in-the-world-by-market-capitalization/>



APPENDIX

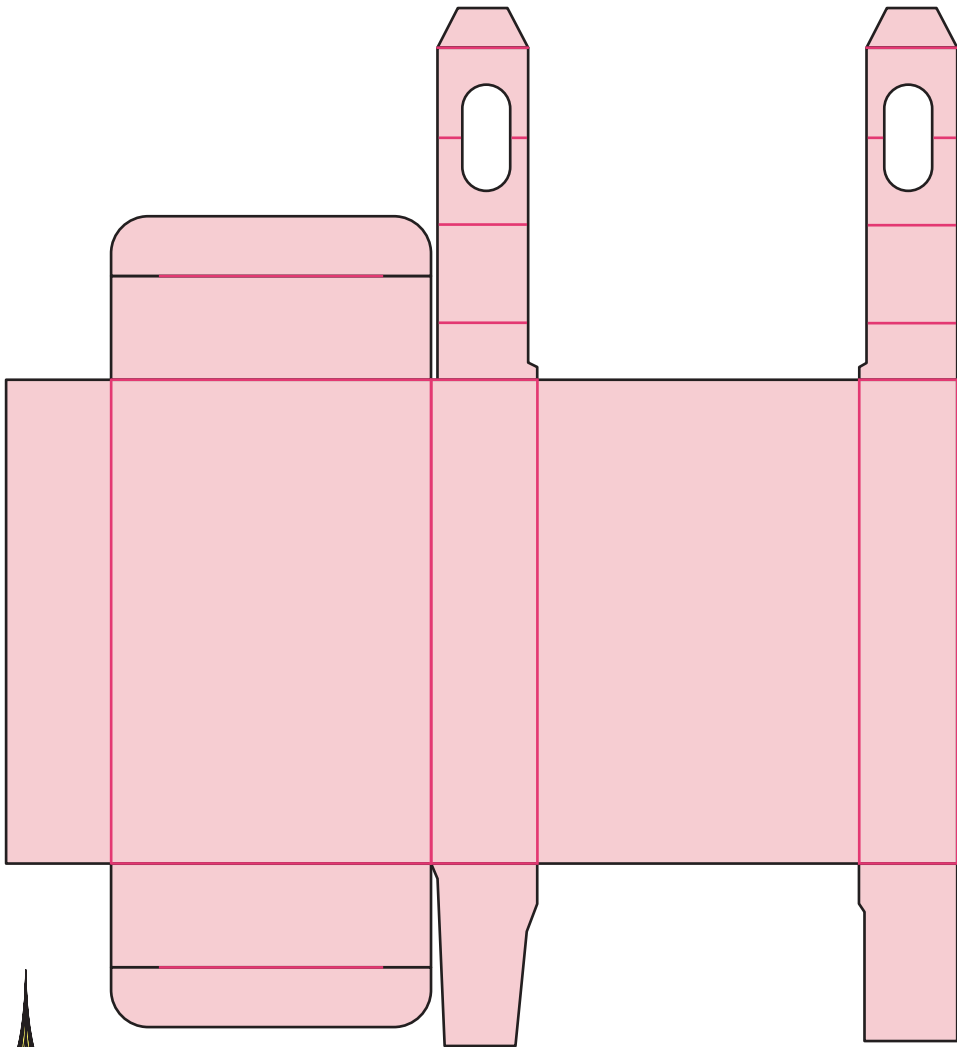


The standard RSC dieline used in testing

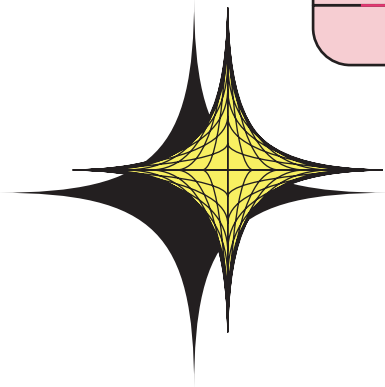


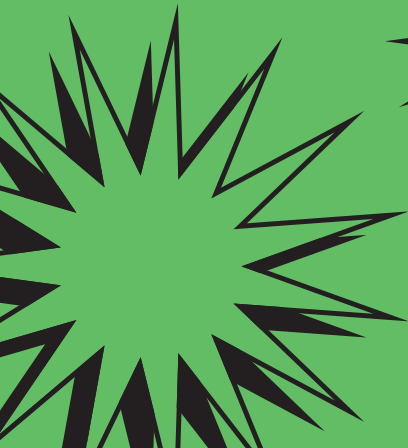
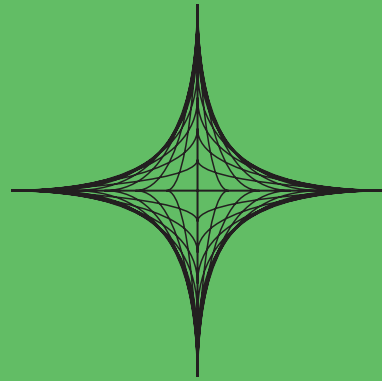
The original primary package dieline

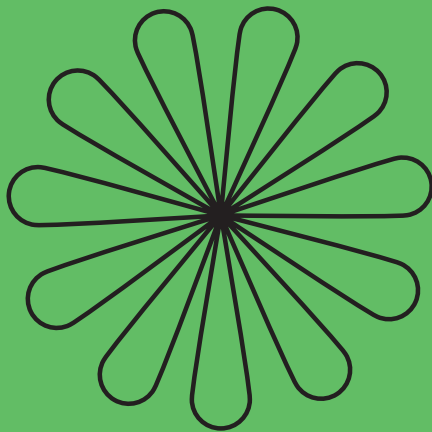




The redesigned package dieline







02- PAIGE JOHANSEN



Scan here to access an audiobook for this chapter.

DESIGN ELEMENTS **IN GENDER-NEUTRAL** **SKINCARE PRODUCT** **PACKAGING**

PAIGE JOHANSEN

My name is Paige Johansen and I'm passionate about all things branding, packaging, and skincare. Throughout my time at GCM, I have gained valuable skills and knowledge that have opened my eyes to the importance that effective graphic communications have on the media we consume and the products we use. This inspired me to write my thesis on how gender-neutral skincare brands are modifying their design elements in skincare product packaging. I hope my thesis can inspire others to critically think about the way our everyday products influence how we see the world around us. Upon completing my degree in GCM, you can find me starting my career in software sales, playing golf, and continuing my side hobby as an online clothing reseller.



RESEARCH QUESTION

How have gender-neutral brands modified traditional sexist design elements that exist within the personal care industry in their skincare product packaging, and are they evident on the packaging of Amazon's best-selling facial skincare products?

ABSTRACT

This thesis aims to answer the question, how have gender-neutral brands modified traditional sexist design elements that exist within the personal care industry in their skincare product packaging, and are they evident on the packaging of Amazon's best-selling facial skincare products? The two modified packaging design elements that are discussed throughout the literature review are the use of gender-neutral colours and the focus on active ingredients. After analysing the top 50 best-selling facial skincare products from Amazon, this thesis provides evidence that many products appear gender-neutral by having the two modified design elements evident on their packaging. There is also evidence that the majority of products belong to gender-neutral brands. Ultimately, almost half of the best-selling products have been found to be truly gender-neutral, having the two modified packaging design elements evident in addition to belonging to a gender-neutral brand. The reasoning behind brands using traditional packaging design elements for years, as well as the consumer benefits behind gender-neutral brands using modified design elements on their packaging instead, are discussed in depth. This research sheds light on the rise of gender neutrality in society and that gender-neutral design is a response to the diversity of society.



INTRODUCTION

The topic of this thesis is the modified design elements in gender-neutral skincare product packaging and their prevalence on the packaging of Amazon's best-selling facial skincare products. This thesis will first discuss the traditional gender-specific packaging design elements that exist within the personal skincare industry based on current research. Within the area of skincare, there will be a specific focus on the packaging design of facial products. This thesis will then discuss the modified design elements that gender-neutral brands use in their skincare product packaging and how they are beneficial to consumers.



Before discussing the design elements, it is essential to understand how the rise of gender-neutral skincare is a reflection of the shifting attitudes towards gender and identity within our society. For many years, personal care products have been formulated and marketed to either male or female consumers. Gender-specific marketing schemes have appealed to specific consumers by drawing upon gender tropes and stereotypes on product packaging. However, in today's society, we are seeing a rise in gender neutrality as traditional gender norms are increasingly being questioned, notably by younger consumers. Younger consumers are largely attributed to dismantling gender norms and definitions, with studies suggesting their definitions of gender identity are less rigid than older consumers (Carefoot, 2020). According to a 2019 survey of 10,000 Americans, 59% of Generation Z members said when forms ask about a person's gender, more options should be included besides male and female, compared to 50% of millennials and 37% of baby boomers (Parker et al., 2019). Research has also found that 47% of the Gen Z population value brands that do not classify items by gender (Kenney, 2020). Although Gen Z is one of the youngest generations, they are also one of the largest and most influential consumer groups when it comes to the skincare market. In 2021, the United States skincare market generated over 18 billion U.S. dollars in revenue with facial care being the most lucrative segment with Gen Z shoppers purchasing the most products out of all consumer groups (Petruzzi, 2022). With Gen Z consumers having significant purchasing power and being the newest target audience, brands in the personal care industry are expected to meet the needs and values that this consumer group considers important. In the past few years, as consumers have increasingly cast a critical eye on traditional beauty and gender norms—especially those who are in Generation Z—we have witnessed a sharp rise in gender-neutral skincare products and brands (Braun, 2020). For this thesis, a gender-neutral brand pertaining to skincare will be classified as a brand that has products, or specific product lines that are tailored toward various skin conditions and areas of concern, regardless of gender.



Whilst there is research surrounding the design elements of personal care product packaging, there is no research on how prevalent the modified design elements are on the packaging of Amazon's best-selling facial skincare products and how many of the products belong to a gender-neutral brand. This thesis will address this gap by analysing the prevalence of modified



packaging design elements from Amazon’s list of 50 best-selling facial skincare products. Through primary research, this thesis first aims to present evidence that many of Amazon’s best-selling facial skincare products will appear gender-neutral, having the modified design elements evident on the packaging. This thesis then aims to present evidence that of the products appearing gender-neutral, most will belong to a gender-neutral brand. Those that have the modified design elements evident on their packaging in addition to belonging to a gender-neutral brand will be considered truly gender-neutral.

LITERATURE REVIEW

MISCONCEPTION: THE NEED FOR GENDERED SKINCARE PRODUCTS

Throughout mainstream culture, women have been primarily known to engage in skincare regimens and self-care routines. In contrast, the idea of skincare associated with men is less popular and sometimes considered unusual to the public. This stigma surrounding skincare for men stems from the stereotype of needing to be “manly” or “masculine”, therefore anything that could make men be perceived as more “feminine”, such as taking care of their skin, tends to be avoided (Merali, 2022). Brands in the personal care industry have responded to this stigma by developing and marketing skincare products on the basis of a strict binary, specifically “for men” and “for women”.



Although research shows that there are some general differences between male and female skin on a biological level, the parameters of hydration, transepidermal water loss, sebum, and pigmentation, show that these differences are not statistically significant (Rahrovan et al., 2018). According to board-certified dermatologist Visoslav Tonkovic-Capin,

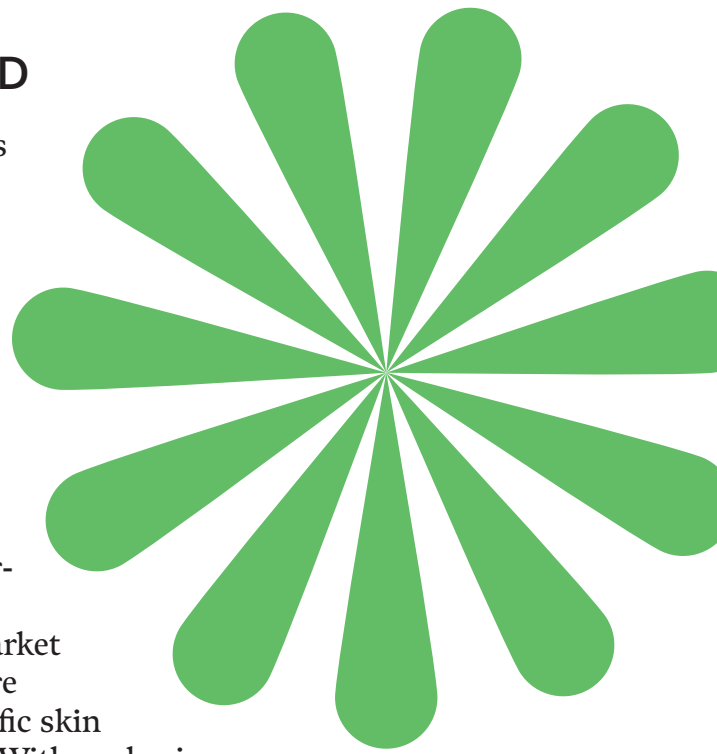
“Male skin is generally thicker and more oily, but there are many men with skin dryer or thinner than female skin - all decisions on what products to use should be based on individual skin type and not on manufacturers’ claims that a certain product is for a particular gender because gender classified skincare products are not backed by sound science” (The Good Face Project, n.d.).

Another board-certified dermatologist, Dr. Marnie Nussbaum, supports this statement by claiming, “Your skincare routine shouldn’t be dependent on gender, the most important factors are individual skin type and areas of concern” (Lapidos, 2019). The individual skin type a person has presents itself in the form of various skin conditions. The common types of skin conditions are normal, sensitive, dry, oily, and combination skin (American Academy of Dermatology Association, n.d.). Common areas of concern that people experience with these various skin conditions include acne, scarring, dullness, uneven skin tone, wrinkles or fine lines, and sun damage.



RESPONDING TO MARKET DEMAND

The skin is a biological part of all humans regardless of gender. Disassembling strict, traditional gender norms begins with the everyday products we use (Queen's University Journal, 2020). As traditional gender norms are increasingly being questioned by all consumer groups, especially by Gen Z, brands are responding to the viable upcoming market for gender-neutral skincare by creating gender-neutral products. At the end of the day, brands are businesses. If there is a demand for gender-neutral products, they're more than likely to climb on board. Not only are brands creating gender-neutral skincare products, but the number of new gender-neutral brands entering the personal care market in recent years is increasing. Gender-neutral skincare products are formulated and marketed toward specific skin conditions and areas of concern rather than gender. With packaging being a fundamental selling aspect for any product, gender-neutral brands have had to modify their design elements from the traditional, sexist ones used for several years, to elements that align with their skincare product's gender-neutral functionality.



PACKAGING DESIGN ELEMENT: COLOR

TRADITIONAL - MASCULINE AND FEMININE

Packaging presents gender by visually communicating whether a product is “for him”, “for her” or for everyone. One of the ways that brands have traditionally designed their skincare product packaging to communicate gender is through the use of colour. According to Nelson (2022), colour is a significant factor in differentiating between female and male products. Colour has also been found to be a visual design element of packaging that influences consumer purchasing decisions (Srivastava et al., 2022). For years, brands developing skincare products “for men” and “for women” enable consumers to express the gender they identify with through their purchases. This expression of gender identity is heavily marketed on skincare product packaging using colour stereotypes.

Women's personal care product packaging generally uses light, traditionally feminine colours such as pink, purple, and pastels; whilst men's packaging uses darker, stronger colours that are considered masculine, such as blue, black, and grey (Nelson, 2022). Red and orange are also common colours found on men's personal care packaging (Lombardo, 2022). Looking at the skincare products below from the brand Nivea, it is clear that the facial cleansing cream on the left is for the female consumer. The packaging design uses stereotypical feminine colours which include pink and purple. The facial exfoliating scrub on the right is the obvious male product, using stereotypical masculine colours which include dark blue and grey. Although these products are from the same brand, Nivea's signature Pantone blue used in the brand's



logo appears to be slightly darkened on the packaging of the male product. This further communicates to the male consumer that through packaging design, this product is tailored specifically for men.



Nivea Female & Male Facial Skincare Products

MODIFIED - GENDER NEUTRAL

For gender-neutral brands and packaging designers, the goal is to blur the boundaries between male and female skincare products through genderless design. Cakiroglu (2017) claims one of the ways that genderless, or gender-neutral, design can be created is through the use of neutral colours. Gender-neutral colours consist of yellow, green, light greys such as silver, light browns, and muted tones in general (Magalhães, n.d.). Black is also a gender-neutral colour if used minimally such as in the packaging's font. Although blue is used in society as a male gender signifier and has been classified as a masculine colour for product packaging, it can also be considered a gender-neutral colour. According to Magalhães (n.d.), when blue is used as a gender-neutral colour, its colour tones are muted or different shade ranges are used that are not instantly associated with gender. Additionally, using primarily white on personal care product packaging is accepted as a gender-neutral colour in Western culture (Cakiroglu, 2017).

Two gender-neutral skincare brands that utilise these genderless colours in their product packaging are CeraVe and The Ordinary. Both these brands, as previously mentioned, have products and specific product lines that are tailored toward various skin conditions and areas of concern, regardless of gender. The first image provided below shows various facial skincare products from the brand CeraVe. Across this range of products, white is the primary colour with varying shades of blue and green used as secondary colours in the packaging design. Minimal use of the colours black, light grey, and yellow can also be seen on the packaging. The branding and design layout of the secondary colours in the right-hand corner is consistent across all products.





CeraVe Facial Skincare Products

The second image below shows various facial skincare products from the brand, The Ordinary. The Ordinary’s packing design is extremely minimalist and monochromatic, making it one of the ultimate gender-neutral skincare brands. Monochromatic packaging, also known as monochrome, refers to using exclusively black, white, and grey, or using only one colour (Cambridge Dictionary, n.d.). The packaging design of the products below consists of white labels with minimal black text, variations of dark and light bottles, and the use of gender-neutral colours which include light grey and brown tones. Similar to CeraVe’s products, The Ordinary’s branding and design layout is consistent across all its product packaging.



The Ordinary Facial Skincare Products



PACKAGING DESIGN ELEMENT: GRAPHICS

Traditional - Sexist Graphic & Copy

Colour is an important visual element when it comes to packaging design, however, there are additional ways in which consumers evaluate a product's packaging. According to Srivastava et al., (2022), graphics are another visual design element of packaging that influences consumer purchasing decisions. The combination of photographs, typography, colours, and image arrangement are all elements of packaging graphics that work together to communicate an overall image of a product (Nelson, 2022). Brands in the personal-care industry have traditionally chosen strategic packaging graphics to not only describe product features and characteristics, but rather, they want to sell fantasies, ideas, and identities to their consumers (Hämäläinen, 2019). Consumers who identify as being either masculine or feminine are likely to purchase a product that strengthens their perception and association with their gender. Brands achieve this by using gender cues in their product packaging graphics. Gender cues consist of packaging colours, product names and descriptions, and symbols (Hämäläinen, 2019). Below are two female facial skincare products from the brand L'Oréal, with the three gender cues visible in the packaging's graphics.

Colors: As previously discussed, traditional feminine colours are used in women's personal care product packaging colours such as pink, purple, and pastels. Both of the skincare products use varying shades of pink as part of their packaging's graphics.

Names/Descriptions (Copy): Female characteristics are often used in the packaging's copy for personal care products and although some may not have explicit copy saying "for her", they are implied and obvious through the use of adjectives (Najem & Puolakka, 2020). The copy also usually focuses on the desired effect of the product and how it should make the women feel. From the products below, these adjectives used include "perfection", "soothing", "gentle", "supple", "cleanses", and "nourishes". Several of these terms such as "nourishes", "soothing", and "gentle" seem to have a maternal connotation to them. Additionally, Lombardo (2022) suggests that the term "milk" is used on the product to the right because it not only describes the texture, but rather milk is stereotypically associated with mothers and therefore, women in general.

Symbols: An image of a flower petal can be seen on the packaging of the product on the right. For many years, society has associated flowers with women and femininity. Although one can look at this flower petal as simply a representation of femininity, it can also be interpreted as a symbol of female sexual reproduction and fertility (Earth Within, n.d.).





L'Oréal Female Facial Skincare Products

Below are two male facial skincare products also from the brand L'Oréal, with the three gender cues visible in the packaging's graphics.

Colors: Traditional masculine colours used in men's personal-care product packaging consist of dark, stronger colours such as dark blue and grey, black, red, and orange. Both of the skincare products use the colours black, dark grey, and orange as part of their packaging's graphics.

Names/Descriptions (Copy): There are common trends used throughout the packaging of these male skincare products that create an overall masculine image of the products. Along with darker colours, the masculine image presented can be achieved by having bigger and bolder fonts in addition to words that hint at male traits (Najem & Puolakka, 2020). These words, which are adjectives in particular, latch onto traditional and patriarchal perceptions of masculinity related to dominance, performance, and authority (Lombardo, 2022). From the products below, these adjectives used include “power”, “energetic”, and “extreme”. All three of these adjectives are in bigger and bolder fonts than the female skincare products above. There is also the use of large numbers alongside these masculine adjectives. On the product on the left, the packaging contains the numbers “100” and “2,000”. Lombardo (2022) suggests that big numbers are used to give the illusion that the product has a strong effect on men's skin or perhaps, a boost to their ego.

Symbols: There are no obvious symbols used on the packaging of either product. From the products shown, it is apparent that non-gender-neutral brands feel the need to use symbols that represent femininity to sell and connect to the identities of women whereas a large, bold copy that reflects masculine traits is sufficient enough to sell and connect to the identities of men.



L'Oréal Male Facial Skincare Products

Modified - Focus on Active Skincare Ingredients

Instead of using gender-specific graphics to communicate an image of a product that sells a masculine or feminine identity to consumers, gender-neutral brands use packaging design to communicate the active ingredients and product formulation that are tailored toward specific skin conditions and areas of concern. Simply put, skincare product packaging design from gender-neutral brands emphasizes the function of the product, not the gender of the consumer and the associated stereotypes (Wensky, 2018). The removal of gender-specific graphics and focus on simplistic and informative design creates a sense of trustworthiness that is found in the packaging of pharmaceutical products (Wensky, 2018). This also represents a shift from a visual design element to a verbal one. The benefit of using a verbal packaging design element for gender-neutral brands is that it allows the consumer to make purchasing decisions based on the active ingredients in the product and targeted solutions for their skin type or areas of concern, rather than gender-stereotypes and identities that a product is communicating to them.

There are several active ingredients that gender-neutral brands use in their facial skincare products that have proven to be effective regardless of gender. Active ingredients are those intended to change the way the skin behaves to achieve a desired outcome (The Good Face Project, n.d.). Some of the most common active skincare ingredients include Hyaluronic, Glycolic and Salicylic Acid, Niacinamide, Benzoyl Peroxide, Retinol, Ceramides, Vitamins C and E, and Peptides. The following list of active ingredients is visible on the packaging of the facial-skincare products below from the gender-neutral brands, The Ordinary and CeraVe.

Hyaluronic Acid: Draws water into the skin to soften the outer layer and replenish it with moisture, reducing the appearance of fine lines and wrinkles (The Good Face Project, n.d.). It is best suited for people with normal, dry, or mature skin.



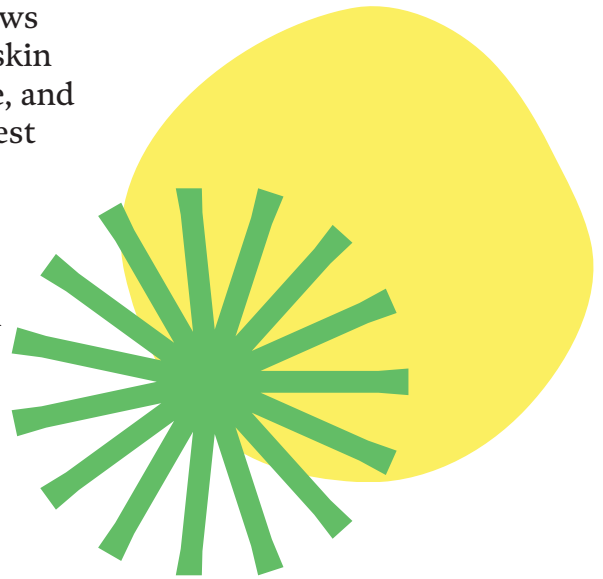
Glycolic Acid (AHA): A chemical exfoliant that renews the skin by peeling back the top layer to expose new skin cells, helping reduce pigmentation, even out skin tone, and improve texture (The Good Face Project, n.d.). It is best suited for all skin types.

Niacinamide: Stabilises the skin's barrier to reduce water loss, is effective at reducing the size of pores, improves uneven texture, and controls oil production (The Good Face Project, n.d.). It is best suited for all skin types, especially acne-prone skin.

Benzoyl Peroxide: Has antibacterial and anti-inflammatory properties, often used to prevent and treat acne by reducing acne-causing bacteria on the skin (The Good Face Project, n.d.). It is best suited for acne-prone and oily skin.

Retinol: Plumps the skin to reduce the appearance of aging, resulting in the smoothing out of fine lines and wrinkles, reduction in pore size, increase in collagen and elasticity in the skin, and fading of acne scars (The Good Face Project, n.d.). It is best suited for mature, combination, oily, dry, and acne-prone skin.

Ceramides: Improves the structure and integrity of the skin barrier which helps with maintaining levels of hydration, preventing certain epidermal diseases, and improving overall skin condition (The Good Face Project, n.d.). Best suited for mature, combination, sensitive, and dry skin.

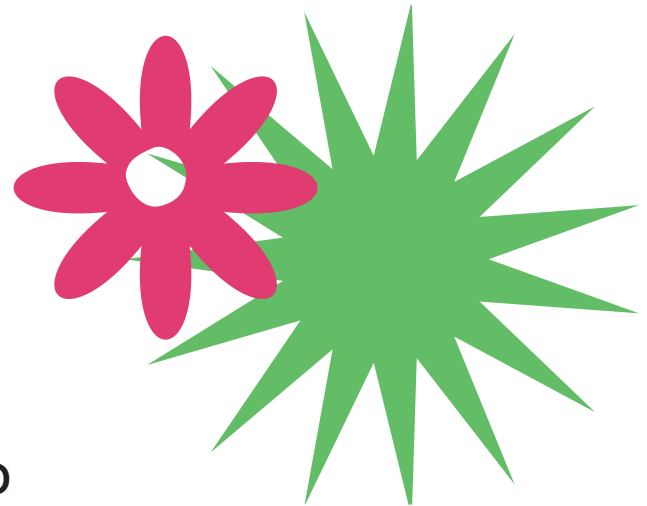


The Ordinary & CeraVe Facial Skincare Products



To conclude, the two modified packaging design elements that gender-neutral brands utilise on their facial skincare products are gender-neutral colours and a focus on active ingredients. Through the various sources and research discussed, it is evident that gender-neutral brands use gender-neutral colours to visually blur the boundaries between male and female skincare products. This allows consumers to make purchase decisions that are not tied to identifying with either a masculine or feminine identity through colour stereotypes. Gender-neutral brands also verbally communicate the active skincare ingredients in their products. This allows consumers to make purchasing decisions based on targeted solutions for their skin type or areas of concern, rather than being influenced by packaging graphics that perpetuate sexist stereotypes and gender cues.

Throughout this literature review, a gap in research was found. There is currently no research on how prevalent these two modified design elements are on the packaging of Amazon's best-selling facial skincare products and how many of these products belong to a gender-neutral brand. This gap will be researched and discussed in-depth in the upcoming sections.



RESEARCH METHODOLOGY






















TYPE OF RESEARCH CONDUCTED

To address the gap in the literature that was found, a study was performed to determine how prevalent the two modified design elements are on the packaging of Amazon's 50 best-selling facial skincare products and how many of the products belong to a gender-neutral brand. A prediction was developed which first stated that many of the best-selling facial skincare products will appear gender-neutral, having the two modified design elements evident on their packaging. Secondly, of the products appearing gender-neutral, most will belong to a gender-neutral brand. The type of research conducted was exploratory research since an under-researched and very specific aspect of packaging design was studied. This research aimed to identify how many of the 50 best-selling facial skincare products have the two modified design elements evident in their packaging and which belong to a gender-neutral brand. To restate, the two modified design elements are gender-neutral colours and a focus on active ingredients. Additionally, a gender-neutral brand pertaining to skincare is classified as having products, or specific product lines that are tailored toward various skin conditions and areas of concern, regardless of gender. The research conducted was non-probability sampling since the list of 50 products analysed was based on a subjective selection method.

HOW THE DATA WAS COLLECTED

Primary data was gathered by the researcher from the online platform Amazon. The data selection method relied on filtering Amazon's product database by specific criteria. The criteria

of the products were best-sellers, within the beauty and personal care department, filtered for facial skincare. A primary research approach was taken because the data had to be retrieved directly from Amazon according to the date the research was conducted and product selection criteria. Amazon was the platform used to collect the data because it is the world's largest online marketplace offering an extensive range of products from many different sellers. As a result of its popularity with online shoppers, products that are trending and frequently purchased are categorised under Amazon's Best Sellers page. Since this webpage updates frequently due to changes in trends and purchasing behaviour from consumers, a screenshot of the 50 best-selling facial skincare products will be captured on the day that the research is conducted. Below is a preview of the first 21 products.

Best Sellers in Facial Skin Care Products						
<p>#1</p>  <p>Neutrogena Hydro Boost Face Gel-cream with Hyaluronic Acid, Hydrating Face Moisturizer, Dermatologist Recommended, 47 Milliliters ★★★★★: 5,737 \$18.47</p>	<p>#2</p>  <p>Cosrx (5 Pack) Acne Pimple Master Patch ★★★★★: 16,311 \$14.99</p>	<p>#3</p>  <p>CeraVe Resurfacing RETINOL Serum For Face with niacinamide. Helps even skin tone, skin smoother, post-acne marks & pore... ★★★★★: 1,227 \$26.08</p>	<p>#4</p>  <p>Cliganic USDA Organic Jojoba Oil, 100% Pure (120ml Large) Natural Cold Pressed Unrefined Jojoba Free Oil for Hair, Face, Nails & Cuticle... ★★★★★: 54,650 \$14.99</p>	<p>#5</p>  <p>Cetaphil Gentle Skin Cleanser (500ml) - Hydrating Face Wash & Body Wash - Ideal for Sensitive, Dry Skin - Non-irritating, Fragrance... ★★★★★: 6,662 \$13.99</p>	<p>#6</p>  <p>Rael Miracle Invisible Spot Cover - Absorbing Cover, Skin Care, Facial Stickers, 2 Sizes (96 Count) ★★★★★: 43,040 \$26.09</p>	<p>#7</p>  <p>20% Vitamin C Serum For Face - All Natural Advice, with Hyaluronic Acid & Vitamin E - Facial Serum for Deep Hydration - Organic... ★★★★★: 15,454 \$28.96</p>
<p>#8</p>  <p>PanOxyl Creamy Acne Wash - 4% Benzoyl Peroxide ★★★★★: 1,018 \$9.00</p>	<p>#9</p>  <p>CeraVe Facial Moisturizer with SPF 30, Face Sunscreen Lotion with Hyaluronic Acid, Niacinamide & Ceramides for Women & Men... ★★★★★: 7,351 \$20.89</p>	<p>#10</p>  <p>e.l.f. Halo Glow Liquid Filter, Complexion Booster For A Glowing, Soft-Focus Look, Infused With Hyaluronic Acid, Vegan & Cruel... ★★★★★: 254 \$17.97</p>	<p>#11</p>  <p>CeraVe 4% Benzoyl Peroxide ACNE Treatment Foaming Face & Body Wash, with Hyaluronic Acid and Niacinamide. Helps clear... ★★★★★: 1,050 \$20.89</p>	<p>#12</p>  <p>CeraVe Face MOISTURIZING LOTION, Day & Night Skincare Cream for Women & Men, With Hyaluronic Acid, Niacinamide & Ceramides... ★★★★★: 4,399 \$20.89</p>	<p>#13</p>  <p>CeraVe SALICYLIC ACID Cleanser, Renewing SA Smoothing BHA Exfoliant for Face, Suitable for Keratosis Pilaris & Psoriasis, Gentle Cleanser... ★★★★★: 2,779 \$20.89</p>	<p>#14</p>  <p>La Roche-Posay Cicaplast Baume B5 Dry Skin Repair Multipurpose Balm Moisturizer; For Babies, Children, Adolescents & Adults With... ★★★★★: 4 \$24.50</p>
<p>Hot New Releases in Facial Skin Care Products</p>			<p>Most Wished For in Facial Skin Care Products</p>			<p>Most Gifted in Facial Skin Care Products</p>
<p>#15</p>  <p>CeraVe FOAMING Face Cleanser, Gentle Face Wash with Hyaluronic Acid, Niacinamide, Ceramides, Makeup Remover for oily skin... ★★★★★: 5,304 \$24.04</p>	<p>#16</p>  <p>CeraVe Daily Moisturizing Lotion/Body Lotion/Face Moisturizer/Hand Cream with Hyaluronic Acid/Verified Product by CeraVe... ★★★★★: 5,418 \$46.17</p>	<p>#17</p>  <p>Bioré Deep Cleansing Pore Strips for Instant Pore Unclogging and Blackhead Removal (8 Count) ★★★★★: 2,558 \$7.99</p>	<p>#18</p>  <p>Rael Miracle Overnight Spot Cover - Thicker & Extra Adhesion, Hydrocolloid Patches, Socks for Face, Absorbing Cover, 3 Sizes (52 Count) ★★★★★: 3,099 \$17.05</p>	<p>#19</p>  <p>Palmer's Cocoa Butter Formula Moisturizing Skin Therapy Oil for Face with Vitamin E, C & 10 Pure Facial Oil Blend, Rosehip Fragrance... ★★★★★: 37,115 \$11.27</p>	<p>#20</p>  <p>COSRX Advanced Snail 92 All in One Repair Cream, 100g Snail Secretion Filtrate 92% for Moisturizing Korean Skin Care ★★★★★: 16,111 \$29.95</p>	<p>#21</p>  <p>Cetaphil Gentle Skin Cleansing Cloths - Face and Body Wipes - Removes Dirt, Oil and Makeup - Non Irritating, For Sensitive Skin... ★★★★★: 1,403 \$11.58</p>

HOW THE DATA WAS ANALYZED

Each product image was individually referenced from the best sellers page. To identify the two modified design elements and if each product belongs to a gender-neutral brand, an Excel sheet was used to sort the data. The Excel sheet sorted the data into five columns to be quantitatively and statistically analysed. The first column lists the number of Amazon products from 1-50. The second column lists the individual product names. The third column numerically lists how many gender-neutral colours are evident on the packaging of each product. From the reviewed literature, the gender-neutral colours include yellow, green, light grey, brown, shades of blue, minimal use of black, and primarily white. The fourth column numerically lists how many active ingredients are evident on the packaging of each product. From the reviewed literature, these are ingredients listed according to The Good Face Project (n.d.). Examples include Salicylic Acid, Vitamin C, Benzoyl Peroxide, Retinol, etc. The fifth and final column notes if each product belongs to a gender-neutral brand or not. Instead of numerical values, the options of “yes” or “no” were used to answer this research question. The results were statistically



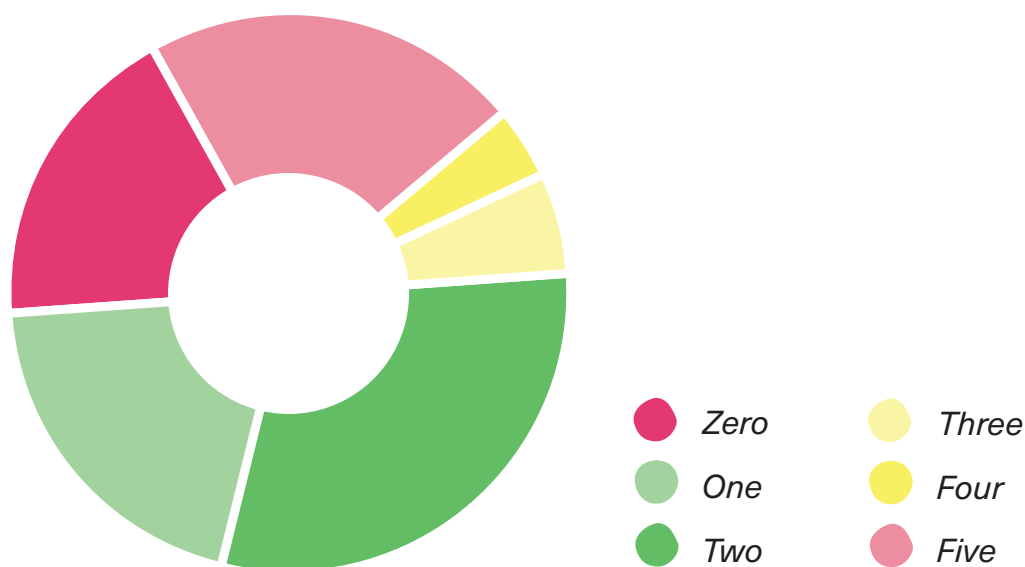
presented in the form of percentages using a donut chart, generated using Adobe Express. A donut chart was used because it is a visually appealing method of presenting data from each of the three researched categories (gender-neutral colours evident, active ingredients evident, and product belonging to a gender-neutral brand). The number in the middle space represents the 50 products analysed, whilst each slice of the donut charts represents a different proportion of the data relating to the researched category, in the form of a number and percentage. Below is a list of the first 20 data entries from the Excel sheet.

Product #	Product Name	How many gender-neutral colors are evident on the packaging? (yellow, green, light grey and brown, shades of blue, minimal black, primarily white)	How many active ingredients are evident on the packaging? (salicylic acid, vitamin C, benzoyl peroxide, retinol, etc.)	Does the product belong to a gender-neutral brand?
1	Neutrogena Hydro Boost Facial Gel-cream	2	1	No
2	Cosrx (3 Pack) Acne Pimple Master Patch	1	0	Yes
3	CeraVe Resurfacing RETINOL Serum	4	4	Yes
4	Cliganic USDA Organic Jojoba Oil	0	0	Yes
5	Cetaphil Gentle Skin Cleanser	4	2	Yes
6	Rael Miracle Invisible Spot Cover (96 count)	1	0	No
7	All Natural Advice Vitamin C Serum	3	3	Yes
8	PanOxyl Creamy Acne Wash	3	1	Yes
9	CeraVe Facial Moisturizer with SPF 30	5	4	Yes
10	e.l.f. Halo Glow Liquid Filter	0	0	No
11	CeraVe 4% Benzoyl Peroxide Acne Foaming Cleanser	4	4	Yes
12	CeraVe Face Moisturizing Lotion	5	3	Yes
13	CeraVe Salicylic Acid Cleanser	4	2	Yes
14	La Roche-Posay Cicaplast B5 Dry Skin Moisturizer	3	1	Yes
15	CeraVe Foaming Face Cleanser	4	3	Yes
16	CeraVe Daily Moisturizing Lotion	4	2	Yes
17	Biore Deep Cleansing Pore Strips	2	0	No
18	Rael Miracle Overnight Spot Cover	1	0	No
19	Palmer's Cocoa Butter Formula Moisturizing Oil	1	2	No
20	Cosrx Advanced Snail 92 All in One Repair Cream	1	0	Yes

RESULTS

Section 1 (Column 3): How many gender-neutral colors are evident on the packaging? (yellow, green, light grey and brown, shades of blue, minimal black, primarily white)

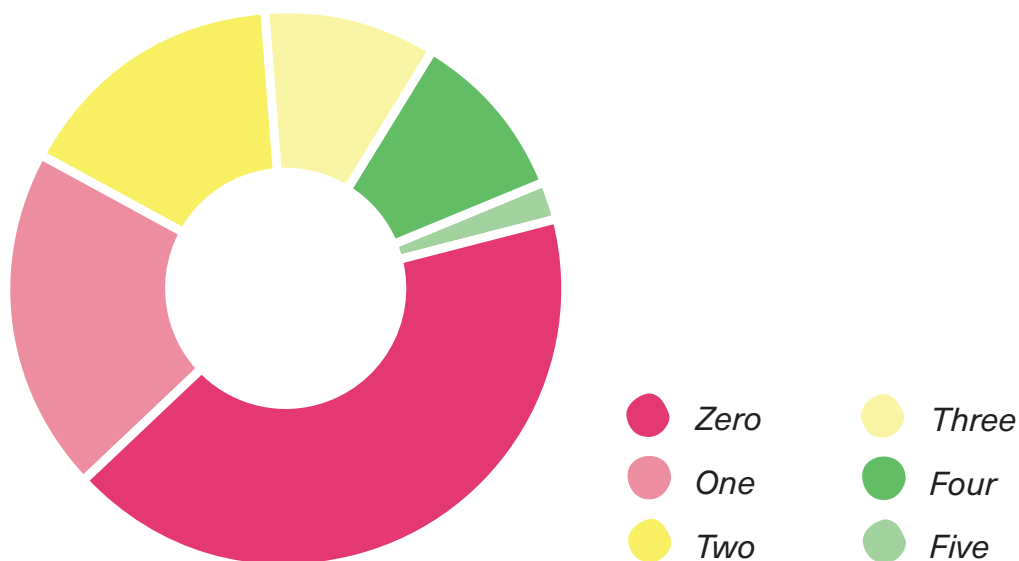
GENDER-NEUTRAL COLOURS



The results from the first section show that of the 50 best-selling facial skincare products that were analysed from Amazon, 4% of the products had zero gender-neutral colours evident on their packaging, 22% had one gender-neutral colour evident, 18% had two gender-neutral colours evident, 20% had three gender-neutral colours evident, 30% had four gender-neutral colours evident, and 6% had five gender-neutral colours evident. The results show that of the 50 products analysed, 96% had one or more gender-neutral colours evident on their packaging.

Section 2 (Column 4): How many active ingredients are evident on the packaging? (Salicylic Acid, Vitamin C, Benzoyl Peroxide, Retinol, etc.)

ACTIVE INGREDIENTS

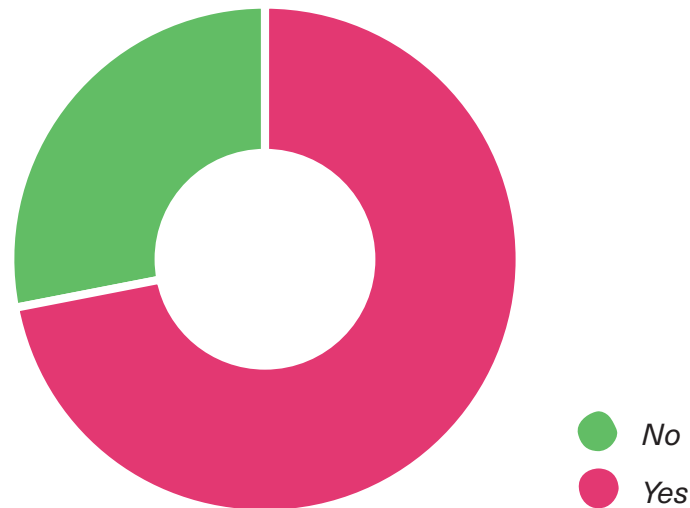


The results from the second section show that of the 50 best-selling facial skincare products that were analysed from Amazon, 42% of the products had zero active ingredients evident on their packaging, 20% had one active ingredient evident, 16% had two active ingredients evident, 10% had three active ingredients evident, 10% had four active ingredients evident, and 2% had five active ingredients evident. The results show that of the 50 products analysed, 58% had one or more active ingredients evident on their packaging.



Section 3 (Column 5): Does the product belong to a gender-neutral brand?

GENDER-NEUTRAL BRAND



The results from the third section show that of the 50 best-selling facial skincare products that were analysed from Amazon, 72% of the products belong to a gender-neutral brand. The remaining 28% of products do not belong to a gender-neutral brand. To restate, a gender-neutral brand pertaining to skincare is classified as having products, or specific product lines that are tailored toward various skin conditions and areas of concern, regardless of gender.

DISCUSSION

The gap in the reviewed literature that presented itself in the form of a research question was, how prevalent are the modified design elements on the packaging of Amazon's best-selling facial skincare products, and how many of the products belong to a gender-neutral brand? A prediction of the results stated that many of the best-selling facial skincare products will appear gender-neutral, having the modified design elements evident on their packaging. In addition, of the products that appear gender-neutral, most will belong to a gender-neutral brand. Amazon's top 50 best-selling facial skincare products were analysed according to the research categories and the results from the study support the prediction.

INTERPRETATIONS

Section 1: How many gender-neutral colors are evident on the packaging?

The results from this section support the prediction, visually displaying that many of the 50 best-selling facial skincare products have gender-neutral colours evident on their packaging. As mentioned in the results section, 96% of the products had one or more gender-neutral colours evident on their packaging, leaving only 4% without any. With colour being a



significant visual packaging design element used to communicate the gender of a product, this is a very positive finding. This indicates best-selling brands are shifting away from the use of traditional gender-specific colours and utilising gender-neutral designs to blur the boundaries between male and female skincare products. Therefore, it can be concluded that based on gender-neutral colours in packaging design, many of Amazon’s best-selling facial skincare products appear gender-neutral.

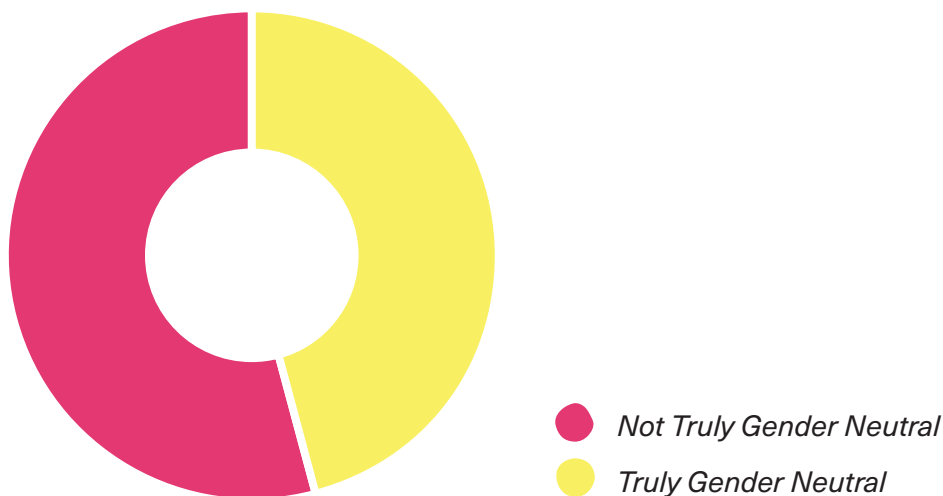
Section 2: How many active ingredients are evident on the packaging?

The results from this section support the prediction, visually displaying that many of the 50 best-selling facial skincare products have active ingredients evident on their packaging.

Although not as many as in the previous section, 58% of the products had one or more active ingredients. This resulted in 42% of the products having zero active ingredients evident on their packaging. This percentage difference between one or more, and zero active ingredients was much closer than expected. This means that although brands are verbally communicating the product’s active ingredients, this design element is not as prevalent as the use of gender-neutral colours on their packaging. Despite the larger than expected percentage of products having zero active ingredients evident, of the 50 analysed, there were very little to no products that used traditionally sexist packaging graphics and copy. It can therefore be concluded that more than half of Amazon’s best-selling facial skincare products are shifting away from selling fantasies, ideas, and identities to consumers through their packaging graphics, and rather verbally emphasising the function of the product by focusing on the active ingredients in their formulations.

Section 3: Does the product belong to a gender-neutral brand?

“TRULY” GENDER-NEUTRAL PRODUCT



The results of this section support the prediction, visually displaying that most of the 50 best-selling facial skincare products belong to a gender-neutral brand. As mentioned in the results section, 72% of the products belong to a gender-neutral brand, whilst the remaining 28% do not. This result was not surprising since the literature discussed gender-neutral brands utilising the two modified packaging design elements and many of the products had those elements evident on their packaging. A surprising result, however, is that the percentage of the 50 products that are considered truly gender-neutral, having the two modified packaging design elements evident and belonging to a gender-neutral brand, was less than half. The donut chart below shows that of the 50 products analysed, those that had one or more gender-neutral colours and active ingredients evident, in addition to belonging to a gender-neutral brand, were only 46%. This result likely occurred because the probability of a product fulfilling the criteria to be considered “truly” gender neutral is lower than having a numerical or “yes”/“no” value for any of the three research categories. For example, a product can appear gender-neutral, having several gender-neutral colours and active ingredients evident on its packaging, but there is no guarantee that it will also belong to a gender-neutral brand. Despite this finding, these results show that almost three-quarters of the best-selling facial skincare products belong to a gender-neutral brand with close to half of the products being considered truly gender-neutral. This is a positive indicator that the societal shift towards gender neutrality, represented in the form of skincare product packaging design, formulation, and branding, is valued amongst consumers on the world’s largest online marketplace and is hopefully here to stay.

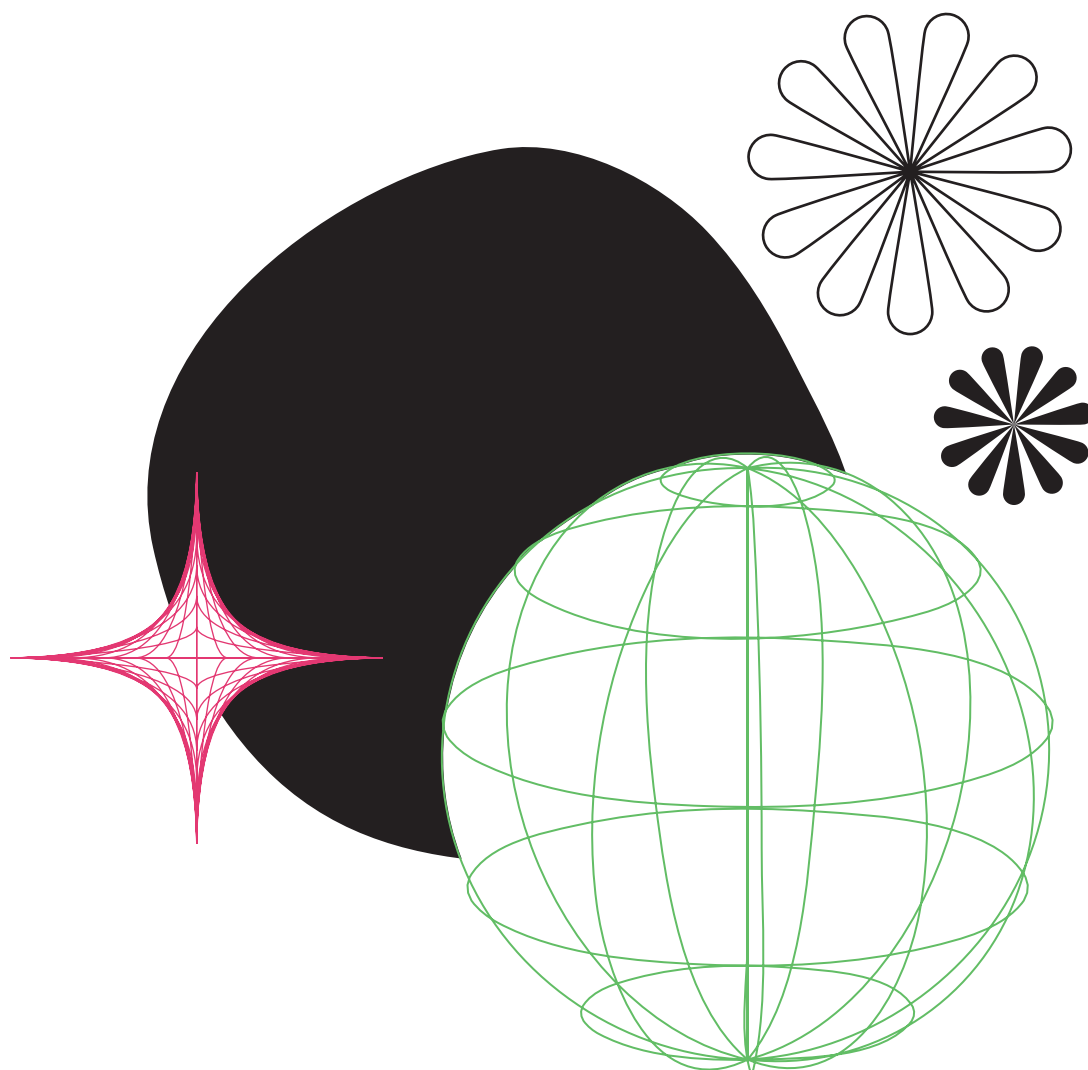
CONCLUSION

In conclusion, the proposed research question was, how have gender-neutral brands modified traditional sexist design elements that exist within the personal care industry in their skincare product packaging, and are they evident on the packaging of Amazon’s best-selling facial skincare products? From the literature review, the first part of the research question was answered. Gender-neutral brands have modified traditional sexist design elements through the use of gender-neutral colours and a focus on active ingredients in their facial skincare product packaging. A gap in the literature was eventually found. With Amazon being the world’s largest online marketplace, there was no research on how prevalent the modified design elements are on the packaging of Amazon’s best-selling facial skincare products and how many of the products belong to a gender-neutral brand.

To address this gap, being the second part of the research question, a study was performed. The top 50 best-selling facial skincare products from Amazon’s Best Sellers page were analysed, identifying if each product had gender-neutral colours and active ingredients evident on their packaging, in addition to belonging to a gender-neutral brand or not. A prediction was developed which first stated that many of the best-selling facial skincare products will appear gender-neutral, having the two modified design elements evident on their packaging. Secondly, of the products appearing gender-

neutral, most will belong to a gender-neutral brand. The results of the study supported this prediction across all three categories. For the first two, 96% of the products had one or more gender-neutral colours and 58% had one or more active ingredients evident on their packaging. From the third category, the results found that 72% of the products belong to a gender-neutral brand. Across all three categories, 46% of products were considered truly gender-neutral.

The research conducted throughout this thesis provides evidence that brands and their skincare product packaging design are responding to traditional gender norms being challenged and as a result, the rise of gender neutrality in society. Gender-neutral brands that currently exist, and those that are entering the skincare market all share a common understanding. They understand that product design informs reality, and gender-neutral design is a response to the diversity of society that we all live in. Gender-neutral packaging design does not mean compromising on creativity, but rather using design elements that work for everyone..



REFERENCES

- American Academy of Dermatology Association. (n.d.). Skin Care Tips For Men. <https://www.aad.org/public/everyday-care/skin-care-basics/care/skin-care-for-men>
- Braun, F. (2020, May 4). Skin deep: Is the future of skincare gender neutral? Vogue. <https://www.vogue.in/beauty/content/skin-deep-is-the-future-of-skincare-gender-neutral>
- Cakiroglu, I. (2017). Genders of Products: Creating Genderless Design. Research Gate. https://www.researchgate.net/publication/321309974_Genders_of_Products_Creating_Genderless_Design
- Cambridge Dictionary. (n.d.). Monochromatic. <https://dictionary.cambridge.org/dictionary/english/monochromatic>
- Carefoot, H. (2020, March 3). Why beauty brands are removing gender from their marketing. Washington Post. https://www.washingtonpost.com/lifestyle/wellness/hello-coverboy-cosmetics-and-skin-care-brands-turn-to-gender-neutral-packaging/2020/03/02/2c30f49e-54d4-11ea-9e47-59804be1dcfb_story.html
- CeraVe Facial Skincare Products - Active Ingredients. [Image]. Amazon. <https://www.amazon.com/CeraVe-Treatment-Peroxide-Moisturizer-Cleanser/dp/B09YDJL8TW>
- CeraVe Facial Skincare Products. [Image]. CeraVe. <https://www.cerave.co.uk/about-cerave/the-cerave-story>
- Earth Within. (n.d.). Femininity & Flowers. <https://earthwithin.com/feminine-and-flowers/> 24
- Hämäläinen, E. (2019). Gender Roles and Stereotypes in Cosmetics Advertising. https://aaltodoc.aalto.fi/bitstream/handle/123456789/39571/bachelor_H%C3%A4m%C3%A4l%C3%A4inen_Emlia_2019.pdf?sequence=1&isAllowed=y
- Kenney, L. (2020, April 8). Companies Can't Ignore Shifting Gender Norms. Harvard Business Review. <https://hbr.org/2020/04/companies-cant-ignore-shifting-gender-norms>
- Lapidos, R. (2019, October 19). The Future of Skin Care Is Genderless, Which Is a Win for Everybody. Well and Good. <https://www.wellandgood.com/genderless-skincare/>
- Lombardo, G. (2022, January 11). Sexist design: How gendered packaging reinforces gender stereotypes and toxic masculinity. UX Collective. <https://uxdesign.cc/sexist-design-how-gendered-packaging-reinforces-gender-stereotypes-and-toxic-masculinity-d00d3f03eaf>
- L'Oréal Female Facial Skincare Product. [Image]. Al-Fatah. <https://www.alfatah.pk/products/loreal-fine-flowers-milk-dry-and-sensetive-skin-400-ml>
- L'Oréal Female Facial Skincare Product. [Image]. Amazon. <https://www.amazon.in/LOREAL-PERFECTION-Soothing-Gel-Cream-Sensitive/dp/B00C10MZI2>



- L'Oréal Male Facial Skincare Product. [Image]. Cool Shop. <https://www.coolshop.co.uk/productvt/loreal-men-expert-pure-power-scrub-x2000-beads-anti-blackhead-150-ml/AJ5P4W/>
- L'Oréal Male Facial Skincare Product. [Image]. TGPCET. <https://www.uzivip.ga/products.aspx?cname=loreal+men+expert+cleanser&cid=60&url=>
- Magalhães, M. (n.d.). Gender Neutral Design. Forty 8 Creates. <https://forty8creates.com/gender-neutral-design/>
- Merali, A. (2022, September 4). Is Skincare Gendered? The Varsity. <https://thevarsity.ca/2022/09/04/is-skincare-gendered/>
- Najem, T., & Puolakka, E. (2020). Congruity in gender-neutral advertisement. <https://lup.lub.lu.se/luur/download?func=downloadFile&recordOId=9024562&fileOId=9024564>
- Nelson, I. (2022). Is the Future of Personal Care Product Packaging Gender-Neutral?: A Comparative Study on the Consumer Perceptions of Gendered Packaging by Generation Z and Generation X. https://www.theseus.fi/bitstream/handle/10024/752123/Nelson_Isabel.pdf?sequence=2&isAllowed=y
- Nivea Female Facial Skincare Product. [Image]. Cosmetics Now. <https://buy.cosmeticsnow.ca/iteminfo/nivea-cleansing-cream-gentle-150ml>
- Nivea Male Facial Skincare Product. [Image]. Nivea. <https://www.nivea.com.au/products/nivea-men-protect-and-care-exfoliating-face-scrub-40059003611580031.html>
- Parker, K., Graf, N., & Igielnik, R. (2019, January 17). Generation Z Looks a Lot Like Millennials on Key Social and Political Issues. Pew Research Centre. <https://www.pewresearch.org/social-trends/2019/01/17/generation-z-looks-a-lot-like-millennials-on-key-social-and-political-issues/>
- Petruzzi, D. (2022, March 30). Gen Z & the beauty industry in the United States - statistics & facts. Statista. <https://www.statista.com/topics/9238/gen-z-and-the-beauty-industry-in-the-united-states/#topicOverview>
- Queen's University Journal. (2020, September 11). It's time to ditch our gendered conceptions of beauty products. <https://www.queensjournal.ca/story/2020-09-10/editorials/its-time-to-ditch-our-genderedconceptions-of-beauty-products/>
- Rahrovan, S., Fanian, F., Mehryan, P., Humbert, P., & Firooz, A. (2018). Male versus female skin: What dermatologists and cosmeticians should know. *International journal of women's dermatology*, 4(3), 122–130. <https://doi.org/10.1016/j.ijwd.2018.03.002>
- Srivastava, P., Ramakanth, D., Akhila, K., & Gaikwad, K. K. (2022). Package design as a branding tool in the cosmetic industry: consumers' perception vs. reality. *SN business & economics*, 2(6), 58. <https://doi.org/10.1007/s43546-022-00222-5>

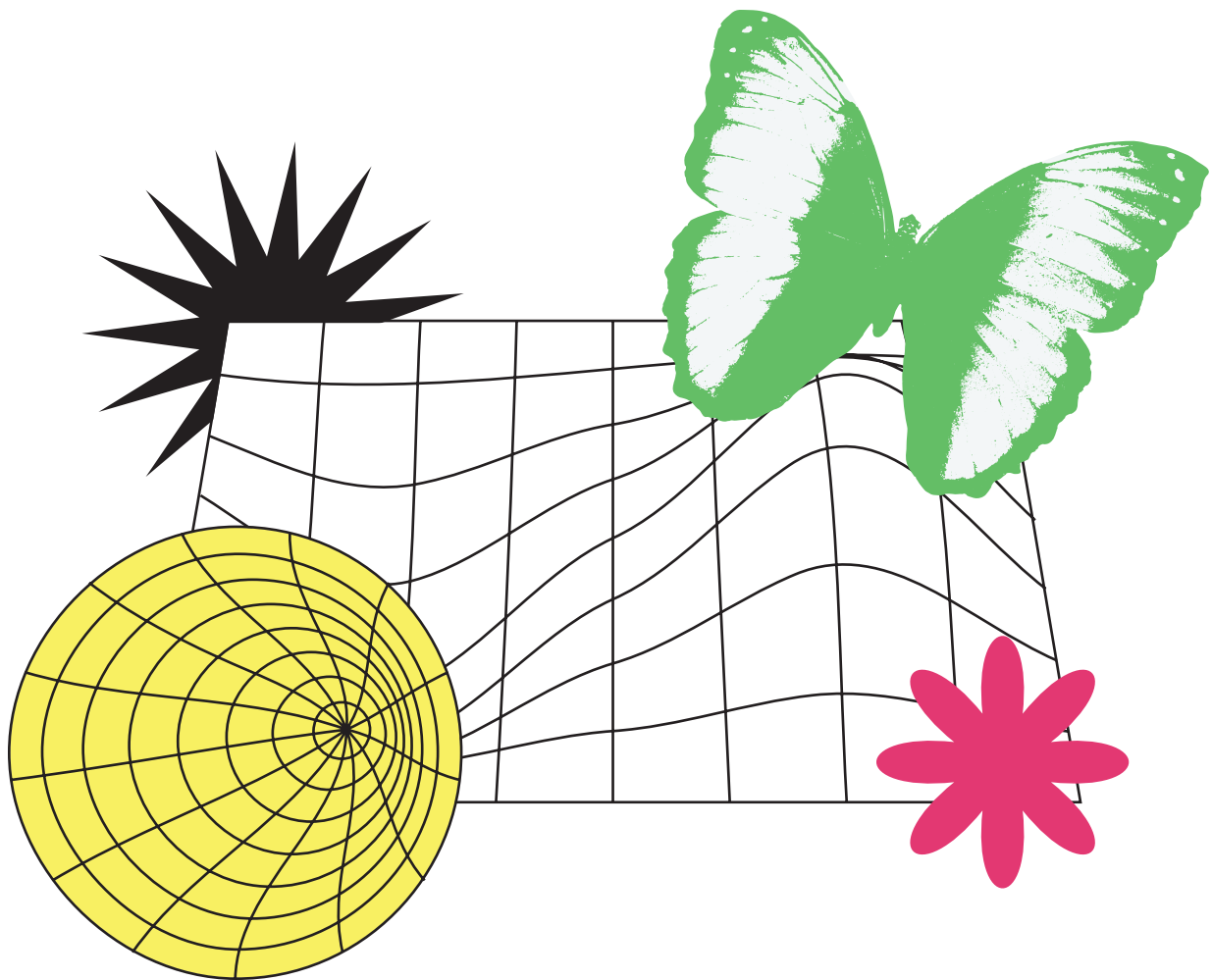


The Good Face Project. (n.d.). Men's vs Women's Skincare: What's the Difference? https://thegoodfaceproject.com/articles/men%E2%80%99s_vs_women%E2%80%99s_skincare:_what%E2%80%99s_the_difference

The Ordinary Facial Skincare Products - Active Ingredients. [Image]. Amazon. <https://www.amazon.ca/Ordinary-Glycolic-Toning-Solution-240ml/dp/B071914GGL>

The Ordinary Facial Skincare Products. [Image]. Cinderella Bridez. <https://www.cinderellabridez.com/blog/2020/9/2/3-best-selling-the-ordinary-skincare-products>

Wensky, T. (2018, September 22). Gender-neutral packaging design: made for everyone. Pix Art Printing. <https://www.pixartprinting.co.uk/blog/gender-neutral-packaging-design/>



APPENDIX

AMAZON'S 50 BEST SELLERS PRODUCT DATA - EXCEL

Product #	Product Name	How many gender-neutral colors are evident on the packaging? (yellow, green, light grey and brown, shades of blue, minimal black, primarily white)	How many active ingredients are evident on the packaging? (salicylic acid, vitamin C, benzoyl peroxide, retinol, etc.)	Does the product belong to a gender-neutral brand?
1	Neutrogena Hydro Boost Facial Gel-cream	2	1	No
2	Cosrx (3 Pack) Acne Pimple Master Patch	1	0	Yes
3	CeraVe Resurfacing RETINOL Serum	4	4	Yes
4	Cliganic USDA Organic Jojoba Oil	0	0	Yes
5	Cetaphil Gentle Skin Cleanser	4	2	Yes
6	Rael Miracle Invisible Spot Cover (96 count)	1	0	No
7	All Natural Advice Vitamin C Serum	3	3	Yes
8	PanOxyl Creamy Acne Wash	3	1	Yes
9	CeraVe Facial Moisturizer with SPF 30	5	4	Yes
10	e.l.f. Halo Glow Liquid Filter	0	0	No
11	CeraVe 4% Benzoyl Peroxide Acne Foaming Cleanser	4	4	Yes
12	CeraVe Face Moisturizing Lotion	5	3	Yes
13	CeraVe Salicylic Acid Cleanser	4	2	Yes
14	La Roche-Posay Cicaplast B5 Dry Skin Moisturizer	3	1	Yes
15	CeraVe Foaming Face Cleanser	4	3	Yes
16	CeraVe Daily Moisturizing Lotion	4	2	Yes
17	Biore Deep Cleansing Pore Strips	2	0	No
18	Rael Miracle Overnight Spot Cover	1	0	No
19	Palmers Cocoa Butter Formula Moisturizing Oil	1	2	No
20	Cosrx Advanced Snail 92 All in One Repair Cream	1	0	Yes
21	Cetaphil Gentle Skin Cleansing Cloths	4	0	Yes
22	Neutrogena Rapid Wrinkle Repair Cream	2	2	No
23	L'Oréal Paris Day & Night Moisturizer Cream	1	0	No
24	CeraVe Hyaluronic Acid Face Serum	4	3	Yes
25	Garnier Skin Naturals Vitamin C Super Glow Serum	4	3	No
26	CeraVe Hydrating Daily Face Wash	4	2	Yes
27	CeraVe Ultra-light Face Moisturizer	4	4	Yes
28	CeraVe 10% Pure Vitamin C Serum	1	4	Yes
29	La Roche-Posay Sensitive Skin Face Moisturizer	3	0	Yes
30	Cosrx Advanced Snail 96 Mucin Power Essence	1	0	Yes
31	Neutrogena Oil Free Acne Face Wash	1	1	No
32	Eva Vitamin C Serum Plus	2	5	Yes
33	Neutrogena Daily Foaming Facial Cleanser	3	0	No
34	Rael Miracle Invisible Spot Cover (48 count)	1	0	No
35	Nivea 3-in-1 Biodegradable Face Cleansing Wipes	3	0	No
36	Thayers Alcohol-Free Witch Hazel Rose Petal Toner	2	0	Yes
37	Bioderma Atoderm Cleansing Oil	2	0	Yes
38	InstaSkincare Pure Hyaluronic Acid Serum	2	1	Yes
39	The Ordinary Peeling Solution 30ml AHA 30%	3	2	Yes
40	Cetaphil PRO DermaControl Oil Control Moisturizer	5	1	Yes
41	Embryolisse Lait Crème Concentrate Moisturizer	4	0	Yes
42	PanOxyl PM Overnight Spot Patches	3	0	Yes
43	Cetaphil Oily Skin Cleanser	4	2	Yes
44	Cetaphil Daily Facial Moisturizer SPF 50	4	1	Yes
45	Clean & Clear Advantage Acne Spot Treatment	2	1	No
46	Cliganic 100% Pure Vitamin E Oil	3	1	Yes
47	Cetaphil Hydrating Night Cream for Face	4	1	Yes
48	Vanicream Gentle Facial Cleanser	3	0	Yes
49	Bio-Oil Skincare Oil	1	0	Yes
50	Hero Cosmetics Mighty Patch Original	2	0	Yes

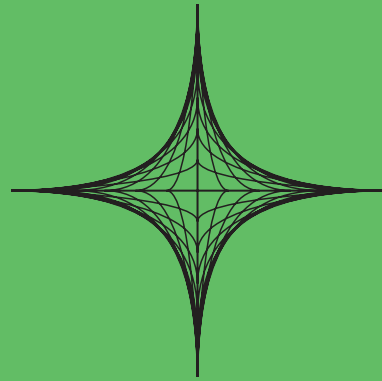


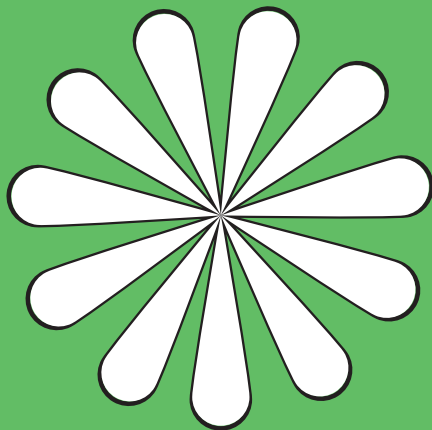
AMAZON'S 50 BEST-SELLING FACIAL SKINCARE PRODUCTS - APRIL 2023

Best Sellers in Facial Skin Care Products

<p>#1</p>  <p>Neutrogena Hydro Boost Gel-cream with Hyaluronic Acid, Hydrating Face Moisturizer, Dermatologist Recommended, 47 Milliliters ★★★★★ 9,737 \$18.47</p>	<p>#2</p>  <p>Cosrx 3 Pack Acne Pimple Master Patch ★★★★★ 16,331 \$14.99</p>	<p>#3</p>  <p>CeraVe Resurfacing RETINOL Serum For Face with niacinamide. Helps even skin tone, skin smoothness, post-acne marks & pore... ★★★★★ 1,527 \$26.08</p>	<p>#4</p>  <p>Cliganic USDA Organic Jojoba Oil, 100% Pure with niacinamide. Natural Cold Pressed Unrefined Hexane Free Oil for Hair, Face, Nails & Cuticle... ★★★★★ 14,650 \$14.99</p>	<p>#5</p>  <p>Cetaphil Gentle Skin Cleanser (500ml) - Hydrating Face Wash & Body Wash - Ideal for Sensitive, Dry Skin - Non-irritating, Fragrance... ★★★★★ 6,652 \$13.99</p>	<p>#6</p>  <p>Rael Miracle Invisible Spot Cover - Absorbing Cover, Skin Care, Facial Stickers, 2 Sizes (96 Count) ★★★★★ 41,040 \$26.99</p>	<p>#7</p>  <p>20% Vitamin C Serum For Face - All Natural Advice, with Hyaluronic Acid & Vitamin E - Facial Serum for Deep Hydration - Organic... ★★★★★ 18,434 \$28.96</p>		
<p>#8</p>  <p>PanOxyl Creamy Acne Wash - 4% Benzoyl Peroxide ★★★★★ 1,018 \$9.00</p>	<p>#9</p>  <p>CeraVe Facial Moisturizer with SPF 30, Face Sunscreen Lotion with Hyaluronic Acid, Niacinamide & Ceramides for Women & Men... ★★★★★ 7,301 \$20.89</p>	<p>#10</p>  <p>e.l.f. Halo Glow Liquid Filter, Complexion Booster For A Glowing, Soft-Focus Look, Infused With Hyaluronic Acid, Vegan & Cruel... ★★★★★ 256 \$17.97</p>	<p>#11</p>  <p>CeraVe 4% Benzoyl Peroxide ACNE Treatment Foaming Cream Face & Body Wash, with Hyaluronic Acid and Niacinamide, Helps Clog... ★★★★★ 1,050 \$20.89</p>	<p>#12</p>  <p>CeraVe Face MOISTURIZING LOTION, Day & Night Skincare Cream for Women & Men, With Hyaluronic Acid, Niacinamide & Ceramides... ★★★★★ 4,399 \$20.89</p>	<p>#13</p>  <p>CeraVe SALICYLIC ACID Cleanser, Renewing SA Smoothing BHA Exfoliant for Face. Suitable for Keratosis Pilaris & Pores. Gentle Cleanser... ★★★★★ 2,779 \$20.89</p>	<p>#14</p>  <p>La Roche-Posay Cicaplast Baume B5 Dry Skin Repair Multipurpose Balm Moisturizer, For Babies, Children, Adolescents & Adults With... ★★★★★ 4 \$24.50</p>		
<p>Hot New Releases In Facial Skin Care Products</p>			<p>Most Wanted For In Facial Skin Care Products</p>			<p>Most Gifted In Facial Skin Care Products</p>		
<p>#15</p>  <p>CeraVe Foaming Face Cleanser, Gentle Face Wash with Hyaluronic Acid, Niacinamide, Ceramides, Makes Remover for oily skin... ★★★★★ 8,304 \$24.04</p>	<p>#16</p>  <p>CeraVe Daily Moisturizing Lotion/Body Lotion-Face Moisturizer-Hand Cream with Hyaluronic Acid-Infused Product by CeraVe... ★★★★★ 5,418 \$46.17</p>	<p>#17</p>  <p>Bioré Deep Cleansing Pore Strips for Instant Pore Unclogging and Blackhead Removal (8 Count) ★★★★★ 2,358 \$7.99</p>	<p>#18</p>  <p>Rael Miracle Overnight Spot Cover - Thicker & Extra Adhesion, Hydrocolloid Patches, Stickers for Face, Absorbing Cover, 3 Sizes (52 Count) ★★★★★ 3,099 \$17.05</p>	<p>#19</p>  <p>Palmer's Cocoa Butter Formula Moisturizing Skin Therapy Oil for Face with Vitamin E, C & 10 Pure Facial Oil Blend, Rosehip Fragrance... ★★★★★ 37,115 \$11.27</p>	<p>#20</p>  <p>COSRX Advanced Snail 92 All in One Repair Cream, 100g Snail Secretion Filtrate 92% for Moisturizing Korean Skin Care ★★★★★ 16,111 \$28.95</p>	<p>#21</p>  <p>Cetaphil Gentle Skin Cleansing Cloths - Face and Body Wipes - Removes Dirt, Oil and Makeup - Non Irritating, For Sensitive Skin... ★★★★★ 1,403 \$11.58</p>		
<p>#22</p>  <p>Neutrogena Rapid Wrinkle Repair Regenerating Cream - Retinol Face & Eye Moisturizer - Hyaluronic Acid Serum - 48 mL ★★★★★ 1,995 \$32.19</p>	<p>#23</p>  <p>L'Oréal Paris Dry and Night Moisturizer Cream, Collagen Moisture Filter Skincare, Hydrating Cream for Face, Neck and Chest to Smooth... ★★★★★ 42,603 \$27.97</p>	<p>#24</p>  <p>CeraVe HYALURONIC ACID Face Serum, Hydrating Serum for Face with Vitamin B5 & Ceramides, for Men & Women, Normal To Dr... ★★★★★ 1,153 \$22.97</p>	<p>#25</p>  <p>Garnier Skin Naturals Vitamin C Sugar Glow Serum, With 3.5% Niacinamide + Salicylic Acid, Evens and Smooths Skin in 3 Days, For All... ★★★★★ 9,394 \$15.97</p>	<p>#26</p>  <p>CeraVe HYDRATING Daily Face Wash, Gentle Moisturizing Non-Foaming Facial Cleanser for Men & Women, Dry & Sensitive Skin, with... ★★★★★ 5,220 \$21.28</p>	<p>#27</p>  <p>CeraVe Ultra-Light Face Moisturizer with SPF 30, Hyaluronic Acid Face sunscreen Lotion for Men & Women, Normal to Oily & sensitive sk... ★★★★★ 929 \$20.97</p>	<p>#28</p>  <p>CeraVe 10% Pure VITAMIN C Serum for Face With Hyaluronic Acid Skin Brightening Face Serum for dark spots with ceramides & Vita... ★★★★★ 1,228 \$22.15</p>		
<p>#29</p>  <p>La Roche-Posay Sensitive Skin Face Moisturizer, TOLERANE SENSITIVE Hydrating & Soothing Face Cream with Niacinamide and Ceramides... ★★★★★ 3,538 \$25.17</p>	<p>#30</p>  <p>[Cosrx] Advanced Snail Mucin Power Essence 100ml by cosrx ★★★★★ 1,115 \$27.49</p>	<p>#31</p>  <p>Neutrogena Acne Face Wash, Oil Free Facial Cleanser with Salicylic Acid, 269 mL ★★★★★ 5,038 \$8.77</p>	<p>#32</p>  <p>Vitamin C Serum Plus with Hyaluronic Acid Serum, Retinol, Niacinamide, Salicylic Acid Vitamin C Serum for Face - Anti Aging Serum... ★★★★★ 46,339 \$19.09</p>	<p>#33</p>  <p>Neutrogena Daily Foaming Facial Cleanser - Makeup Remover Face Wash - Hypoallergenic, Oil Free - Pump Bottle, 354 mL ★★★★★ 2,912 \$8.97</p>	<p>#34</p>  <p>Rael Miracle Invisible Spot Cover - Hydrocolloid, Absorbing Cover, Skin Care, Facial Stickers, 2 Sizes (98 Count) ★★★★★ 2,926 \$16.29</p>	<p>#35</p>  <p>NIVEA 3-in-1 Biodegradable Face Cleansing & Make-up Removing Wipes for Normal Skin, 40 Wipes ★★★★★ 333 \$7.48</p>		
<p>#36</p>  <p>THAYERS Alcohol-Free Witch Hazel Rose Petal Face Toner Skin Care with Aloe Vera, Natural Gentle Facial Toner, for All Skin Types, 355mL ★★★★★ 62,011 \$14.66</p>	<p>#37</p>  <p>Bioderma - Atoderm - Cleansing Oil - Face and Body Cleansing Oil - Soothes Discomfort - Cleansing Oil for Very Dry Sensitive Skin... ★★★★★ 16,792 \$23.99</p>	<p>#38</p>  <p>Pure Hyaluronic Acid Serum for Face (Zoe) - Serum for Skin and Lips - Hydrating and Moisturizing Face Serum for All Skin Types ★★★★★ 7,523 \$24.99</p>	<p>#39</p>  <p>The Ordinary Peeling Solution 30ml AHA 30% + BHA 2%, 1 Fl Oz (Pack of 1) ★★★★★ 1,458 \$28.85</p>	<p>#40</p>  <p>Cetaphil PRO DermaControl Oil Control Moisturizer SPF 30 With Zinc Complex, For Oily and Sensitive Skin - broad Spectrum... ★★★★★ 2,048 \$16.39</p>	<p>#41</p>  <p>Embryolite Lait Creme Concentrate Multi-function Nourishing Moisturizer ★★★★★ 9,086 \$34.40</p>	<p>#42</p>  <p>PanOxyl PM Overnight Spot Patches 40 ct - Clear ★★★★★ 239 \$10.44</p>		
<p>#43</p>  <p>Cetaphil Oily Skin Cleanser (500ml) - Gentle Foaming Daily Facial Cleanser, Ideal Face Wash for Sensitive, Acne Prone, Combination to O... ★★★★★ 1,883 \$13.99</p>	<p>#44</p>  <p>Cetaphil Daily Facial Moisturizer SPF 50 - For Sensitive Skin - Oil Free and Non Greasy - Lightweight Lotion with Broad Spectrum... ★★★★★ 5,310 \$13.99</p>	<p>#45</p>  <p>Clean & Clear Advantage Acne Spot Treatment With Salicylic Acid Acne Medication, 22 mL ★★★★★ 2,110 \$9.77</p>	<p>#46</p>  <p>Cliganic 100% Pure Vitamin E Oil for Skin, Hair & Face - 30,000 IU, Non-GMO Verified Natural D-Alpha Tocopherol ★★★★★ 5,817 \$14.99</p>	<p>#47</p>  <p>Cetaphil Hydrating Night Cream for Face (48g) - Made with Hyaluronic Acid and Olive Oil Extract - 24hr Intense Hydration - Fragrance... ★★★★★ 1,554 \$20.97</p>	<p>#48</p>  <p>Vanicream Gentle Facial Cleanser with Pump Dispenser For Sensitive Skin Dermatologist Tested Fragrance and Paraben Free 8 Ounce ★★★★★ 1,214 \$12.95</p>	<p>#49</p>  <p>Bio-Oil Skincare Oil Specialist Skincare 125ml ★★★★★ 14,179 \$19.99</p>		
<p>#50</p>  <p>Mighty Patch Original from Hero Cosmetics - Hydrocolloid Spot Stickers for Face and Skin, Vegan-Friendly and Not Tested on Animals (3... ★★★★★ 1,501 \$17.99</p>								



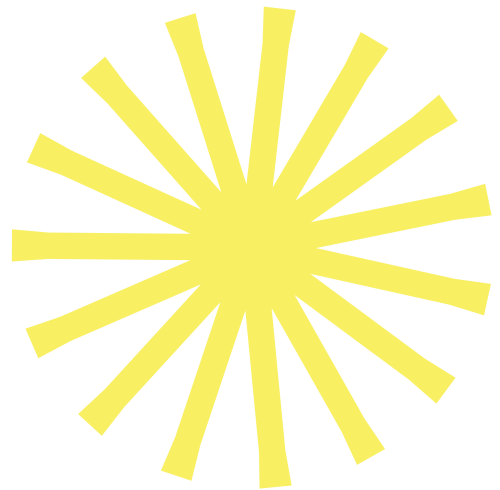




03- CAMERON MADY



Scan here to access an audiobook for this chapter.



E-BOOK *ACCESSIBILITY FOR* *USERS WITH ADHD –* *A CASE STUDY OF THE* *AMAZON KINDLE APP FOR* *IOS DEVICES*



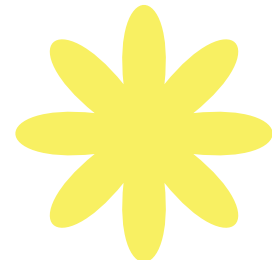
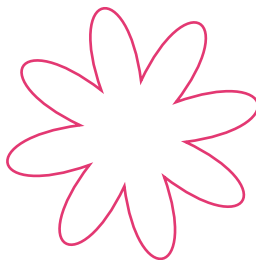
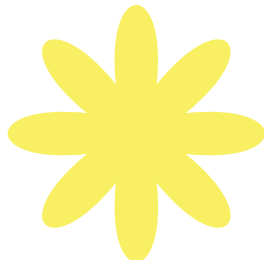
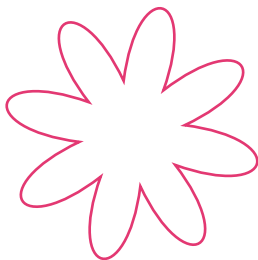
CAMERON MADY

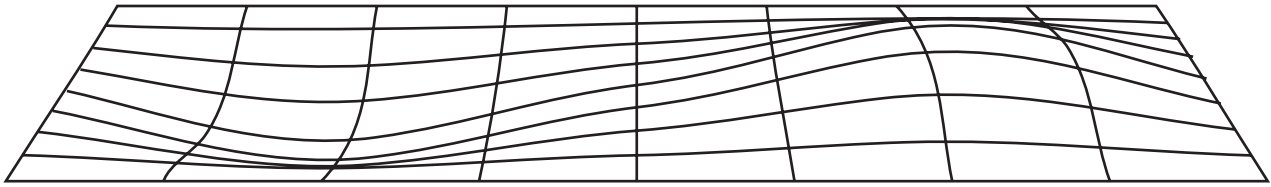
Cameron Mady is a graphic designer based in Brantford, ON, and a 2023 graduate of the Graphic Communications Management program at Toronto Metropolitan University. As a designer, Cameron thrives on curiosity and exploration, and takes pride in blending ambitious and creative ideas with practical applications and a touch of humour. Cameron is a firm believer in the importance of authentic communication, and the value of connecting with others on a common ground. As a strong proponent for accessibility, inclusivity and human-centred design, Cameron is also eager to explore how emerging technologies will advance these initiatives in the future and allow us to engage with each other without barriers. Never afraid to question long-standing traditions or beliefs, Cameron is always willing to re-examine an issue from a new perspective to develop unique and catered solutions from the ground up.



ABSTRACT

This paper examines the current state of the Amazon Kindle application for iOS devices in terms of accessibility and functionality for ADHD users. After an in-depth exploration into the needs of individuals with ADHD, inclusive frameworks for designing for those with disabilities, existing data on best eBook design practices for users with ADHD, and accessible eBook practices overall, the application was evaluated as a case study to synthesise a list of recommendations that could better accommodate users with ADHD. This analysis showed that despite a decent and simple overall layout, several default settings and features of the Amazon Kindle iOS application are distracting or may be confusing to users with ADHD, while other features are potentially useful but not easily perceivable or well-advertised within the app. I have concluded that the Amazon Kindle app could be greatly improved through simple, mindful design choices which cater to ADHD users. This would open a discussion on the ease of incorporating more inclusive design techniques across other platforms for a wider range of user impairments.





INTRODUCTION

The scope of disability is much broader than many realise, with less visible and uncommon disabilities not always getting recognition in the public eye nor adequate accommodations for equal participation in everyday life. When it comes to designing with accessibility in mind, the needs of individuals with cognitive disabilities such as Attention Deficit Hyperactivity Disorder (ADHD) are not always given proper consideration, even in mainstream or widely-used applications. This paper aims to address and understand best practices for accommodating users with ADHD in the design, layout, and features of an eBook platform. This is through using the Amazon Kindle iOS application as a case study to analyse existing accessibility features and offer recommendations to make the app more accessible for those with ADHD. eBooks and other online platforms allow for customisable layouts and features to easily cater to different accessibility needs. The diverse user base and complexity of content for eBooks, in particular, make accessibility accommodations incredibly relevant to the medium. Through this case study, the goal is to encourage inclusive design considerations for needs extending beyond the traditionally accepted scope of disability and to showcase how simple modifications can make a popular platform accessible to a larger audience.

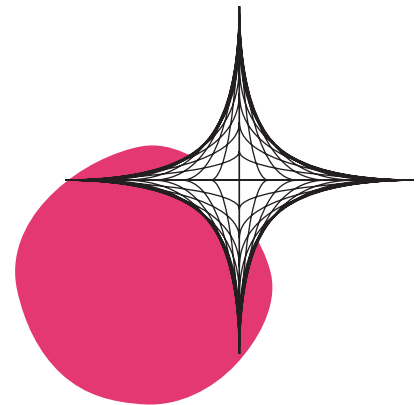
LITERATURE REVIEW

In order to develop a framework for approaching this paper, information has been organised into four major subcategories of relevance to accessible eBook design for individuals with ADHD. The first involves an analysis of ADHD itself and its effects on individuals with the disorder, including differences in thought process and lifestyle, and an assessment of overall needs specific to those with ADHD. The second section provides a background on approaching accessible design for those with disabilities, laying the foundation to respectfully and effectively develop design solutions which prove useful and accommodating to groups with differing needs. The third section delves into existing literature concerning methods for accommodating individuals with ADHD, both using graphic design and techniques from other disciplines. The primary focus for these techniques includes literacy, education, information processing, and increasing overall engagement. The fourth and final section of this review revolves around accessible eBook design practices in particular, providing a perspective on common or potential accessibility features applied to this specific medium.



I. UNDERSTANDING ATTENTION DEFICIT HYPERACTIVITY DISORDER

Attention Deficit Hyperactivity Disorder (ADHD) is classified as a cognitive disability which affects roughly 3-8% of children and adolescents, with 50-65% of individuals carrying persistent symptoms into adulthood (Anastopoulos et al., 2020; Armstrong, 2012; Schreval et al., 2016). One of the most common neurodevelopmental disorders worldwide, ADHD primarily causes issues in the brain with executive function, a cognitive process which involves planning, prioritising and organisational skills, working memory, information processing, self-regulation and the ability to engage with or switch between tasks (Anastopoulos et al., 2020; Bureau of Internet Accessibility, 2022; Murphy, 2015).



As a result of these cognitive differences, ADHD manifests itself in a variety of different ways, with symptoms including trouble paying attention or focusing, forgetfulness, fidgeting, interrupting or talking excessively, impatience, distractibility, and trouble with time management, impulse control or task completion (Anastopoulos et al., 2020; Armstrong, 2012; Bureau of Internet Accessibility, 2022). There are three main classifications of ADHD—Hyperactive-Impulsive Type, Inattentive Type, and Combined Type—which are based on the different ways these symptoms can present themselves within an individual (Anastopoulos et al., 2020). People with ADHD are also more likely to engage in phases of perseverance or hyperfocus, defined as periods of intense focus on a singular, often arbitrary task, where the individual feels a sense of timelessness, often ignoring physical needs or fixating on small, irrelevant details as a result of executive dysfunction (Hupfeld et al., 2019).



There are several co-occurring mental health issues which are commonly associated with ADHD, including anxiety, depression, suicidal thoughts, and higher rates of addiction due to impaired impulse control (Anastopoulos et al., Bureau of Internet Accessibility, 2022; Hupfeld et al., 2019; Mattison & Mayes, 2012; Robbins, 2017). Alongside a reported 40% of people with ADHD indicating signs of depression, 80% of those with ADHD are reported to have low self-esteem, as well as more common feelings

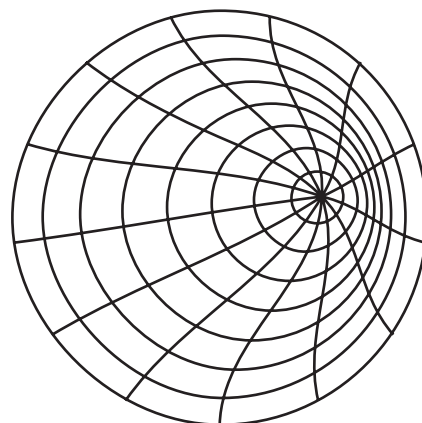
of shame, failure, embarrassment and self-criticism as a result of navigating the world with ADHD (Robbins, 2017). Roughly one in three children with ADHD, or 25-40% of children with Combined Type ADHD, have some form of learning or reading disability as well, often stemming from issues with information processing and working memory (Mattison & Mayes, 2012; Murphy, 2015). As a result, schoolchildren with ADHD have 8-10% lower achievement scores for literacy, especially concerning reading rate, accuracy, comprehension and recall; however, despite frequent association with learning disabilities, ADHD is not considered a learning disability on its own (McKnight, 2010; Murphy, 2015).

Progressing into young adulthood and beyond, individuals with ADHD may face troubles in post-secondary education and the workforce, with college students with ADHD being more likely to drop courses, take longer to graduate, or have a lower overall GPA; these struggles are amplified by inconsistent course loads, newfound responsibilities, expectations for self-regulation and a lack of old support systems for managing ADHD (Anastopoulos et al., 2020). These burdens, strengthened by an inability to filter irrelevant stimuli or maintain focus, leave many adults with ADHD feeling as if they are unable to partake in regular activities, control their thoughts and emotions, or change lifestyle patterns, thus causing them to develop an avoidance pattern for obligations which may also cause conflict in relationships (Schrevel et al., 2016). Shifted priorities can make it easy for those with ADHD to approach more complex tasks while neglecting simpler or more routine responsibilities, creating high expectations that often lead to self-doubt and feelings of inadequacy when expectations are not met (Schrevel et al., 2016).

Despite these differences, having an awareness of how ADHD changes the brain allows individuals to accommodate their lifestyle to suit their way of thinking, which has been shown to greatly improve the quality of life overall for those with ADHD (Schrevel et al., 2016). ADHD provides its own advantages as well, allowing for faster reaction times to new stimuli, a heightened awareness of busy surroundings, and faster creative thinking due to freer thought association (Armstrong, 2012; Schrevel et al., 2016). Because of this, those with ADHD are more likely to thrive in highly creative, flexible and non-sedentary jobs like advertising, design, or sales (Armstrong, 2012; Robbins, 2017). Instead of perceiving ADHD as an impairment, playing to the strengths of those with ADHD can provide an alternative approach to the world which, when acknowledged and accommodated, enables a fulfilling, engaging and successful lifestyle (Armstrong, 2012).

II. DEVELOPING A FRAMEWORK FOR DESIGNING FOR THOSE WITH DISABILITIES

The primary school of thought concerning accessible design is the social model of disability, which proposes that the impairments and hurdles which impact people with disabilities are the fault of a society which is exclusionary towards the needs and lifestyles of these individuals; this line of thinking contrasts the medical model of disability, which suggests that disabilities are inherent flaws which should be corrected for the sake of conformance (Gilbert, 2019). Similar to this line of thinking, a story-telling design approach evaluates the lifestyles and context of those with disabilities in order to establish needs, as opposed to a rehabilitation-based design approach which aims to rectify specific symptoms or presentations of disability (Keates et al., 2000). Through the more empathetic lenses of the social model of disability and the story-telling design approach, accessible design is a valuable tool for enabling disabled individuals to independently participate in a society designed with them in mind (Gilbert, 2019).



This story-telling design approach marries into the framework of user-centred design, which considers broader perspectives to develop a context specifying how a design is expected to be used (Karat, 1997; Weber-Hottleman, 2021). Through this process, a number of personas, typically four to seven, are created to better define the user, based on factors including the end goal of the design, research on the target market or potential audiences, habits informed by lifestyle or presentations of disability, and available assistive technologies (Weber-Hottleman, 2021).

The goal of user-centred design is to offer people with accessibility needs a comparable experience to those with less or no impairments in a similar time frame, and to do so in a way that is consistent, contextual, valuable, and customisable for differing needs (Gilbert, 2019; Weber-Hottleman, 2021). This framework involves empathising with the target audiences; establishing values and defining a need; and ideating, prototyping, executing, evaluating and iterating a design as needed (Gilbert 2019; Weber-Hottleman, 2021). Through user-centred design, a relationship is built between the user, the designer, and the overarching goal of the design, enabling feedback to clarify needs and strengthen the efficacy of a design over time (Karat, 1997).

A similar approach, the Inclusive Design Cube Model, proposes that creating a design which is accessible and operable by the individual with the most impairments also creates a product which is accessible to those with less severe impairments or none at all (Keates et al., 2000). This evaluation process places accessible design at its highest priority, considering potential users throughout every phase of development and promoting mindfulness towards gaps in useability (Keates et al., 2000). Using modular design, or providing customisable options which allow the experience to cater to individual needs, promotes inherent inclusivity without over-designing for those without impairments, which makes accommodations easily interchangeable and readily available for all (Keates et al., 2000; Riant, 2021). Using digital platforms, modular design is more easily implemented and suits a variety of needs, provided that the options are intuitive, obvious, and do not overwhelm users (Brown, 2010).



III. ADHD MANAGEMENT TECHNIQUES IN DESIGN AND OTHER DISCIPLINES

Those with ADHD prefer engaging, streamlined and interactive designs which offer immediate feedback with consistency in choice, routines and transitions (Armstrong, 2012). For instances requiring prolonged periods of focus such as school, work, or reading, information is best delivered in short, clear, dynamic, and goal-focused segments, which present the most relevant information at the start of a paragraph to allow for scanning of the text (Armstrong, 2012; Brown, 2010). Providing consistent breaks counteracts a shorter working memory, allowing those with ADHD to process or reflect upon key information as it is presented while offering frequent state changes to keep the overall experience novel and engaging (Gillan-Bronze, 2021; Murphy, 2015).

A secondary aspect to stimulating those with ADHD is to offer check-ins, and incentives which reward consistency and reinforce the task at hand by measuring engagement and celebrating smaller milestones; however, these rewards may seem patronising or overbearing to other users (Armstrong, 2012; McKnight, 2010; Murphy, 2015; Robbins, 2017). The emphasis on key elements and a strong hierarchy of information aids concentration, with typographic elements like size, weight, and colour helping to distinguish elements and consciously draw attention to relevant information (McKnight, 2010).

Clean, consistent, and simple menus help reduce distractions and confusion, while helping make all available options immediately obvious to the user; however, menu icons should not distract from the task at hand and should redirect users to the primary purpose of the design (Brown 2010; Bureau of Internet Accessibility, 2022; Gillan-Bronze, 2021; McKnight, 2010). Instructions and navigational elements for individuals with ADHD should be explicit and unambiguous, as well as not being time-sensitive, to reduce anxiety and allow users with ADHD time to process their next actions (Bureau of Internet Accessibility; Murphy, 2015).

Computers and multifunctional digital devices are inherently distracting to those with ADHD, thus one must balance engrossing a user in the task at hand without creating a potential distraction when the same device is used for another purpose (McKnight, 2010). As a result, an application should have minimal notifications and a purposeful, frictionless design which does not punish or discourage users who frequently open and close out of the application (McKnight, 2010). Animations are often distracting for users with ADHD and should be avoided unless they are the primary element of the design (Song & Lewis, 2018). Written content which allows for shorter lines of text on a single-screen page is also preferred to continuous scrolling, as it reduces the amount of visible information and prevents users with ADHD from losing their place or becoming disinterested; a slightly larger font size of 12-14 pt is similarly recommended to increase overall readability (McKnight, 2010; Riant, 2021).

In 2022, a Swiss technique called bionic reading was introduced to encourage fast, engaging reading, and to potentially aid people with ADHD and dyslexia with comprehending large bodies of text (Lavelle, 2022). This technique, which bolds the first few letters of each word in a body of text, is said to engage the reader by allowing the brain to quickly fill in word forms through scanning emphasised word fragments, though the current evidence is largely anecdotal (Lavelle, 2022).

IV. ACCESSIBLE EBOOK AND DIGITAL DESIGN TECHNIQUES

Digital technologies such as eBooks allow graphics, colours, tables, and interactive or multimedia elements, such as animations, videos, and audiobook integrations; this opens the door for accessible designs inclusive towards those with visual and cognitive disabilities (Brown, 2010; Danielsen et al., 2011; Gilbert, 2019). Likewise, providing custom options for the



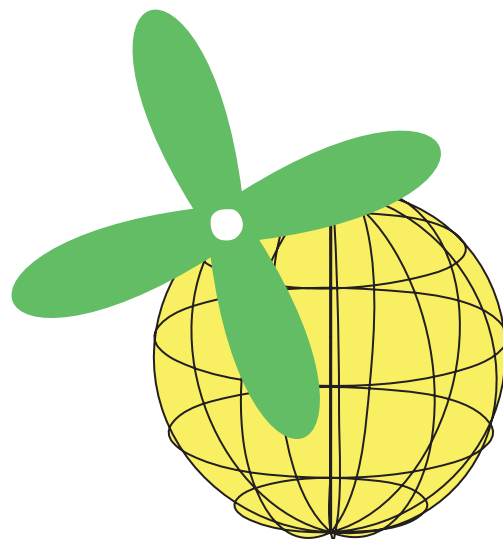
presentation of text—including font, paragraph size, spacing, and margins—help impact overall readability and comprehension to suit those with varying degrees of impairments (Riant, 2021). For eBooks, audio integration is especially relevant for people with vision loss, while also helping sustain engagement and aid in comprehension as needed, even for those without visual impairments (Brown, 2010; Danielsen, 2011).

Web Content Accessibility Guidelines (WCAG) are a set of standards provided by the World Wide Web Consortium to measure and assess baseline accessibility requirements for digital platforms such as webpages and eBooks (Song & Lewis, 2018). The four major philosophies of WCAG are ensuring that web content is perceivable, operable and understandable to those with varying needs, as well as robust and compatible with different versions of software and devices (Song & Lewis, 2018). Major accessibility features outlined in WCAG include alternative text for images, audio subtitles, customisable display options, compliance with photosensitivity considerations, easy search and navigation at various degrees of mobility, and consistent, predictable content to ease engagement and reduce confusion (Song & Lewis, 2018).

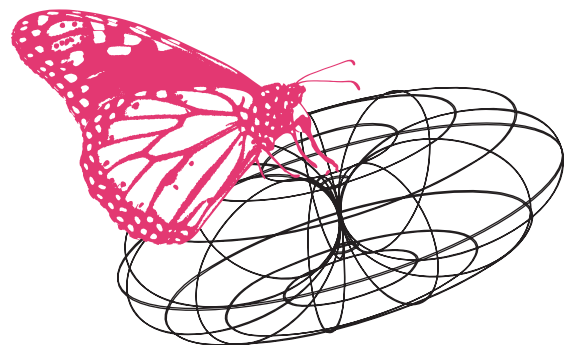
For proprietary eBooks formats such as those used by Amazon Kindle, it is important to ensure that common accessibility features are properly implemented; in 2011 many Kindles had inadequate accessibility features for the blind, including a significant number of books within the library which had text-to-speech disabled, inconvenient menus with poor hierarchy throughout the software, and no way for people with vision loss to independently browse or purchase books on the device (Danielsen et al., 2011). Since then, Amazon Kindle devices and applications have expanded their accommodations for accessibility needs, including improved screen-reader compatibility, in-text definitions and references to provide context, the option to convert text into the OpenDyslexic typeface, and customisable options for page margins, alignment, or the size, orientation and leading of the text (St-Esprit, 2022). The Kindle team is currently conducting research to continually improve the eReader experience for those with vision problems, dyslexia, autism, and ADHD (St-Esprit, 2022).

RESEARCH METHODOLOGY

The research framework for this paper involves conducting a secondary data analysis on various topics concerning ADHD, accessible design, and eBook user experience design, with the end goal of applying this information in a case study to assess the compliance of the Amazon Kindle application for iOS devices to the needs of users with ADHD. After the evaluation, a list of design recommendations will be synthesised to improve the experience of the application for individuals with ADHD.



These secondary sources on ADHD management tools and accessibility standards will provide a baseline level of knowledge to help develop a list of eBook tools or features that would be most useful to those with ADHD. Alongside information from conventional sources which dive into design and layout techniques to optimise the experience for ADHD users, secondary research on considerations or approaches to ADHD accessibility in other disciplines will be used in the development of new solutions catered to the medium of eBooks. Education is an especially relevant discipline to consider when developing eBook solutions for individuals with ADHD, as addressing common problem areas like prolonged focus, literacy skills, comprehension and information processing to a target audience are goals relevant to both the education system and widely used eBooks platforms like Amazon Kindle for iOS.

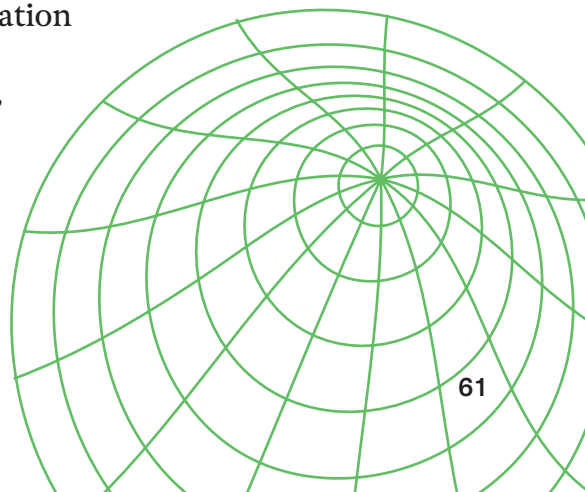


In addition to these sources, further research on existing frameworks for accessible design enables a conscientious and informed approach to developing eBook design solutions and recommendations for users with ADHD. Knowledge about existing models for understanding and catering to the needs of those disabilities aids in creating an effective, modern, and respectful solution for individuals with ADHD. This research process includes understanding the methodologies used by scholars addressing either ADHD in particular or similar accessibility-focused issues, with the end goal of learning from and building upon these methodologies to establish a specific, research-based approach catered to the task at hand.

Overall, the first step in assessing accessible eBook design for users with ADHD in the Amazon Kindle app for iOS involves analysis and application of secondary data in several important fields; these topics concern the needs of individuals with ADHD, accessible design frameworks, eBook design and accommodative techniques for those with ADHD in other disciplines. Establishing background information in these key areas enables an informed evaluation of the current suitability of the Amazon Kindle app for iOS to users with ADHD, in turn facilitating accurate analysis and ideation for recommendations to the app's existing features and layout.

The second part of this methodology involves the evaluation of the Amazon Kindle app for iOS; this process will be done via visual analysis, applying previous research to fill in specific details concerning the application's suitability for individuals with ADHD, which may not have been obtainable through secondary data analysis. Visual analysis will be limited to the most recent version of the Kindle application for iOS, software version 6.74, and will be viewed using two devices, an 11" second generation iPad Pro running iOS 14.8.1, as well as an iPhone 8 Plus running iOS 15.4.1; this will allow for comparisons between the features of both tablet and smartphone application, using two relatively new devices which are in my possession and currently on-hand.

The second part of this methodology involves the evaluation of the Amazon Kindle app for iOS; this process will be done via visual analysis, applying previous research to fill in specific details concerning the application's suitability for individuals with ADHD, which may not have been obtainable through secondary data analysis. Visual analysis will be limited to the most recent version of the Kindle application for iOS, software version 6.74, and will be viewed using two devices, an 11" second generation iPad Pro running iOS 14.8.1, as well as an iPhone 8 Plus running iOS 15.4.1; this will allow for comparisons between the features of both tablet and smartphone application, using two relatively new devices which are in my possession and currently on-hand.



Considering prior research on accessible design and the needs of individuals with ADHD, the evaluation of the Kindle app will focus on two primary aspects. The first aspect concerns the overall layout of the application and will address whether the existing design choices best suit the needs of users with ADHD. If there are aspects which are considered unsuitable or suboptimal, there will be an investigation aiming to infer if there are functional, accessible or aesthetic reasons as to why these decisions may have been made, if these choices can be justified, and if there are modifications which could better suit users with ADHD. If the default layout of the application is inherently distracting, inaccessible, or otherwise conflicts with the user experience of an individual with ADHD, a similar investigation will be launched discussing the suitability of these choices as the default option, regardless of whether these choices may be changed in the options menu.



The second major focus of this assessment of the Kindle app will involve the integration of accessibility features into the application, analysing existing features and proposing potential new ones which could make the platform more accessible to those with ADHD. During this process, there will be a discussion on which existing accommodations or customisable options within the app could potentially benefit those with ADHD. Following this, I will identify any absent features which could help users with ADHD, use research to ideate on new features which could make the app more accessible to those with ADHD, and determine the practicality of implementing either type of feature into the application. Overall, focusing on these two major areas of the Kindle app will allow me to assess the successes and failures of the application in its current state, and synthesise a list of design recommendations to help the platform better accommodate users with ADHD.

In developing a list of recommendations to improve the Kindle app, the primary goal will ultimately be to change as little as possible about the underlying structure of the application, only suggesting severe overhauls if they are completely necessary or blatantly conflict with the potential needs of a user with ADHD. While I will prioritise minor tweaks for existing design features, such as changing an icon, improving the hierarchy of information, or simplifying a menu, the addition of entirely new features will be discussed in broader strokes, as there is no precedent for these features in the existing application that would enable a more specific or detailed discussion.

Finally, I will clarify that although this paper is primarily focused on the needs of individuals with ADHD, in my design recommendations I will not be removing or diminishing existing accessibility features which accommodate other impairments for the sake of prioritising ADHD needs. The goal of this assessment is to create an application that can be universally used by all people regardless of disabilities or impairments, not to turn the Kindle app into an eReader platform solely for people with ADHD; this paper simply focuses on ways to include the needs of users with ADHD within intersectional, universal and accessible design practices for eBooks.

In summary, the research methodology for this paper falls into three major parts. The first section involves using secondary data analysis to provide background knowledge on the subject at hand and to inform the approach toward developing accessible design solutions. The second part uses this information to evaluate the current version of the Kindle app for iOS on iPhone and iPad via visual analysis, discussing its layout, existing features, and potential pitfalls. Finally, this assessment will inform a list of relevant design recommendations to better accommodate individuals with ADHD, resulting in an application which would be more accessible and therefore more effective to a wider audience of people.

RESULTS

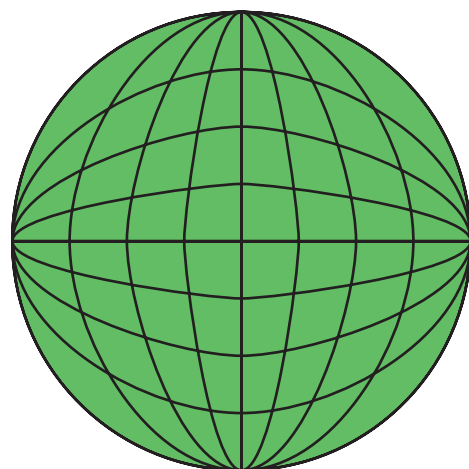
This section is dedicated to the breakdown and evaluation of the Amazon Kindle application for iOS in terms of the default application layout, notable customisable options and existing accessibility features. While the efficacy of these existing frameworks towards individuals with ADHD is included in this analysis, recommendations are reserved for the discussion section later on in the paper.

Upon assessment, it became clear that both the iPhone and iPad versions of the Amazon Kindle app are practically identical, with only two notable distinctions. For one, the text options on the iPad version skew towards slightly larger font sizes to suit the larger screen, and two, when the continuous scrolling mode is turned off, the landscape mode in the iPad version of the application splits content into two columns instead of just one (Appendix, Figure A1). As a result of this discovery, both applications will be discussed in tandem to help streamline the analysis.

I. DEFAULT APPLICATION LAYOUT

Starting with the overall layout and user experience of the Amazon Kindle application for iOS, the application offers four main icons within its navigational menu: Home, Library, Discover, and More. After logging in with an Amazon account, the user is presented with the Home page; this page first shows the cover art of the user's recently read books, and scrolling down offers a variety of different sections in a feed, including recommended books, a feature spotlight for tools within the app, popular titles overall or within certain genres, and new releases (Appendix, Figure A2). These extra features are not ideal, as they can be distracting and are overall superfluous to the main goal of reading, even if the user's recently accessed titles are still the main element of the page.

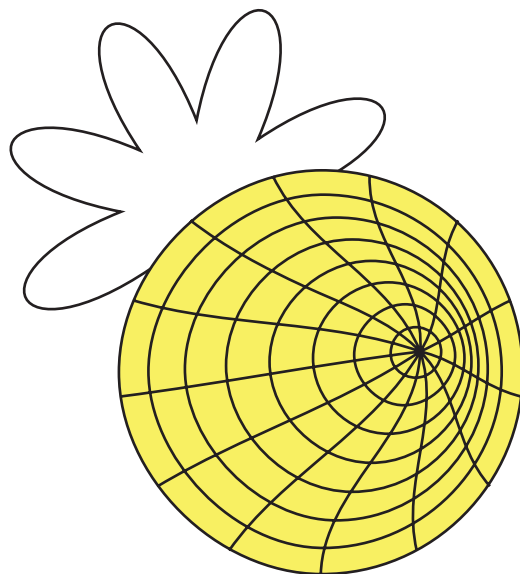
The second page accessible within the navigation bar is the Library page, showcasing the user's purchased books, with the default setting of being sorted by the most recently accessed title; this page is clean, simple, and overall ideal for users with ADHD. The top of this page, alongside every other page within the navigation bar, is a search tool; this



search bar searches the entire Kindle store and not the user's library, making it somewhat confusing within the Library page.

Upon selecting a book from the homepage or Library tab, the app instantly takes the user to the last page they read of the book, clearing away all other interface elements or options. This quick turnaround from opening the app, accessing a book and starting to read is ideal for users with ADHD, as it streamlines the process and reinforces the task at hand. Once a book is opened, the only interface elements visible are a completion percentage for the book and an approximate time to finish the current chapter based on the user's average reading speed; both are shown in small text at the bottom of the screen. While the minimalist design of this screen is ideal for users with ADHD, both of these elements can set up expectations of performance which may put pressure on the user to reach the end or meet their average reading speed, distracting from the task at hand and creating unnecessary anxiety.

The in-reading menu is accessed by tapping the centre of the screen, the app zooms out of the user's current page to provide two menu bars at the top and bottom of the screen (Appendix, Figure A1). The top bar provides an option to exit back to the main menu, skip to a certain chapter, search within the book, access comments, customise the layout, bookmark a page or learn more about the book. The bottom menu offers a progress bar to scrub through and select different pages, as well as an option to skip back to a previously selected page; the latter option is extremely ADHD-friendly as it allows for a user to recover from mistakenly skipping to a different page without consequence. Both menus use simple icons which are fairly intuitive, and this menu system and overall in-book layout are ideal for users with ADHD, providing a way to easily customise their experience without becoming a distraction while they are reading.



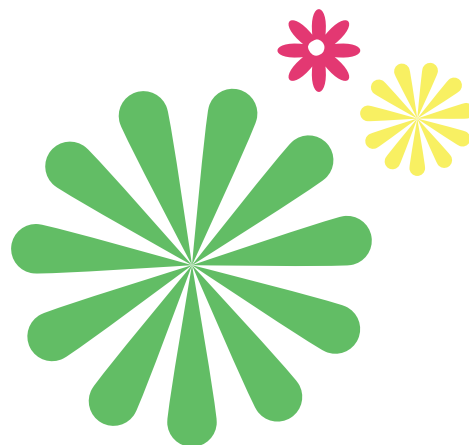
Moving forward, the third page within the main menu's navigation bar, the Discover page, allows the user to search for and purchase new Amazon Kindle eBooks. While a needed feature, enabling exploration and endless browsing of eBook titles, this page is inherently distracting to users with ADHD. Despite the distraction, the in-app shop is easy to exit from and mostly self-contained within the Discover menu, therefore it is unlikely to distract or entice users who are opening the app to continue reading an existing book. Being in-app also encourages users with ADHD to read more books by reducing barriers to accessing the online store; while this encourages literacy, it also enables impulse purchasing which may be problematic.

Finally, the More page notably offers notification settings and Reading Insights, the latter of which allows users to set reading goals and view usage statistics. This feature is largely optional but provides users the option to set small goals and set streaks for reading several days in a row. This gamification of reading can be encouraging to some with ADHD and act as a reward for consistent behaviour, however, it can also lead to over-competitiveness

and emotional over-reactivity, offering mixed results. It is also important to note that push notifications are disabled by default, and the user will only be prompted to enable them by deliberately doing so within the settings option; this system works perfectly for those with ADHD as it will not create an unwanted distraction while using an iOS device for another purpose.

Overall, the default layout of the Amazon Kindle app, despite some issues with clutter and distractions within the main menus and in-book reader, does a decent job of accommodating the needs of individuals with ADHD in its default state.

Even though some elements of the in-book reading experience are customisable, having an accessible default layout is especially important to those with ADHD, as the out-of-sight-out-of-mind inattentive behaviour common in those with ADHD may prevent users from digging into an application's settings in search of accessibility options.



II. ACCESSIBILITY FEATURES AND CUSTOMIZABLE OPTIONS

The Amazon Kindle app for iPhone and iPad has several customisable features and tools designed to make the app more comfortable and accessible to users. Since Kindle uses a proprietary file format, these features are unique to Amazon Kindle eBooks and applicable across their entire library of content when accessed through these applications. It is also important to note that the Amazon Kindle application does not exist in a bubble, and some features which affect the device in a larger context, such as text-to-speech, may not be present in the Kindle app as they are already native to iOS devices and can be accessed via the device's system settings. The Kindle customisation options are available within the in-text reader menu of the application, in the top bar under a menu icon depicting the letters "Aa"; these features are sorted under four main headings—Font, Layout, Themes and More (Appendix, A3).

The first of these settings, Font, allows the user to change the typeface and font size of the text. Defaulting to the Amazon-made serif font Bookerly, other options include the heavier sans-serif Amazon Ember Bold, classic Helvetica, the traditional Baskerville and the dyslexia-friendly OpenDyslexic. While providing options is great for accessibility and Bookerly has a higher x-height which helps with legibility, sans-serif fonts are typically more legible on screens and would be a preferred default. In terms of font size, the application ranges from two extremes on a 16-point scale, with the default font size being 6 points into the scale. While the actual type size is not specified in the menu, the default size for iPhone is on the smaller side in terms of ADHD accessibility, potentially causing issues with readability or overwhelming the user with the amount of content per page. It is important to note the lack of an undo or "reset to default" button in this menu, meaning it is easy for users to accidentally change the typeface or size



and be unable to easily change it back, which can be frustrating or upsetting. Changing either setting also shifts the text content around and may skip the user to a slightly different section of the book, which may become disorienting. While providing useful options, the user interface and defaults could be improved to better accommodate users with ADHD.

The second option, Layout, controls page colour, continuous scrolling, line leading and text alignment.

The page colour can be changed from the default white to sepia, pale green, or a dark mode; while these secondary options could potentially reduce eye strain or overstimulation, the few options seem somewhat arbitrary and white is clearly the ideal default colour. Continuous scrolling transforms the page-by-page format into one single, scrollable page; this setting is off by default, which is good as distinct pages are better for users with ADHD to limit the amount of information available at one time and to prevent mindless scrolling. Finally, the leading can be increased or decreased by one stage from its default, and alignment can be changed from the default justified to simply left aligned. A larger leading and left alignment are preferred for users with ADHD, as both help users distinguish lines of text and reduce the amount of content per page. While these options are somewhat useful, the default settings used are not always ideal for users with ADHD.



The third section, Menu, allows users to choose from a list of preset layouts or save a custom layout, the existing presets are: Compact, Standard, Large, and Low Vision. Compared to Standard, which is the closest option to a “reset to default” setting, Compact reduces text size and spacing while Large slightly increases both, and Low Vision changes the typeface to Amazon Ember Bold, which significantly increases the type size, and left-aligns the text. Of the four, the Large function is best suited for users with ADHD, though its justified alignment makes it imperfect; however, this tab and the ability to create custom layouts is overall quite useful, allowing users to create their own default to suit their unique needs.

The final tab, More, allows users to toggle additional features and menu options, notably the reading ruler, reading progress, popular highlights, visible clock and page turn animations. The reading ruler is useful to those with ADHD as it isolates a section of text to help the reader hold their focus. While this feature is designed to work with continuous scrolling, the user can also use their finger to manually drag the ruler down the page, reinforcing engagement. Reading progress allows the user to turn off the percent completion and time left in chapter options from the in-book interface, which would be preferred for many users with ADHD. The popular highlights option is on by default, and automatically highlights segments of the text that are commonly highlighted by other readers; this distracting feature is not helpful to users with ADHD when it comes to focusing on reading. The final two features, the self-explanatory visible clock and page turn animation, are rightfully turned off by default, as both features would prove distracting and unnecessary to the reading experience of a user with ADHD.



Overall, the features available within this menu have a varying degree of utility to individuals with ADHD; while the reading ruler may be useful, others are largely extraneous to the development of an engaging reading experience.

In its totality, the customisable features within the Kindle app for iOS, loosely categorised as accessibility features, offer some mostly minor changes to the layout and user experience which can offer middling success for accommodating users with ADHD. While the application benefits from an inherently simple layout, many potential quality-of-life improvements get lost within the smaller details. The application overall puts a good effort at making a generally acceptable and pure reading experience, but many of the specifics are not optimised for users with ADHD or ADHD-like behaviours.



DISCUSSION

After analysing the current state of the Amazon Kindle app for iOS in the context of accessibility for users with ADHD, it is clear that more can be done to improve the experience for this user base; these changes involve adjusting default settings to be more accommodating, tweaking or suppressing existing features which are not ideal for users with ADHD, adding more accessibility options overall and making these features clearer to the user. Following these practices would help create an app that is better catered to the needs of those with ADHD, using minor tweaks to nurture a more accessible, engaging and intentional experience overall.

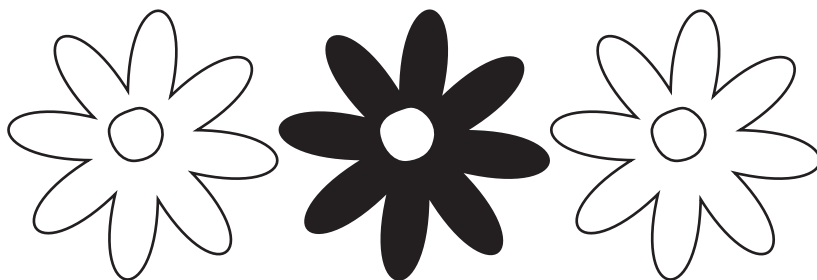
To make the application better accommodate individuals with ADHD, I would recommend slightly increasing the default text size and leading, changing the default text alignment to left-aligned from justified, and by default disabling the Popular Highlights section. While the text size and leading are currently decent, a slightly larger text size with wider spacing simply makes the text more readable, a trait which is critically relevant for consistently engaging users with ADHD. Left-aligned text allows those with ADHD to better distinguish between individual lines of text, helping them reestablish their place if they get distracted. Finally, the Popular Highlights feature is largely pointless while being a clear distraction for ADHD users; as a result, it is best to leave this feature off by default.

In terms of features that need to be tweaked or suppressed to better accommodate users with ADHD, I would recommend replacing the Home page with the Library tab and altering the Reading Progress options to limit progress-based objectives. While the Home page's utility of showcasing the app's features and recommending similar titles is good in theory, making this the first page a user sees when opening the app may be distracting, especially to those with



ADHD; as a result, making the Library page the main page while converting Home page into a secondary, renamed “Recommended” tab could help users with ADHD retain focus upon launching the app. The Reading Progress feature faces a similar issue; while it is important to indicate a reader’s progress as they read, using time or percentage-based metrics can create anxiety in users with ADHD. While percentage-based metrics may still be necessary when continuous scrolling is enabled, I would recommend a simple page counter when the feature is disabled, similar to the pages of a physical book. Since the total number of pages is still available within the in-reader menu, this allows the reader to have a rough sense of progress without underlying pressure to complete a chapter within a given timeframe.

Besides tweaking existing features, adding some new ADHD-friendly features to the Kindle app for iOS would create an overall more accessible experience; these features could include an undo option within the settings, a timer to encourage breaks, a search function for owned titles, and an ADHD-based preset in the Layout options. Allowing users to undo recently changed settings would allow for safe experimentation with different layout options, removing the stakes of changing settings for ADHD users and counteracting their shorter working memory. Adding an option within the app to set reading intervals or break reminders would be an easy way to segment the task of reading into more manageable chunks, better suiting the work patterns of people with ADHD. This feature could be a secondary option within the Library tab and would be off by default, but would help establish reading objectives and reduce boredom by keeping reading as a novel activity within an ADHD brain. A search option within a user’s purchased book titles would be incredibly useful for ADHD readers with a large selection of books, allowing them to quickly find a title they’re looking for within a large selection without scrolling through titles and potentially becoming distracted. Finally, an ADHD preset layout with the most optimal settings for users with ADHD could make these features more visible, once again counteracting a shorter working memory; prompting users to customise their layout upon first downloading the app would make these features more visible to users and ensure the app will be optimised for each user’s unique individual needs.



In the end, implementing some or all of these small changes can enable a more accessible application for users with ADHD and provide a cleaner, more streamlined experience overall, potentially benefiting other demographics as well. By considering the needs of those with ADHD, a disorder often beyond the traditionally considered scope of disability, the Amazon Kindle app for iOS could become a more accessible and user-friendly platform for a larger group of users.



CONCLUSION

Through universal design practices, the Amazon Kindle app for iOS devices can be improved to better accommodate the needs of readers with ADHD using minor tweaks and quality-of-life considerations developed with ADHD in mind. Generally, the application can become more inclusive to users with ADHD by adjusting default settings to streamline the app and increase readability; minimising gimmicky, distracting or attention-grabbing features; adding in more accessibility features and options which are receptive to the mindset of ADHD readers; and by making accessibility features overall more visible and clear to the app's users.

While framing this exploration of inclusive eReader design for users with ADHD around a single platform may seem restrictive, the Amazon Kindle app for iOS offers a reference point and enables discussion on incorporating a wider scope of accessibility options across other popular digital platforms; through showcasing how simple, mindful design choices can increase inclusivity of users with ADHD. This approach encourages designers and corporations alike to consider how seemingly minor design decisions can have a significant impact on users with disabilities. Further exploration into the ways design and layout choices for digital platforms can impact the accessibility of these platforms for users with ADHD or other disabilities is highly encouraged, enabling a more universal, optimised, and inclusively designed world for all.

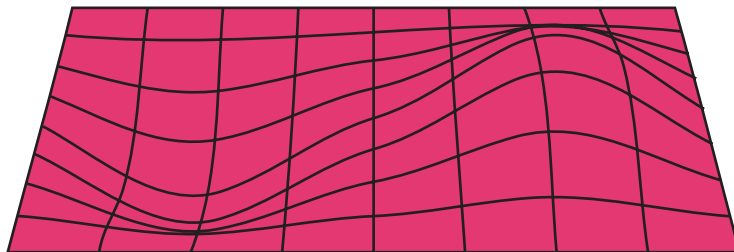


REFERENCES

- Anastopoulos, A. D., Langberg, J. M., Besecker, L. H. & Eddy, L. D. (2020). ADHD in Emerging Adults Attending College. CBT for College Students with ADHD: A Clinical Guide to ACCESS, 1-21. <http://www.dl.edi-info.ir/ADHD%20in%20Emerging%20Adults%20Attending%20College.pdf>
- Armstrong, T. (2012). Neurodiversity in the classroom : Strength-based strategies to help students with special needs succeed in school and life. Association for Supervision & Curriculum Development. <https://ebookcentral.proquest.com/lib/ryerson/detail.action?docID=1106833>
- Brown, V. (2010). Digital media learning supports individuals with cognitive disabilities. *Childhood Education*, 87(1), 61-64. <http://ezproxy.lib.torontomu.ca/login?url=https://www.proquest.com/scholarly-journals/digital-media-learning-supports-individuals-with/docview/763170366/se-2>
- Bureau of Internet Accessibility. (2022, October 5). How to make your website more accessible for people with ADHD. WCAG Audits, ADA Accessibility Audits & Section 508 Audits. Retrieved February 2, 2023, from <https://www.boia.org/blog/how-to-make-your-website-more-accessible-for-people-with-adhd>
- Danielsen, C., Taylor, A. & Majerus, W. (2011). Design and public policy considerations for accessible e-book readers Association for Computing Machinery. doi:10.1145/1897239.1897254
- Gilbert, R. M. (2019). Inclusive design for a digital world: Designing with accessibility in mind. Apress. <https://doi.org/10.1007/978-1-4842-5016-7>
- Gillan-Bronze, A. (2021, May 12). 7 tips for ADHD-friendly elearning...from an instructional designer with ADHD. eLearning Industry. Retrieved March 7, 2023, from <https://elearningindustry.com/adhd-friendly-elearning-tips-from-instructional-designer-with-add>
- Karat, J. (1997). Evolving the scope of user-centered design. *Communications of the ACM*, 40(7), 33-38. <https://dl.acm.org/doi/pdf/10.1145/256175.256181>
- Keates, S., Clarkson, P. J., Harrison, L. A., & Robinson, P. (2000, November). Towards a practical inclusive design approach. In *Proceedings on the 2000 conference on Universal Usability* (pp. 45-52). <https://dl.acm.org/doi/epdf/10.1145/355460.355471>
- Lavelle, D. (2022, May 27). Bionic reading: could an ADHD-friendly hack turn me into a speed-reader? *The Guardian* <http://ezproxy.lib.torontomu.ca/login?url=https://www.proquest.com/newspapers/bionic-reading-could-adhd-friendly-hack-turn-me/docview/2670020156/se-2>



- Mattison, R. E., & Mayes, S. D. (2012). Relationships Between Learning Disability, Executive Function, and Psychopathology in Children With ADHD. *Journal of Attention Disorders*, 16(2), 138-146. <https://doi.org/10.1177/1087054710380188>
- McKnight, L. (2010). Designing for ADHD in search of guidelines. In IDC 2010 Digital Technologies and Marginalized Youth Workshop (Vol. 30). <https://www.academia.edu/download/30912875/mcknight.pdf>
- Murphy, S. L. (2015). How Do We Teach Them to Read If They Can't Pay Attention? Change in Literacy Teaching Practice through Collaborative Learning. *Language and Literacy*, 17(1), 83-105. <https://doi.org/10.20360/G2XK5M>
- Riant, C. (2021, September 24). Digital Reading and Ebooks for Dyslexia: A literature review. *Academia.edu*. Retrieved March 7, 2023, from https://www.academia.edu/53287563/Digital_Reading_and_Ebooks_for_Dyslexia_A_Literature_Review
- Robbins, R. (2017). The untapped potential of the ADHD employee in the workplace. *Cogent Business & Management*, 4(1), 1271384. <https://www.tandfonline.com/doi/full/10.1080/23311975.2016.1271384>
- Schrevel, S. J., Dedding, C., van Aken, J. A., & Broerse, J. E. (2016). 'Do I need to become someone else?' A qualitative exploratory study into the experiences and needs of adults with ADHD. *Health Expectations*, 19(1), 39-48. <https://onlinelibrary.wiley.com/doi/abs/10.1111/hex.12328>
- Song, X., & Lewis, D. (2018, November). Is It Really "Not Applicable?" Zoom In to Understand E-Book Accessibility. In *What's Past Is Prologue: Charleston Conference Proceedings 2017* (pp. 96-100). Purdue University Press. https://books.google.ca/books?hl=en&lr=&id=LAqyDwAAQBAJ&oi=fnd&pg=PA96&ots=TqALEixIN7&sig=k_WUciDWdm9iDrwcKtjT781Chyg&redir_esc=y#v=onepage&q&f=false
- St-Esprit, M. (2022, August 30). 6 helpful accessibility features in the Amazon Kindle. *PCMAG*. Retrieved March 7, 2023, from <https://www.pcmag.com/how-to/accessibility-features-amazon-kindle>
- Weber-Hottleman, K. (2021). Using Personas for Accessible Design. *The Journal of Business Diversity*, 21(1), 90-94. <http://ezproxy.lib.torontomu.ca/login?url=https://www.proquest.com/scholarly-journals/using-personas-accessible-design/docview/2533414845/se-2>



APPENDIX

RELEVANT SCREENSHOTS AND FEATURES OF THE AMAZON KINDLE APPLICATION FOR IOS AS NOTED THROUGHOUT THIS DISSERTATION



Figure A1. This figure compares the landscape mode of the iPhone version of the Amazon Kindle app (top), with that of the iPad version of the app (bottom). This, alongside slightly larger text options, are the only key differences between these two iOS versions of the Kindle application.

These images also show the in-reader menu of the application, with the icons on the top bar indicating from left to right the options to return to the main menu, select a chapter, search within the text, read comments made by the user, customize layout options, bookmark a page, or access more information about the book. The bottom bar showcases progress within the book.



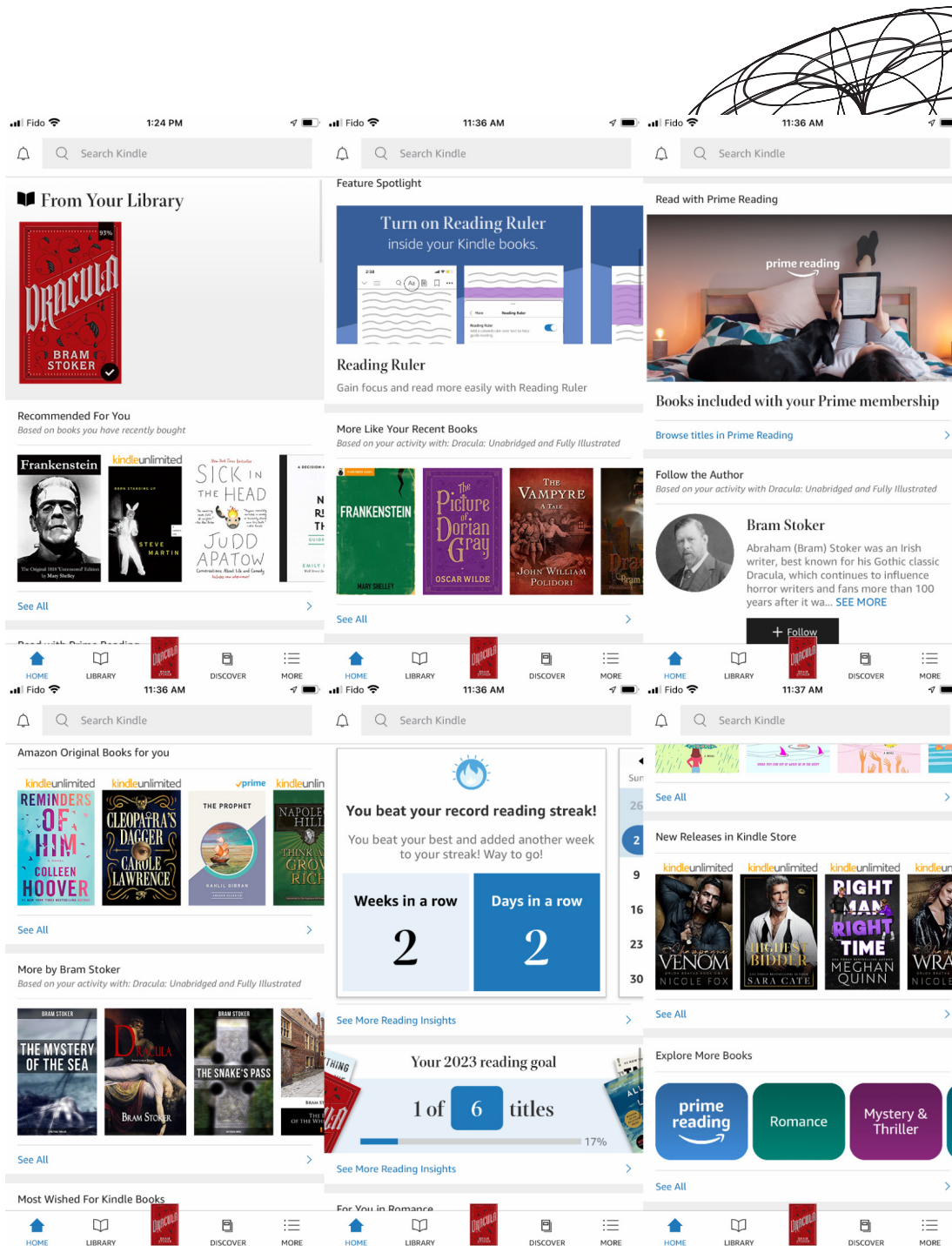


Figure A2. This figure shows the general layout of the Home screen, though some options are subject to change as the feed is catered to the individual user. Screenshots from left-to-right, top-to-bottom show the content of the feed as one scrolls down, showcasing how many different potential distractions are immediately available to the user.



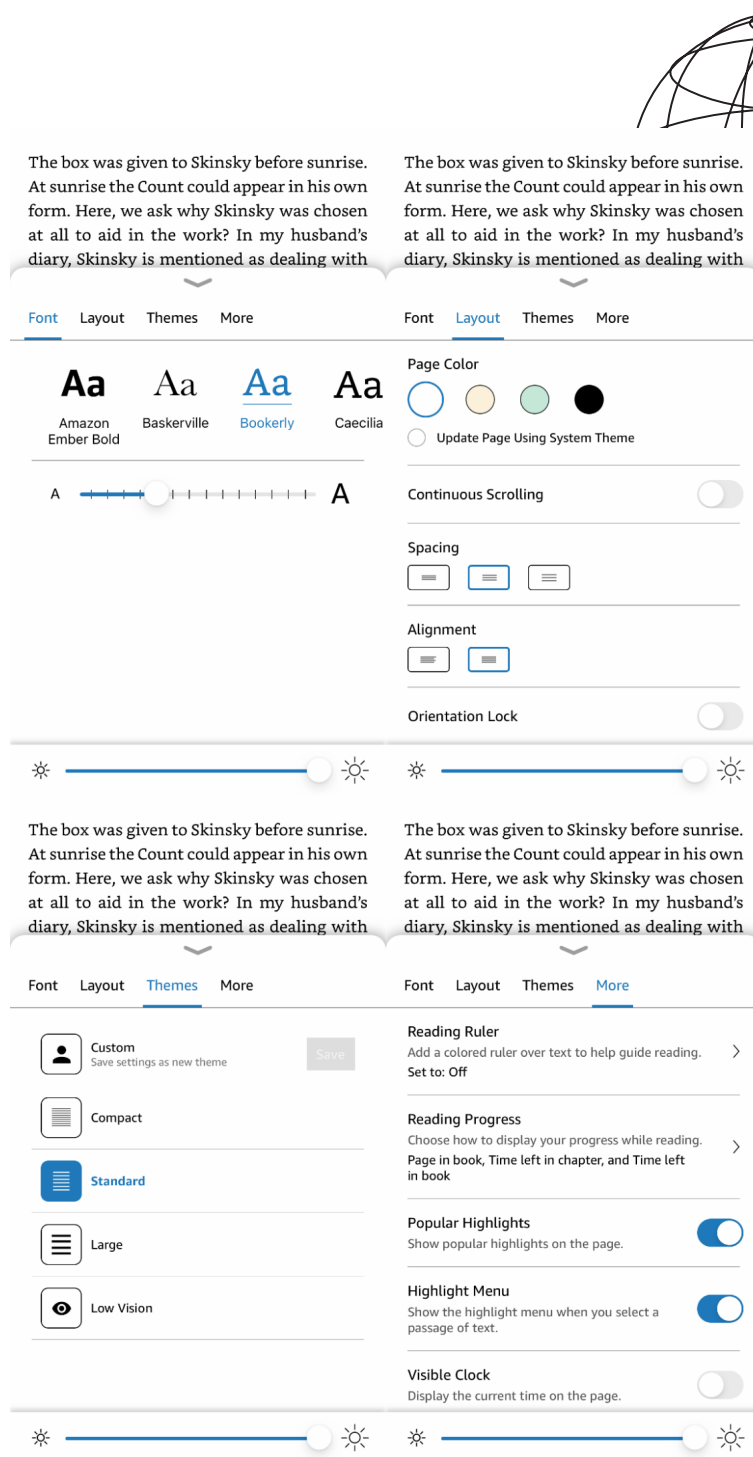
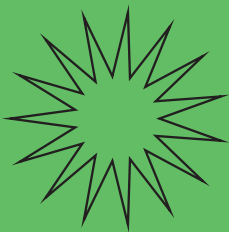
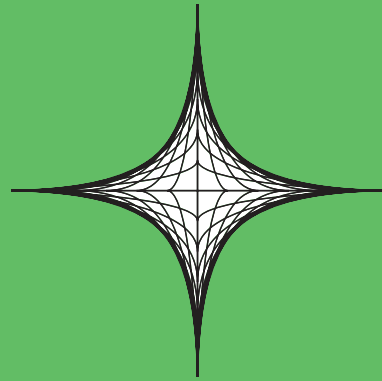
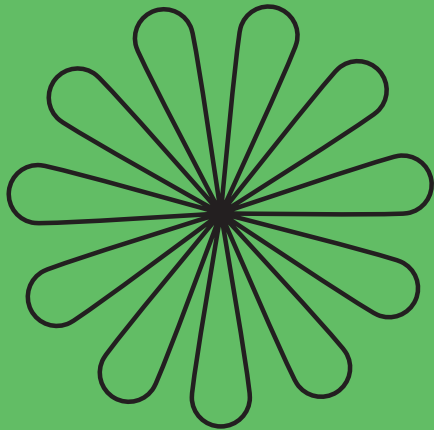
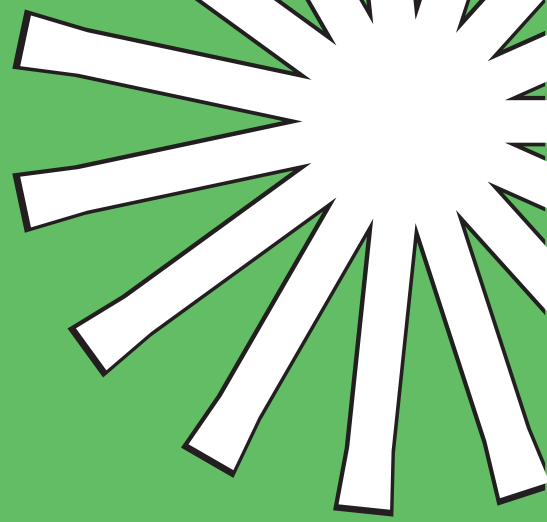


Figure A3. This figure shows the customizable layout settings available within the Amazon Kindle app, with all options set to their default, standard settings.







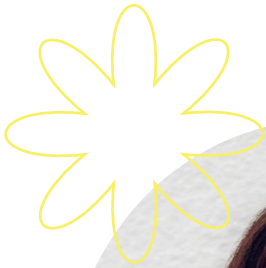
04- KIELON GERRA



Scan here to access an audiobook for this chapter.



*HOW DO VISUAL
COMMUNICATION
DESIGNERS
EFFECTIVELY CONVEY
COMPLEX MESSAGING
TO THE PUBLIC,
SPECIFICALLY IN PUBLIC
HEALTH CAMPAIGNS?*



KIELON GERRA

I am a communications and design professional with a Bachelor of Technology focused in Graphic Communications Management and a concentration in publishing from TMU. I am a four-year recipient of the Canadian Printing Industries Scholarship and Dean's List Award, and I have had my thesis on visual communication design published in the 2023 TMUTAGA Research Journal. I have a passion for the creative arts and love finding ways to practically combine that passion with business! As such, I own my own small business, The Little Rosary Shop, where I combine my artistic and artisan skills with my marketing and business sense, along with my faith. I also help mentor other creatives so that they can successfully share their craft with the world!



ABSTRACT

Visual communication designers face a unique challenge when designing in today's environment. The world is more interconnected than ever before and is becoming increasingly polarized day by day. Because of this reality, designers have a responsibility to combine the aesthetics of art and design with the human understanding of social science. Through the research conducted, it becomes obvious how visual communication design wanders into the realm of social science and can draw from it to be more successful. In light of this, I aim to provide insight into the tools at every designer's disposal to help them effectively convey complex messaging to the public. The tools explored in this paper will be the rhetorical triangle and design elements/principles. This is where public health campaigns present the perfect vessel to understand the relationship between social science and art; the rhetorical appeals and design; and the nuanced background of visual communication design. In public health awareness campaigns, it is the designer's main goal to reach as many people as possible, persuade them and shape beliefs. Five campaigns that ran during the height of the COVID-19 pandemic will be analyzed for their integration of rhetoric and design elements to fashion visual arguments. Visual communication designers can now draw from these examples to make more conscious and intentional decisions that will result in more effective design.



INTRODUCTION

In 2019, the world stopped. 100 years after the deadly Spanish Flu, we were all hit by a new virus that nobody knew how to control. Amidst all of the chaos and commotion were people who were really scared and confused. It did not help that everyone was divided; physically, mentally, in their beliefs, in their worries and in their stresses. This divide presented modern designers with a huge challenge and responsibility of a magnitude they had never faced before. How does one reduce something complex to a single visual without compromising its meaningfulness? How do designers connect with people in a world that seems so disconnected? How do they make different individuals feel heard in their struggle? How do they convey key public health messages when people often have different opinions about them? These are just a few of the questions COVID-19 posed to all of those whose jobs were to communicate through the noise.

Visual communication designers have a social responsibility when communicating with those around them (Frascara, 1988). They use the visual medium to express ideas and information to their audiences, and through this act of designing, present arguments, shape beliefs and persuade (Tyler, 1992). Because of this important role, their job dwells in the realm of both art and social science (Frascara, 1988). A tool that can help designers in this regard is the rhetorical triangle; a triangulating relationship that originates from Aristotle's "rhetorical appeals".

This paper illustrates the ways in which visual communication designers can successfully use the rhetorical triangle in tandem with basic design principles to convey complex and meaningful messages to the public. Everything discussed will be viewed specifically through the lens of public health awareness campaigns. Public health awareness presents a unique challenge for designers. The world is becoming increasingly more global, visual and polarized, yet, health campaigns need to reach everybody equally. They are the central pillar of public health. Their reach is wide and their content needs to pierce through and bring together the distinct opinions of everybody who views them. This is where a visual communication designer's ability to present an argument and persuade their audience comes into play. They must use their artistic abilities and human understanding to create a dialogue with all those who view their content.

This thesis will first define what visual communication design is, its relationship with the audience, and then use the COVID-19 pandemic to analyze the intersection between art and social science more practically through the rhetorical triangle. The rhetorical triangle is not the be-all-end-all of design, but rather, it is introduced as an important device that can help designers increase the effectiveness of their work. It is a framework that when consciously applied to design practices, can allow for the successful communication of highly nuanced messaging to the public.



LITERATURE REVIEW

In this review, a variety of different literary sources were consulted to better understand how to improve design effectiveness, especially in cases of public health awareness. The sources chosen for this paper were academic journals, books, articles and papers, as well as blogs and online articles written by individuals with experience in the field of design, social science and public health. These professionals range from university professors to brand managers to doctors. The aim of this research is to define visual communication design, define social science and then speak to the ways in which they cooperate. Design is not simply an artistic discipline. It often moves into the realm of understanding human beings and how to reach them, which can be seen through things like the rhetorical triangle and public health awareness, for example. Specifically, material on the COVID-19 pandemic was used to illustrate how complex issues are successfully communicated with the masses through design. A review of the literature showed that the integration of the rhetorical triangle into communication design allowed for meaningful campaigns to be successfully shared with the public.



WHAT IS VISUAL COMMUNICATION DESIGN?

Visual communication design exists between both graphic and communication design. It encapsulates the latter two disciplines making its background a very nuanced one. According to Barbara Hodik and Roger Remington, “the history of graphic design has been scattered among the pasts of art, printing, typography, photography, and advertising” (Hossieny, 2022). In light of this, graphic design, visual communication design and communication design are often lumped in with art history, and the events and individuals who contributed to them, are somewhat unknown. This is why when we look at visual communication design and design history, other disciplines such as sociology, politics, anthropology and economics are included (Triggs, 2011).

Julier (2006) argues that “visual culture” really emerged in the West during the Industrial Revolution. The Industrial Revolution marked a time of urbanization where mass consumer markets are what caused this visual turn. Images became key in social organizations as advertising and marketing material needed to become much more visual to sell commodities and services to large, unknown consumer audiences. Things like department stores and mass tourism depended on the visual experience; especially at a time when new technologies like film and photography were becoming famous (Julier, 2006).

That being said, the move from literary to visual was not sudden; all media is hybrid. They utilize a combination of different modes of expression, which Julier deems as textual, aural, material and screen. These modes illustrate the nuance and complexity of a visual culture in which “we regard the visual as an intrinsic and important social and cultural expression of our time” (Julier, 2006, p. 66). Julier (2006) further states that



Proponents of the [this] position may acknowledge the visual as part and parcel of a complex, interlocking web of cultural production, the visual plays a lead role in cultural formation and representation. They are concerned with images, pictures, visual things, and what they are doing. The chief focus of interest is on them as representations and in the relation of viewers and practices of vision. The dominant transaction of interest is between singularized object and individual viewer, between produced object and consuming subject. (p. 66)

The rise of visual communication has contributed to cultural shifts as well. Lash notes that “Culture is now three-dimensional, as much tactile as visual or textual, all around us and inhabited, lived in rather than encountered in a separate realm as a representation” (Julier, 2014, p. 11). He describes a spatial-based society that reworks information as such. Culture is no longer a single narrative that visual communication aims to convey, rather, “culture formulates, formats, channels, circulates, contains, and retrieves information” (Julier, 2014, p. 11). This makes design and design culture more than the creation of visual media that is meant to be used and/or read. It is about structuring the systems encountered in life within the visual world.

Visual communication design is multidisciplinary and plays a vital role in society. Design is one with communication as it moves within global culture and as an instrument of society. In the end, design is a result and expression of our times. It appreciates contexts in its structuring of forms and expression, as well as reflects sensibilities (Julier, 2006).

WHAT IS THE RHETORICAL TRIANGLE IN COMMUNICATION DESIGN?

THE ROLE OF THE AUDIENCE

Buchanan (1985), whose work I will expand upon in the next section of this paper, states that “the goal of communication is to induce in the audience some belief about the past, the present, or the future” (p. 5). Tyler (1992) builds on this by emphasizing the importance of audience considerations in the process of visual communication. It is during this process that designers use a two-dimensional medium to persuade their audience to adopt a belief. She lists the three possible outcomes of this persuasion:

The first outcome is when the audience is induced to take action. The structure she provides takes this form: “If one attends A, one will feel B; if one goes to C, one will see D; if one uses E, one will become F” (Tyler, 1992, p. 23).

The second outcome is when the designer educates the audience in a way that persuades them to accept information/data. When the interpretation of information happens, designers must try to communicate what is factual and true. A very basic example of this is a company’s logo. The goal is for the audience to associate the qualities of the logo with the qualities of the company.

The final possible outcome is to provide the audience with an experience and exhibit value (they will either accept or reject). The straightforward representation of statistics is often



unfeeling and objective. Instead, designers must create experiences from values. The audience will consider what is put forward by the designer and they will decide whether they identify with them or not.

There is an important relationship between the audience and the possible outcomes listed above as they point toward how belief is shaped through design. One way to view this relationship is through what is called the “rhetorical analysis of design”, which deems the audience as an active and dynamic participant in an argument. This means that visual communicators persuade audiences by using existing beliefs to bring about new ones and introduce different perspectives. In other words, they take pre-existing values and assign them to the topic/subject they are presenting. They must come to have a deeper understanding of the audience’s societal experiences and attitudes to communicate effectively and persuade them to adopt a new belief (Tyler, 1992).

All designed material has some sort of effect on its viewer. This effect, whatever it maybe, is referred to as a “new belief”. A new belief may be the transformation of the viewer’s previous belief (this transformation could be small or large), a full-on rejection of it, or even simply the maintenance of it with some newly added information and formulated thoughts. Tyler (1992) explains that the designer chooses the referenced beliefs based on their specific audience.

Said audience comes to the table with their own arguments shaped by their culture and understanding and thus, designers must respond with the argument they think will best persuade their viewers. This is what makes visual communication design and its relationship with the audience so dynamic. The combination of varying devices can be used to achieve the goal of communication in any given situation. It is dependent on the complexity, the argument or message being conveyed and who is on the receiving end.

THE RHETORICAL TRIANGLE

Richard Buchanan skillfully draws from the rhetoric appeals to develop a timeless rhetoric triangle specifically for design. In *Declaration by Design*, Buchanan talks about the success which has been found through the application of classical rhetoric into graphic design. His work, still very applicable today, will be used to bring a 2000-year-old device into 21st-century design practice.

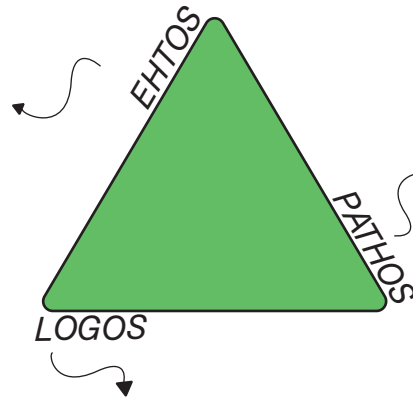
Although it may not seem like it, all areas of design are heavily steeped in communication and rhetoric (Buchanan, 1985). When the powerful influence of designers and the effect of design on society can be truly understood, it becomes obvious how much these aspects operate within the realm of rhetoric. Classic rhetoric helps communicators to relay messages clearly by allowing them to achieve all that was mentioned in the previous section of this paper. The audience is provided with clear reasoning and persuaded to adopt new beliefs and actions; it has the power to shape society (Buchanan, 1985).

Before diving into Buchanan’s rhetorical triangle of design, the classic rhetorical triangle will be analyzed as a foundation first. Fig. 1 is a representation of this rhetorical triangle:

THE RHETORICAL TRIANGLE

AN OVERVIEW OF THE THREE RHETORICAL APPEALS

Speaker *Ethos is the Greek term for “ethics,” but has been made to represent credibility of the person making a communication (the “speaker”). Ethos is established through a variety of factors, including status, awareness, professionalism, celebrity endorsement, research, and so forth. Build ethos to make your audience trust what you are saying.*



Audience | *Pathos is the greek term for “emotion,” but has made to represent how an audience feels or experiences a message. The appeal of pathos makes a person feel excited, sad, angry, motivated, jealous, or any other number of emotions that may persuade them to act based on what you say.*

Message | *Logos is the Greek term for “logic,” but has been made to represent the facts, research, and other message elements that provide proof or evidence to a claim. Use logos to convince your audience that what they are hearing or seeing is well researched, well built. or other wise worth their time*

Figure 1 (The Rhetorical Triangle) Designed by the The Visual Communication Guy

Killingsworth (2005) gives some insight into the origins of today’s rhetorical triangle. It comes from Aristotle’s philosophical rhetoric positioned at the triangulating relationship between the author, audience and values. This triangulation can be seen in many different disciplines and areas of life. Pathos, logos and ethos have become known as the universal “modes of persuasion” or “rhetorical appeals” (Killingswoth, 2005). Robertson (2022) summarizes the rhetorical triangle as such: Ethos is the Greek term for “ethics”/“character” (originally Aristotle’s “author/speaker”). Ethos appeals to credibility, establishes trustworthiness and uses character and ethics to persuade the audience. Logos is the Greek term for “logic” (originally Aristotle’s “values/message”). Logos appeals to logic and uses rationality, facts, reasoning and evidence to persuade the audience. Finally, pathos is the Greek term for “emotion” (originally Aristotle’s “audience”). Pathos appeals to emotion and uses senses, feelings and passion to persuade the audience.

Now, with a better understanding of the classic rhetorical triangle, the way in which it relates to design can be analyzed. Buchanan (1985) fashions a rhetorical triangle based on three interrelated elements of design that “provide the substance and form of design communication” (p. 9):

The logos of design is “technological reasoning”. This is the way in which designers manipulate materials and processes to problem solve. It is based on human circumstances; the attitudes and values of potential users, as well as science and nature. It is a persuasive process with clear reasoning and a likely solution to the problem (Buchanan, 1985). The ethos of design is “character”. Products or designed material all have character. They reflect the one who designed them. As such, one must be able to control the character of their design to persuade the audience that there is credibility. It is a subtle yet important mode of persuasion. Buchanan (1985) sums up the element of character when he says that



Designers fashion objects to speak in particular voices, imbuing them with personal qualities they think will give confidence to users, whether or not the technological reasoning is actually sound. This may involve something so artless and extrinsic to design as a designer label, but in its significant aspect it involves qualities of character that are persuasive in any example of effective communication, such as good sense, apparent virtue, and goodwill toward the audience. (p. 14)

Finally, the pathos of design is “emotion”. Emotion in design is a mode of persuasive communication that speaks to a broad argument. Designers must aim to place their viewers in a certain frame of mind; in a particular experience so that they are persuaded of the desirability of its emotion and value. Emotion organizes and orders the way we feel and how we interact with our environment.

Instead of simply making a “thing” or simply making a poster, visual communication designers should view their design as a persuasive argument come to life (Buchanan, 1985).

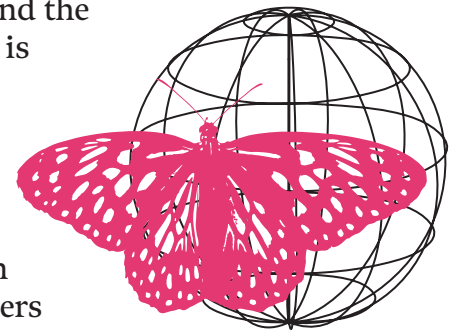
DESIGN IN A GLOBAL OUTBREAK

According to Frascara, visual communication design is both a rational and artistic discipline; it is an art and a social science (Frascara, 1988). Oftentimes, graphic design or visual communication design is viewed as purely aesthetic without any consideration for its social and communicative implications. Frascara (1988) defines them as “the activity that organizes communication in society” (p. 20). It encompasses the efficiency and technology of communication, as well as its social impact, bestowing a social responsibility upon designers as they work to communicate with those around them.

As previously stated, the role of communication is to shape belief; to understand one’s audience and meet people where they are at. This in itself requires a behavioural understanding that calls for something deeper than pure aesthetics. Designers are directly affecting how people view the world and respond to situations, which is especially important in the communication of community safety. The cross-disciplinary nature of visual communication design is apparent in the measure of its quality. This quality is dependent on the designer’s ability to produce change in an audience through their design; to influence attitudes. This is very much sociological and psychological, and although most apparent in advertising, is present in most areas of visual communication (Frascara, 1988).

Frascara’s emphasis on the multidisciplinary nature of design and the designer’s social responsibility in communicating public safety, is clearly seen during the COVID-19 pandemic.

Ilma et al. (2021) writes about visual communication design being the bridge for information, education and recreation media to communities. Kulshreshtha (2020) expands on this by practically speaking to the role of communication design during the pandemic and highlighting the ways in which designers were called to convey its complexities to the public:



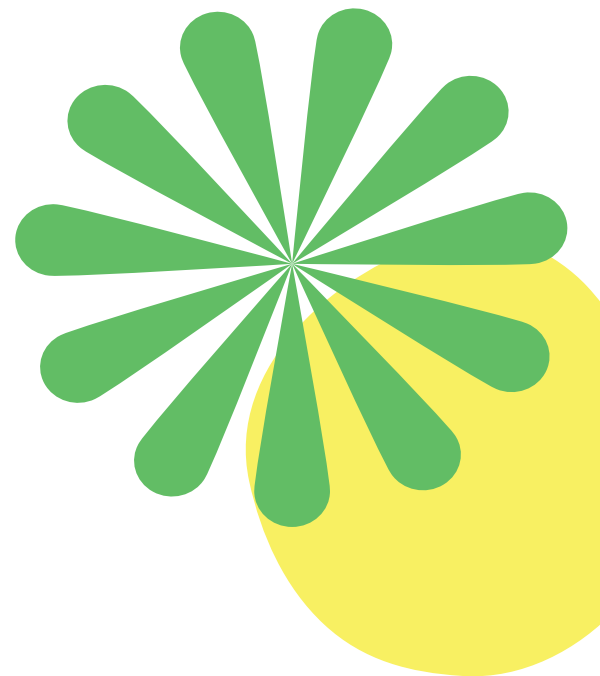
Open, crisp and outward communication...empathy, accuracy and transparency as core values...significance of new age skills...emphasis on vernacularisation and transcreation... technology to be an enabler to creativity and enhanced experience...innovation to be the soul of communication design....[and the] personalized end-user experiences as the goal of communication designing. (paras. 4-14)

When COVID-19 hit, communication played an integral role in educating people on new terminology without overloading and misinforming the already anxious and panicked general public. Designers had to say less while communicating better. Successful campaigns were seen in infographics that were able to openly, outwardly and crisply connect with the lay public. In addition, whether it was a business or the government, the need for empathy was key for people to engage with their audience. The whole world was connected by uncertainty and fear which meant that any imagery that evoked empathy was desired by all (Kulshreshtha, 2020). Cruz and Judic (2020) list the three categories of empathy: cognitive, emotional and compassionate empathy. They give the example that “in the case of the COVID-19 pandemic a pain point may be fear. If pain points are not acknowledged (cognitive and emotional empathy) and acted upon through an effective action (compassionate empathy) then meaningful connections and engagement are lost” (Cruz & Judic, 2020, paras. 9).

Furthermore, the rise in misinformation during the pandemic was a huge issue. This is why on top of empathy, audiences looked for accuracy and transparency as well. There was also a need for visual communicators to widen their reach. Their material needed to extend to as many people as possible in a world connected by the internet. The cultural context of target audiences needed to be better understood so that designers could adapt and meet the needs of those across geographies, cultures and languages (Kulshreshtha, 2020).

Finally, the pandemic called for the use of technology to foster creativity and allow designers to create an experience for the audience through their work. Technology does not just refer to things like artificial intelligence, but simply the use of the materials at a designer’s disposal in an out-of-the-box way. In other words, COVID-19 has catapulted innovation as one of the keys to being a successful designer. Innovation fosters discovery, creativity and improves the vitality of a design (Ma, 2014)

These points show in a simple and concise way, how the fundamentals of communication design, the role of the audience, the rhetorical appeals and the cross-disciplinary nature of visual communication design intersect when complex messaging needs to be conveyed to the masses. This is especially clear when looking specifically at public health awareness and the COVID-19 pandemic.



METHODOLOGY

For the purpose of this paper, five COVID-19 campaigns that ran during the peak of the pandemic (2020-2022) were selected as case studies and analyzed for their real-world use of the rhetorical triangle in tandem with design principles and elements. More specifically, each work's visuals and use of colour and typography were reviewed, as well as the overall concept, message and other notable techniques. The themes and patterns that emerged across all campaigns were then broken down to identify commonalities. The goal of these in-depth case studies was to compare and contrast posters to reach a comprehensive understanding of what makes an effective public health awareness campaign. Even more so, it exhibits what visual communication designers should keep in mind when creating material that needs to convey meaningful and complex messaging to the public. It demonstrates the different ways in which one can use the modes of persuasion, present arguments and shape beliefs.

DATA ANALYSIS

CASE STUDY #1: PITKIN COUNTY FLU CAMPAIGN

This campaign is called Oh, the places Flu will go and is a series of printed posters that were created for Pitkin County COVID-19 Response and Recovery by Wedeln Design Company. It was published in Aspen, Colorado in November, 2021.



Fig. 2 (Pitkin County Flu) Designed by Wedeln Design Company



RHETORICAL ANALYSIS



CONCEPT

The concept piggy-backs off of the widespread public interest in COVID to encourage and persuade the public to get the Flu vaccine. Pitkin County decided to take this opportunity to emphasize the importance of vaccines and ensure that people do not forget about the Flu amidst all the talk surrounding COVID. Additionally, there is a chance that those who received the COVID vaccine would have seen its benefits, stirring up interest in getting the flu vaccine as well.

Welden has personified the flu by using an uppercase “F” to make the word a proper noun. The designers placed Flu in familiar places with speech bubbles that indicate where he will be “travelling” to next.

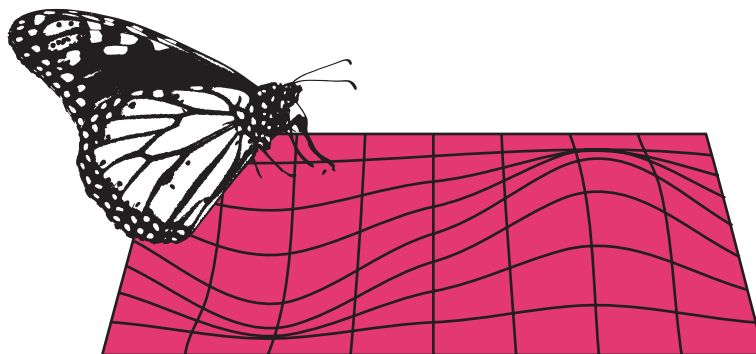
MESSAGING

The overall message of this campaign is to get vaccinated because you never know where the flu will be lurking. Its messaging reminds people to protect their family by not bringing the flu home. The posters also contain a call to action that allows viewers to scan a QR code, leading them to more information about vaccination locations.

The messaging in this campaign utilizes **pathos** in a way that touches the emotions of those with families. Its goal is to get people to think about their families; to think about protecting them, their health, their happiness, etc.

It uses **logos** to present a logical and fact-based argument. It points out the different places that the flu can travel (school, home, grocery store, etc.) and offers a rational solution; get vaccinated.

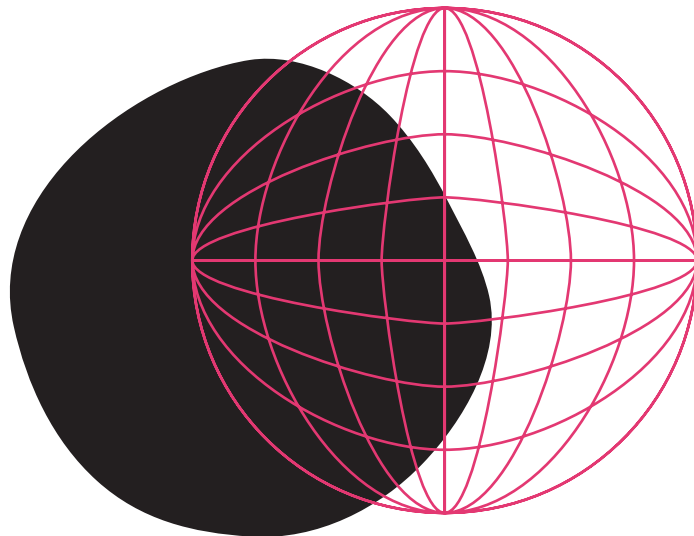
Ethos is used as the company logo is featured distinctly on the poster. Being able to see “Pitkin County COVID-19 Response and Recovery” clearly, establishes its credibility as a government organization. When people see that this is a message approved by said organization, it gives it more weight. The apparent virtue and good will behind the messaging of this poster also adds to its credibility.





DESIGN ANALYSIS

<i>VISUALS</i>	<i>COLOUR</i>	<i>TYPOGRAPHY</i>
<p>These posters feature playful yet simple illustrations. They represent a very serious issue in a lighthearted way. The personification of Flu helps viewers to visualize the dangers of the virus. These posters are also eye-catching. They encourage audiences to pause and look because of the unique approach taken in comparison to the many public health posters out there that are heavily statistical.</p>	<p>The main colours used within these designs are blue, green and orange. Flu is green which is fitting because he is a virus. Although green normally represents wealth and stability, when used in a certain way, it can also be associated with sickness, disease and health.</p> <p>All of the dark sections of the posters that look black, are actually blue. Blue represents trust, science, stability and loyalty but in the case of this campaign, it plays another role as well. It is complementary to orange and because of the high contrast, allows for the orange to emphasize the most important aspects of the posters.</p> <p>In general, orange is a very encouraging and enthusiastic colour that represents health and courage. This draws peoples' attention to "GET YOUR FLU VACCINE", encouraging them to get vaccinated.</p>	<p>This campaign exclusively uses sans-serif fonts. Sans-serif fonts are clean, modern and engaging. They are used when designers want to present a straight-forward attitude. Said attitude is perfect for the purposes of this campaign. The text and message is clear, which compliments the more detailed and complex visual elements. If a serif or display font was used, it would have been too distracting. Typographic hierarchy is created by making certain text larger and adding effects like texture and/or dropshadows.</p>



CASE STUDY #2: A TIME TO MAKE CAMPAIGN

This campaign is entitled A Time to Make and is a series of printed posters created for the clothing brand So Worth Loving by the Miami Ad School. It was published in the United States in July, 2020.

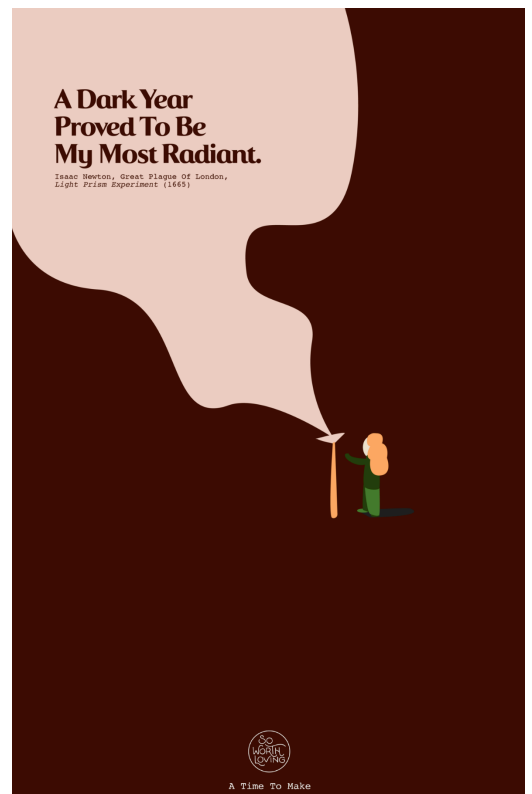


Fig. 3 (A Time to Make) Designed by the Miami Ad School





RHETORICAL ANALYSIS

CONCEPT

The goal of this campaign is to persuade the public to stay home. During COVID, many felt down and uninspired while having to stay home. There was a sense of isolation and loneliness that made every day feel the same and mental health during the pandemic was at an all-time low. People were struggling to stay inside.

Miami Ad School worked in conjunction with So Worth Loving to help people feel inspired. They drew from the lives of historical figures (artists, writers, scientists, inventors) who found themselves living through similar intense periods of isolation and solitude, but used those times to create and invent their most influential works. They act as a beacon of light to guide those that feel discouraged at home. It is a push for people to use the pandemic as their time to “make”.

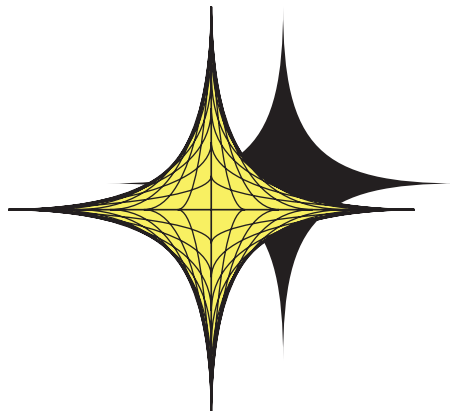
MESSAGING

The overall messaging of this campaign features text from the perspective of the artist the poster is featuring. It is meant to encourage its viewers to create and innovate even though times might seem dark.

It uses **pathos** to connect with people in their time of loneliness. It aims to understand those who are feeling trapped and uninspired in their solitude. It attempts to bring hope to these individuals and stir up a light in their hearts. It does this by making them feel heard and related to by successful people throughout history.

Ethos is used in a creative way. This campaign utilizes the credibility of the featured historical figures to back its argument. After all, if these famous artists could create their most infamous works during similar times, why couldn't we?

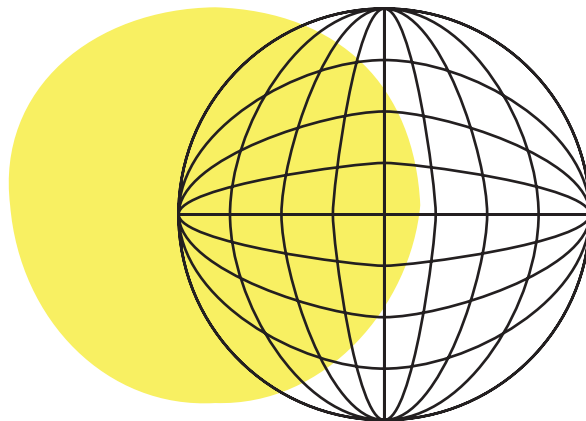
Logos is seen in the logical way these posters are presented; they are sensible. Here is an individual trapped in the midst of emptiness and in a wave of creativity coming from their person, is the result of their struggle. It also states the facts of each case; the person, date and work it is referring to.



DESIGN ANALYSIS



<i>VISUALS</i>	<i>COLOUR</i>	<i>TYPOGRAPHY</i>
<p>These posters are very illustrative and minimalistic. The focus is on the text and the tiny graphic in the middle. These posters also utilize blank space very well. The blank space is broken up by wavy lines that draw the eye from the illustration of each famous figure to the text. This flow is pleasing and soft on the eyes, keeping viewers looking and following the lines and spaces. The vast blank space and “littleness” of each figure also visually represents the loneliness and solitude felt by many during the pandemic and the “space” there is for creativity to flourish.</p>	<p>The use of colour in this campaign is very interesting. For example, in the Starry Night inspired poster, the colours used reflect the actual painting by Van Gough, reinforcing what it is supposed to represent. Blue is the main colour used in the Starry Night and yellow symbolizes the stars.</p> <p>In each poster, the colour of the figure is a stark contrast to the background (often a complementary colour) so that it does not blend in.</p> <p>The waves extending from the figure are always the lighter colour, symbolizing the “light” of creativity and innovation while offering a backdrop for the text explaining the beautiful result of the individual’s period of darkness.</p>	<p>The main type used in this campaign is a slab-serif font. Slab-serifs look like serif fonts but have certain sections that are slab. These fonts are used for messages that communicate innovation, creativity and intuition, which is exactly the aim of these posters. It reinforces the message of the campaign which is meant to encourage people to be creative and innovative in a time and space that feels lonely. The minimal text in these posters makes them easy to read and understand.</p>



CASE STUDY #3: #STAYATHOMEHEROES CAMPAIGN

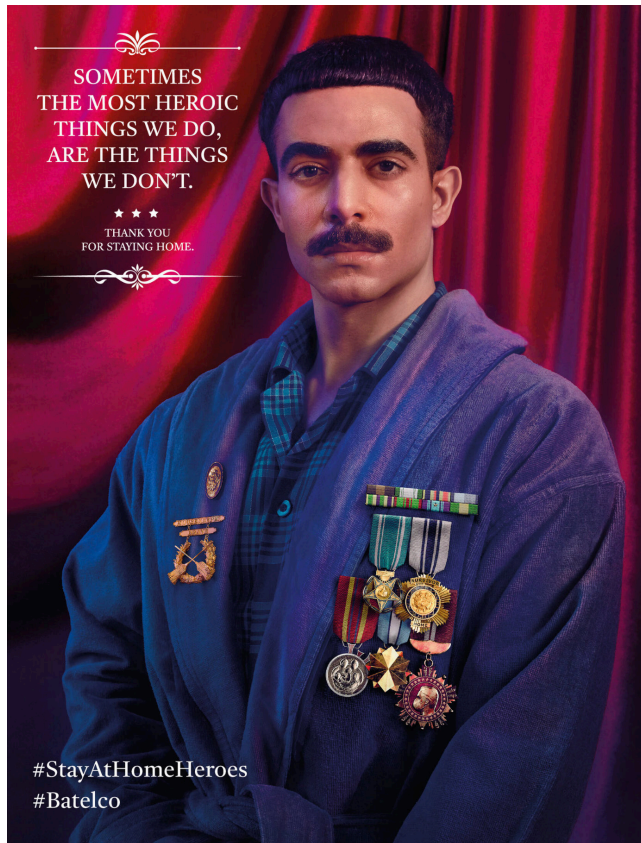


Fig. 4 (#StayAtHomeHeroes) Designed by and us

This campaign is called #StayAtHomeHeroes and is a series of printed posters created for Batelco by and us. It was published in Bahrain in July, 2020.



RHETORICAL ANALYSIS



<i>CONCEPT</i>	<p>This campaign recognizes the sacrifices of everyone across the globe as they stay at home to keep each other safe. These posters aim to recognize peoples' struggles and celebrate them by showcasing individuals in their pyjamas, adorned with medals. They are the at-home heroes of COVID-19.</p>
<i>MESSAGING</i>	<p>The overall message of this campaign is meant to honour and thank the public for staying home. It recognizes their sacrifices and celebrates them, drawing parallels between military heroes and everyday folks. At the bottom of the posters are hashtags that viewers can use to engage in the conversation and connect with others who are also at home.</p> <p>Pathos is very clear here as this ad aims to emotionally connect with the individuals stuck at home. It relates with them and makes them feel heard and celebrated.</p> <p>This campaign uses logos in the way that it presents its argument. It states how “the most heroic things we do, are the things we don’t” with a note of thanks. This will hopefully persuade those who stay home to continue to do so, and for those who are against it, it aims to exhibit why they should. It encourages people to recognize the sacrifices of those around them.</p> <p>Interestingly, the ethos of this campaign lies in the connection between heroism and the everyday individuals featured in the graphics. It conjures up an image of virtue and goodwill which subtly persuades the audience of its credibility. It also aims to speak to viewers' ethics; the fact that we need to think of the wellbeing of others and not just ourselves, just like those on the front lines who fight for our country.</p>

DESIGN ANALYSIS




<i>VISUALS</i>	<i>COLOUR</i>	<i>TYPOGRAPHY</i>
<p>The visuals present in this campaign are photos of models in pyjamas that are adorned with medals. Although the posters are very simple, the photography is vibrant, saturated and colourful. The focus is centered on the people in the posters and the accompanying text.</p> <p>Because of the intense colour, adding too many other visual elements would have been overwhelming. This campaign is very balanced the way it is.</p>	<p>The colours used in this campaign are very eye-catching. What makes them eye-catching is their vibrancy and the use of complementary colours. Blue grounds both pieces with accents of pinks, reds and oranges. The colours go very beautifully with the medals on each of the models. Since the medals in themselves are already very colourful, making everything else just as saturated creates cohesion and uniformity. It also allows for the white text to pop. This way, although subtle, the writing is clear.</p>	<p>This campaign uses serif fonts. These fonts represent a feeling of class and establishment. Serifs are perfect for this campaign as they feature at-home heroes. By using a font that communicates establishment, authority and grandeur, it really emphasizes the theme of respectability. Typographic hierarchy is created through the capitalization of certain text.</p>



CASE STUDY #4: CDC COVID-19 CAMPAIGN


These printed posters are part of the CDC's COVID-19 campaign. They were published in the United States in August, 2021 as well as June, 2022.



You Are Essential.

On the job, and at home. Getting a COVID-19 vaccine adds one more layer of protection.

I GOT MY COVID-19 VACCINE!

 **Learn how you can get a COVID-19 vaccine.**
[cdc.gov/coronavirus/vaccines](https://www.cdc.gov/coronavirus/vaccines)




“I WANT TO GET BACK TO SEEING MY FRIENDS IN CLASS.”

I GOT MY COVID-19 VACCINE!

 **A safe and effective vaccine to prevent COVID-19 is now available for everyone 12 years and up. Get yours today!**
Learn more: www.cdc.gov

Protect yourself and your baby from COVID-19. Get vaccinated.



- COVID-19 vaccination is recommended for people who are pregnant, breastfeeding, trying to get pregnant now, or might become pregnant in the future.
- There is currently no evidence that any vaccines, including COVID-19 vaccines, cause problems with becoming pregnant.
- Getting a COVID-19 vaccine while pregnant can protect you from getting very sick from COVID-19.
- If you are pregnant or breastfeeding, COVID-19 vaccination builds antibodies that can transfer to and help protect your baby.
- The COVID-19 vaccine has gone through the same strict development studies that all vaccines go through to ensure they are safe.

Ask your healthcare provider about the COVID-19 vaccine.


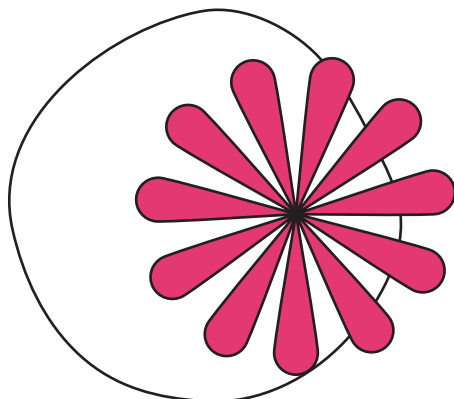
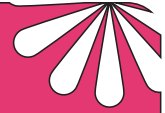
 [cdc.gov/coronavirus](https://www.cdc.gov/coronavirus)

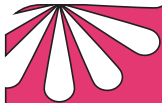
Fig. 5 (COVID-19) Designed by the CDC



RHETORICAL ANALYSIS



<p><i>CONCEPT</i></p>	<p>The CDC published several posters during COVID-19 to encourage the public to get vaccinated. The posters feature diverse people in a variety of situations. They are meant to relate to a myriad of individuals with straightforward reasons to get vaccinated and clear ways to do so.</p>
<p><i>MESSAGING</i></p>	<p>The overall messaging of this campaign is very straightforward. As it was published by the CDC, they are very simple and fact based and always include a call-to-action through the placement of their link at the bottom of each poster. This makes logos and ethos the most obviously used facets of the rhetorical triangle.</p> <p>Ethos can be seen in the way that the CDC brands their posters. Their logo, website and colours are clearly featured so that their media is recognizable and viewers can rest assured knowing that this material has been approved and produced by a government organization.</p> <p>In terms of logos, the arguments in these posters are very logically laid out. It states the problem (i.e. how to protect your baby from COVID), and then a straightforward solution; get vaccinated. They will often add some facts for those who want evidence to back up the claim that getting vaccinated is the best option.</p> <p>Pathos is seen through the use of everyday individuals on the posters. For example, in the poster on the top right, they feature a little girl who says she wants to go back to school. They want to emotionally connect with audiences by getting them to sympathize with this little girl.</p>



DESIGN ANALYSIS

<p><i>VISUALS</i></p>	<p><i>COLOUR</i></p>	<p><i>TYPOGRAPHY</i></p>
<p>Their campaigns features photos of real people involved in everyday activities. It makes the posters relatable as we see ourselves reflected in them. The use of white space keeps things neat and orderly as the borders contain the design within certain shapes.</p>	<p>The CDC's brand colours are blue, orange and green; all colours that represent trust, health, loyalty, science and encouragement. This is the perfect colour combination for any announcements that the CDC needs to make. Having similar colours throughout all of their material ensures that people recognize when something is from the CDC, evoking feelings of trust and loyalty. In addition to these colours, a lot of white and black is used. This makes all of their material clean and clear with accents of colour to enhance and emphasize.</p>	<p>The CDC uses sans-serif fonts across their campaign. This is because their messaging needs to be clean and clear. The CDC's content must be engaging so that viewers will read the important information they desire to communicate. This information is important and straightforward in itself which is why the type reflects that. It would detract from the sensibility of the information if something like slab-fonts or display fonts were used. They also create typographic hierarchy by making the most important points larger and bolder.</p>

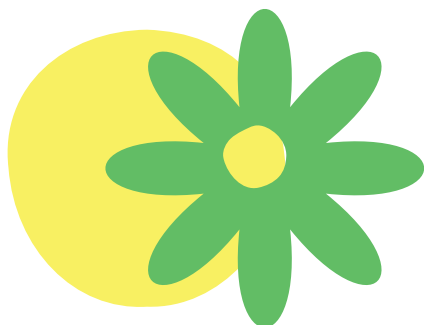


CASE STUDY #5: FACTS TO SAFE CAMPAIGN

This campaign is called Facts to Safe and is a series of printed posters that were created for the World Health Organization by Grow. It was published in Colombia in April, 2020.

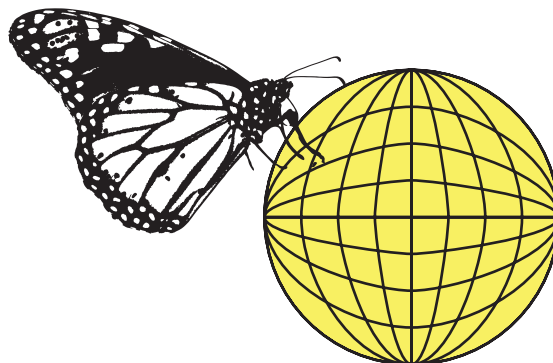


Fig. 5 (COVID-19) Designed by the CDC

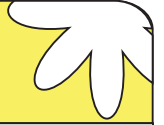


RHETORICAL ANALYSIS

<i>CONCEPT</i>	<p>The aim of this campaign is to persuade people to abide by the health recommendations issued by the government to stop the spread of COVID. They are straightforward and bold, using statistics to inform viewers about healthy habits. They were also designed to be seen from at least 6 ft away rather than up close to raise awareness about social distancing.</p>
<i>MESSAGING</i>	<p>This is another campaign where the messaging is very clear, simple, straightforward and based on facts. Because of this, ethos and logos are very heavily utilized.</p> <p>Logos is seen in the way that each poster in this campaign features a different statistical fact. It presents a problem (i.e. “56% of infections are caused by respiratory drops when someone coughs or sneezes”), and then presents a solution in the form of a question (i.e. “are you wearing a mask?”). This calls for self-reflection and causes people to evaluate why they are or are not wearing a mask in a logical and indisputable way. Additionally, each poster includes a call-to-action in the form of a hashtag to encourage people to continue the conversation online.</p> <p>Ethos is seen in the way that the poster appeals to peoples’ ethics; not getting other people sick when prevention is possible. The factual way in which this poster is presented also speaks to the credibility of the author. Facts and numbers are always considered to be trustworthy.</p> <p>Pathos, although not highlighted in this campaign, appears through the questions that the posters ask. They encourage people to think and reflect on what they do in their daily lives and how that affects their health and those around them. The way that the statistics are presented even strikes up a sense of fear in the viewer as they think about the impact of their actions.</p>



DESIGN ANALYSIS



<i>VISUALS</i>	<i>COLOUR</i>	<i>TYPOGRAPHY</i>
<p>Imagery is not present in these posters. They are very typographic. This makes them straightforward and quick/easy to understand.</p>	<p>The use of colour in this campaign is very unexpected and unique. You do not see bright pink and blue used in statistical designs very often. This creates an effect that grabs peoples' attention, especially in the design that features blue on pink. These bold colours add interest to otherwise simple statistics. They make it easy to see the white text as well.</p>	<p>The font used in these posters are thick and bold sans-serifs. This enhances the clean, clear and attention-grabbing theme of the campaign. Additionally, the text is always left or rightaligned which makes the posters look very orderly and visually appealing. The numbers are larger than the rest of the text, creating visual hierarchy and further emphasizing the staggering statistics presented.</p>



FIN^DINGS & DISCUSSION

The sample of campaigns analyzed in this paper are each different from one another and represent the wide variety of public health messaging present in the world today. When looking across all of these case studies, patterns emerge that, whether intended by the designer or simply a subconscious decision, exhibit the ways in which complexities can be successfully communicated with audiences.

RHETORICAL ANALYSIS

In terms of the rhetorical analysis performed, it is evident that when used, logos, pathos and ethos play a large role in shaping messaging and the effectiveness of persuasion. In the five cases reviewed, each aspect of the rhetorical triangle was present but to different degrees. For example, in the A Time to Make campaign, pathos and ethos were heavily relied on, whereas, in the Facts to Safe campaign, logos and ethos were used the most. The different combinations of these facets create limitless types of material that speak to the vastly nuanced nature of public audiences.



Once a visual communication designer identifies their target audience, they can use the rhetorical triangle to shape their arguments in a way that will induce a belief. They must see their dynamic relationship with the audience as an asset; understanding who is on the receiving end, what is being brought to the table, and combining the various devices at their disposal to present the argument best able to persuade their viewer. This combination differs depending on the situation, which is why each analyzed campaign is complex and unique.

Said factors can be seen in Pitkin County's Flu campaign, for example. They identified their audience; parents, caretakers and people with families, and from there, presented an argument that would be the most likely to resonate with these individuals. This entailed messaging that contained a balanced mix of logos, pathos and ethos. They first connected with the emotions of their viewers by speaking to the importance of keeping family safe. Next, they presented their message in a way that would appeal to the logic of their audience by putting forth a problem, solution and call to action. Finally, they ensured their credibility as a virtuous government organization was recognizable through their logo, sense and apparent goodwill.

With this in mind, the integration of the rhetorical triangle into visual communication design can be better understood across all campaigns.

DESIGN ANALYSIS

In terms of presenting an argument through visual medium, rhetoric cannot work alone. It must work in tandem with design elements and principles. The unique challenge that the pandemic posed for designers was that up until that point, communicating science had really only been seen within specialist audiences. The only visuals used were typically graphs and figures in scientific publications (Rodríguez et al., 2015). Now, there needed to be a way to visually communicate with a lay audience. In a study conducted on 50 parents with children under the age of 35, 86% of respondents stated that they were not interested in posters because the messages are unclear and the text is not large enough (Utoyo et al., 2021). Designers cannot connect with their audience to persuade them if people are not even stopping to glance at their posters. Even if one is able to conjure up the perfect argument, it will never be heard unless presented in a way that calls audiences to pause, look, read and understand. The basic principles and elements of design cannot be ignored as they are what help bring a persuasive argument to life. The design analysis conducted showcases how these elements can enhance the rhetorical triangle.

The human brain makes judgments every second. It consumes, processes and makes connections between everything it encounters. As people go through life, these experiences and connections build and very powerfully inform how they perceive the world around them. For example, Ismail (2017) talks about emotion-colour association. She that

The association between colors and emotions occurs in our brain. While some color preferences do come from culture, others are learned through experiences. As we encounter situations in our daily life, our memory is shaped by some of these experiences and our brain associates emotions to them. Because colors are present in our environment, an emotion-color association takes place. (paras.1)



The association between colour and emotion, line and emotion, font and emotion, etc., presents itself almost everywhere; vertical lines are perceived as elegant while horizontal lines convey peace (Utoyo et al., 2021); the colour blue communicates calm while green communicates nature (Chapman, 2021).

These relationships play right into the intersection of rhetoric and design. Visual communication designers can use elements such as image, type and colour to shape beliefs and give their arguments life. When referring back to the #StayAtHomeHeroes campaign from the conducted case studies, a clear example of this is seen through its typography. Something as simple as a font choice can change the whole trajectory of a message. Batelco chose to feature a serif font in their composition as they drew parallels between military heroes and everyday folks. Serif fonts communicate class, establishment, authority and grandeur which reinforces the pathos of the design; the celebration and recognition of those sacrificing to stay home and heroically keep each other safe.

Finally, the CDC campaign is another great example of the rhetorical triangle working together with design elements. The colours chosen communicate trust, health, loyalty, science and encouragement. They also have the added role of highlighting what is important and creating visual hierarchy. Additionally, the font they chose was sans-serif. Sans-serif fonts make designs look clean, clear, sensible and engaging, which in this case, enhances the logos and ethos of the material where the emphasis is placed on communicating facts and information. In terms of pathos, the posters display photos of everyday people. This imagery connects with viewers emotionally as they see themselves reflected in the design.

CONCLUSION

In today's modern landscape, a special challenge is presented to visual communication designers; how does one effectively convey complex messaging to the public in an interconnected world that becomes increasingly polarized by the day? We all saw this play out when the COVID-19 pandemic caused a global shutdown.

As explored in this paper, it is evident that visual communication design has a unique multidisciplinary nature. It is not something to be tossed around and lumped in with the aesthetics of art. Designers must be able to present cohesive arguments that reach their audience through a visual medium that enhances the message they are trying to communicate. This can be done through the use of the rhetorical triangle concurrently with design elements such as typography. The rhetorical triangle's ability to shape arguments and beliefs is a device meant to help designers connect with their audiences and make intentional choices that will optimize communication. It offers infinite ways for designers to reach as many people as possible and achieve their goal of persuasion. It is also apparent that the rhetorical triangle is not something to be kept separate from design, but rather, used in conjunction with it. Other than serving an aesthetic purpose, design elements allow for the bringing to life of an argument. It helps to take all of the complexities behind a message, such as a public health message, and display it in a way that is palatable and understandable to those who view it.

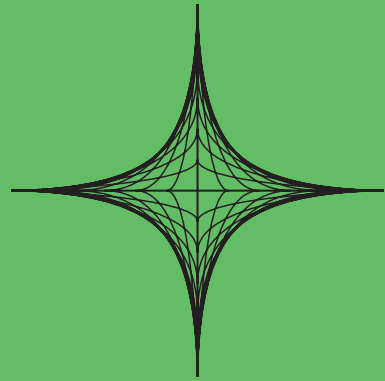
REFERENCES

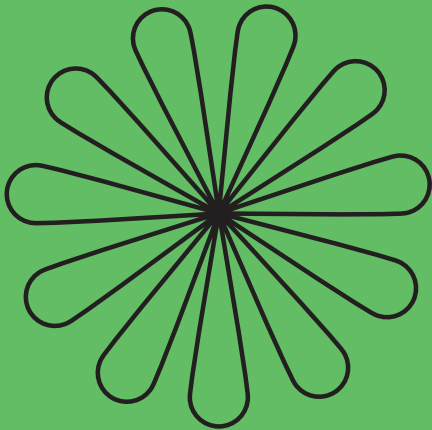
- and us. (2020). #StayAtHomeHeroes. Ads of the World. Batelco. Retrieved from <https://www.adsoftheworld.com/campaigns/stayathomeheroes>.
- Buchanan, R. (1985). Declaration by design: Rhetoric, Argument, and Demonstration in Design Practice. *Design Issues*, 2(1), 4–22. <https://doi.org/10.2307/1511524>
- Centers for Disease Control and Prevention. (2022). Covid-19. Centers for Disease Control and Prevention. Centers for Disease Control and Prevention. Retrieved from <https://www.cdc.gov/coronavirus/2019-ncov/communication/print-resources.html>.
- Chapman, C. (2021, May 20). Color Theory for Designers, Part 1: The Meaning of Color. Smashing Magazine. Retrieved February 26, 2023, from <https://www.smashingmagazine.com/2010/01/color-theory-for-designers-part-1-the-meaning-of-color/#:~:text=Green%3A%20New%20Beginnings%2C%20Abundance%2C,Black%3A%20Mystery%2C%20Elegance%2C%20Evil>
- Cruz, A., & Judic, T. (2020, May 20). The Importance of Empathy in Your Covid-19 Marketing Communications. Routledge. Retrieved February 16, 2023, from <https://www.routledge.com/blog/article/the-importance-of-empathy-in-your-covid-19-marketing-communications>
- El-Hossieny, M. (2022, December 22). Scratching the Surface of Ellabbad School - Part I. Design Repository. Retrieved February 16, 2023, from <https://designrepository.design/scratching-the-surface-of-ellabbad-school/>
- Frascara, J. (1988). Graphic design: Fine Art or Social Science? *Design Issues*, 5(1), 18–29. <https://doi.org/10.2307/1511556>
- Grow. (2020). Facts to Safe. Ads of the World. World Health Organization. Retrieved from <https://www.adsoftheworld.com/campaigns/facts-to-safe>.
- Ilma, N., Hidayat, P. A., Setiono, D., & Prilosadoso, B. H. (2021). Role of Visual Communication Design as Effective COVID-19 Information and Education Media for Community. *International Journal of Social Sciences*, 4(1), 148–152. <https://doi.org/10.31295/ijss.v4n1.1553>
- Ismail, N. (2017, December 22). Why do we Associate Some Colors With Specific Emotions? University of Ottawa. Retrieved March 22, 2023
- Julier, G. (2006). From Visual Culture to Design Culture. *Design Issues*, 22(1), 64–76. <https://doi.org/10.1162/074793606775247817>
- Julier, G. (2014). Beyond Visual Culture: Design Culture as an Academic Discipline. In *The Culture of Design* (pp. 9–13). essay, SAGE Publications Ltd.



- Killingsworth, M. J. (2005). Rhetorical appeals: A Revision. *Rhetoric Review*, 24(3), 249–263. https://doi.org/10.1207/s15327981rr2403_1
- Kulshreshtha, A. (2020, December 18). Impact of Covid-19 on Communication Design. IIAD. Retrieved February 15, 2023, from <https://www.iiad.edu.in/the-circle/how-covid-19-will-alter-the-communication-desi-gn-landscape-in-india/>
- Ma, Y. (2014). Innovative Thinking Plays Important Role in Graphic Design. *Proceedings of the 2014 International Conference on Education, Management and Computing Technology*, 111–114. <https://doi.org/10.2991/icemct-14.2014.26>
- Miami Ad School. (2020, July). A Time to Make. *Ads of the World*. Retrieved April 1, 2023, from <https://www.adsoftheworld.com/campaigns/a-time-to-make>
- Newbold, C. (n.d.). The Rhetorical Triangle. *The Visual Communication Guy*. Retrieved February 15, 2023, from <https://thevisualcommunicationguy.com/downloads/the-rhetorical-triangle/>
- Robertson, I. (2022, May 18). How to use Ethos Pathos and Logos in a Persuasive Essay. *Essay Freelance Writers*. Retrieved February 16, 2023, from <https://essayfreelancewriters.com/blog/ethos-pathos-and-logos>
- Rodríguez Estrada, F. C., & Davis, L. S. (2015). Improving Visual Communication of Science Through the Incorporation of Graphic Design Theories and Practices into Science Communication. *Science Communication*, 37(1), 140–148. <https://doi.org/10.1177/1075547014562914>
- Triggs, T. (2011). Graphic Design History: Past, Present, and Future. *Design Issues*, 27(1), 3–6. https://doi.org/10.1162/desi_a_00051
- Tyler, A. C. (1992). Shaping Belief: The Role of Audience in Visual Communication. *Design Issues*, 9(1), 21–29. <https://doi.org/10.2307/1511596>
- Utoyo, A. W., Aprilia, H. D., Kuntjoro-Jakti, R. A., & Kurniawan, A. (2021). Visual Communication Design: Poster as an Important Way to Encourage Social Distance in Jakarta When the Epidemic 19. *IOP Conference Series: Earth and Environmental Science*, 729(1), 1–7. <https://doi.org/10.1088/1755-1315/729/1/012140>
- Welden Design Company. (2021). Oh, the Places Flu will go. *Ads of the World*. Pitkin County COVID-19 Response and Recovery. Retrieved from <https://www.adsoftheworld.com/campaigns/oh-the-places-flu-will-go>.





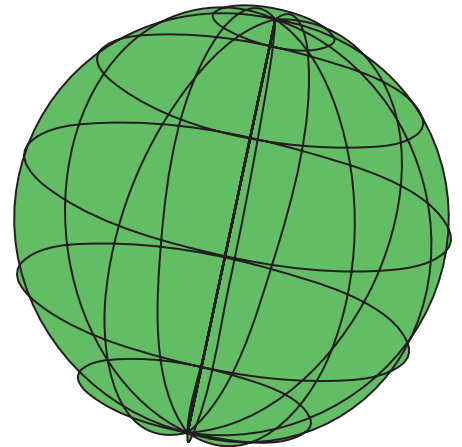


05- MATTHEW STEWART



Scan here to access an audiobook for this chapter.

CONSUMER BEHAVIOUR PERCEPTION AND BUY IN OF REUSABLE PACKAGING SYSTEMS IN ARENAS IN CANADA





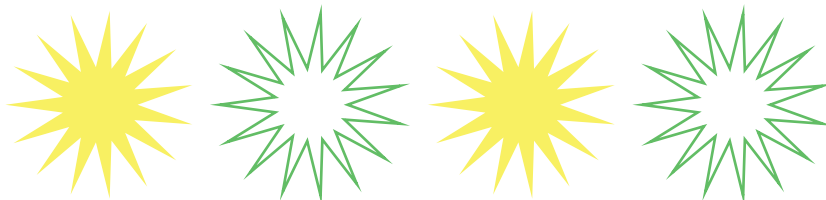
MATTHEW STEWART

Passionate about safeguarding our resources, I am dedicated to driving forward sustainable packaging solutions for our future. Fueled by a mix of creative vision, packaging expertise, and a strong work ethic, I fearlessly tackle the challenges at hand. The dynamism of this field excites me, and I eagerly embrace the role of a catalyst for meaningful, eco-conscious, and budget-friendly transformations. I envision leading a team that revolutionizes how we store, ship, and display our material possessions, pioneering positive and impactful change. In this journey, I firmly believe that together, we can sculpt a future where environmental responsibility and innovative packaging seamlessly intertwine. My goal is to foster a world where conscientious choices redefine our relationship with the materials that shape our lives, creating a sustainable and responsible path forward.



ABSTRACT

The surveys conducted for this paper, on consumers' behaviour at sporting events in Canada, reveal that sustainability is not a top consideration when purchasing food and beverage items. However, the results also suggest that there is a significant opportunity for implementing reusable packaging systems, as most users have never participated in a circular packaging system. The findings also show interest in a deposit-like system, which could be an effective means of incentivising consumers to participate in sustainable practices. Financial incentives and rewards could further encourage sustainable behaviour and enhance awareness of sustainability goals and programs at venues. However, efforts should also be made to make the use of reusable containers more convenient for consumers. Overall, education is crucial for reshaping our relationship with materials and packaging for a sustainable future.



INTRODUCTION

RESEARCH QUESTION

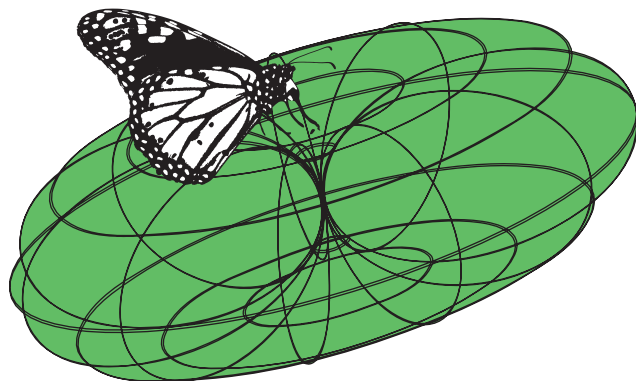
What are the possible challenges of implementing reusable packaging systems in circular economies in arenas in Canada, particularly in terms of consumer behaviour and buy-in?

What I expect from the results of my research is that it will show these types of reusable packaging systems are possible in Canada, as Europe has implemented said systems with varying degrees of success. I believe that mass adoption could be possible here with the proper incentive and implementation, but I cannot come to that conclusion without proper data corroborating it. Reusable packaging systems would benefit arenas, and suit the needs of the consumers who would be using these systems as a replacement for SUPs (single-use plastics).

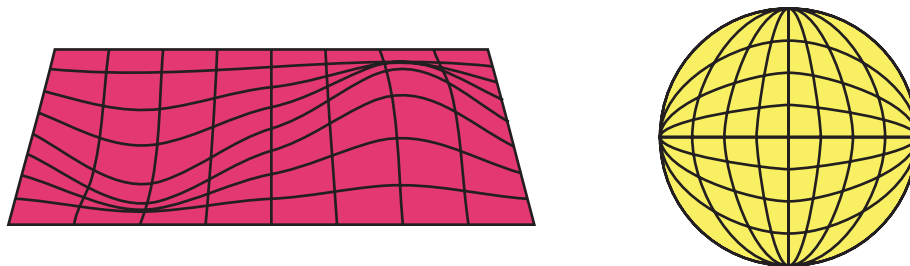
Over the past few years, the global waste problem has gotten worse. SUPs are a problem that many have to face on a daily basis. With plastics taking up to 1,000 years to degrade in the natural environment, other options need to be created and implemented to have a successful transition to a net zero global economy.

Historically, these closed-loop systems were prevalent and available for mass adoption across cities and towns. For example; the daily appearance of a milkman provided an exchange of empty, used milk containers for filled milk containers. Many homeowners had designated locations or doors built into houses during the time period. My grandparents remember the existence of the milkman and how they participated in this system for a while. What changed? The age of supermarket consumerism transformed attitudes away from reusable packaging, as seen in glass milkman-type systems, to an era of convenience. This conditioned the North American public to adopt a mentality of throwing away and forgetting. As a result, SUPs have expanded and taken over our world. This problem seems to be increasing every year. It is a real issue that has affected both humans and food systems with the release of pollutants and microplastics in our environment.

This all started when a change from China was proposed to the WTO (World Trade Organization), which tracks the changes between countries on what they can legally export. Changes to the WTO happen multiple times a day, daily. Seeing a change in a country's policies is nothing new. However, a notable decision was introduced by China in 2016. This proposed a ban on the importation of the world's top five most common polymers. This ban included PET, PVC, PS, PE, and PP (Yam & Lee, 2012). This sent the recycling industry into a tailspin as many countries, including those in Europe



and North America, were exporting their waste and plastic to lower-income countries for it to get sorted manually by low-wage workers. Oftentimes, the lack of traceability after shipment prevents a full life cycle assessment from being done, as many of these packaging or packaging materials cannot be traced to the endpoint of their life. They could be recycled, incinerated or landfilled. However, with the proper implementation, a circular economy is possible. Many industries have had success historically when being in a circular economy. It is not like they are inventing a completely new system, instead, they are looking to update a historical system with modern technology, so there is an added benefit for all. This topic is interesting to me because of the fact it was historically successful in some industries, but many companies have moved away from those types of systems regardless. However, with the acceleration of climate change, industries are scrambling to find solutions to this self-created, single-use plastics problem. Reusable packaging solutions have been tested, used, and implemented successfully in the past. We just need to modernise them.



One issue that keeps arising in the literature is the idea of leakage in a system. When participating in a closed-loop system, the idea of leakage refers to the lost or untraceable containers or packaging within the system. This became a serious issue as the size of these systems increased. If these systems lose one out of every ten containers, they will not be successful. There are seven standard steps for a circular economy: redesign, reduce, reuse, repair, renovate, recycle and recover. If packaging comes in contact with food, one must look at the sanitation and food safety requirements and procedures for the specific packaging. My proposal for this thesis is to investigate reusable packaging within sporting arenas and concert venues. The reason for the introduction of circular economies within sporting arenas is that these buildings can be seen as self-contained environments, ideal for dealing with the problem of leakage. I have also discovered a gap in the research when doing my investigation. There are quite a few closed-loop systems in Europe and the U.S. that have had varying degrees of success. However, there is a lack of research in this area in Canada. This is why I've chosen this topic. I believe that with proper execution and infrastructure by owners, these systems could be implemented in arenas in Canada with similar success to their European counterparts.

There are two aspects of my proposed research question. Countries in Europe have been able to garner interest and participation in said systems. Why have we been lagging behind in this area in Canada? Is it because of consumer behaviour? I will investigate this in my thesis. The other aspect of this initial question is the managerial barriers to the implementation of these closed-loop systems. This second aspect will be difficult for me to explore, as I have attempted to contact managers of music and arena venues in the city without getting responses back.

As a result, I do not want to have to rely on their replies in this component. Therefore, it makes sense to focus on the consumer behaviour angle of the research questions. My plan is to conduct a consumer perception questionnaire with my former high school, where many students are frequent attendees or season ticket holders for major sports teams in Toronto. This questionnaire will be quick and concise, with three to five questions in total. For example:

1. Do you attend sporting events or concerts in the GTA regularly?
(A- frequently, B-regularly, C-sometimes, D-rarely, E-never)
2. Do you buy food and beverages when you attend these events?
3. Are you concerned about the waste created from the packaging at these events?
4. Would you embrace a reusable packaging system for food and beverage at these kinds of events?

LITERATURE REVIEW

In the paper “Sustainability of reusable packaging: Current situation and trends” by Coelho et al. (2020), the authors spoke about current international trends and potential systems regarding the sustainability of reusable packaging. They talked about how reusable packaging may be a more sustainable alternative to single-use packaging. However, it was not conclusive due to a lack of consensus on the kinds of materials that are used in these systems, and a lack of meaningful data on the various inputs on the full life cycle and economics of the containers. They also discussed how there could be a wide market for reusable packaging across multiple industries. The authors also pointed out the possible benefits for consumers, as when companies are marketing directly to consumers, they need to act like they are providing both a product and a service. They did mention, however, that the economic plans for these circular systems were still not fully realised. I believe that the possible benefits could extend to consumers here in Canada and North America. Still, there needs to be a large behaviour change, which can take a very long time to see results.



The paper “A life cycle assessment on single-use and reuse beer cups at festivals: Circular Economy and Sustainability” by de Sadeleer and Lyng (2022) investigated reusable beer packaging for festivals in Norway. They compared three different types of polymers, but PET plastic was the only polymer to be integrated with any kind of noted success into a closed-loop system. Several site-specific parameters, such as the life cycle of the reusable cups in this system and the festival participants’ behaviour, also played into the overall life cycle of the reusable packaging. It is clear that this is the more sustainable option, but more Life Cycle Assessments (LCAs) need to be done on the material of the cups themselves to see which is the most sustainable. The three cups this study analysed were aluminum, PP, and PET; they found that aluminum had the longest life cycle but required the most amount of energy to remanufacture. However, more materials need to be studied, and the recycling and remanufacturing of the containers also play into the total LCA of these materials. In other

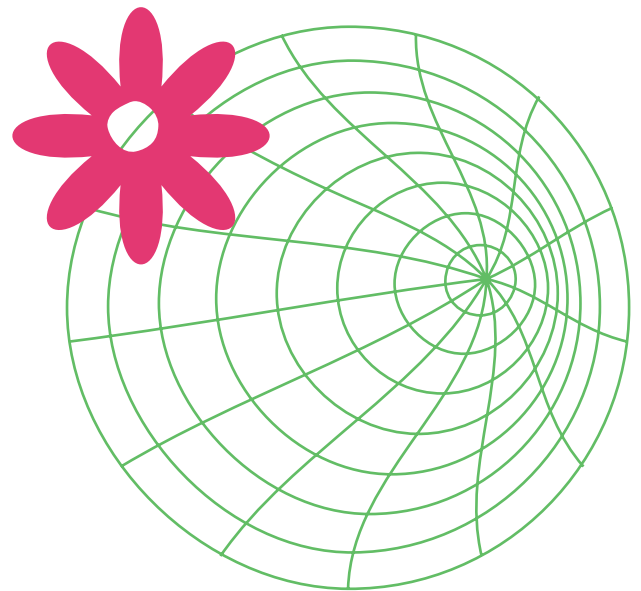


words, a deeper analysis of the inflows of the system (materials, labour, and so on) needs to be done.

The paper by Jiang et al. (2020) entitled, “Research on the design of and preference for collection modes of reusable takeaway containers to promote sustainable consumption”, discussed the issue of single-use packaging, specifically for takeout containers in China. This has become a huge problem in China, as takeout is widely popular there. The goal of this study was to investigate consumers’ and merchants’ preferences for reusable packaging and possible collection methods for these takeout containers. They concluded that it might not be a one-size-fits-all return method for these containers, but further research is required to make a full determination. A one-size-fits-all solution would not work in North America as many American consumers put convenience over sustainability, which would make this method less effective.

Keller et al.’s (2010) paper, “The relevance of recyclability for the life cycle assessment of packaging based on design for life cycle” discussed the recyclability of different primary packaging for body washes. They discovered that the primary packaging material plays a big role in the overall sustainability of the package. Reusable systems were also discussed but were not the focus of the study. Within the last decade, reusable systems have been in decline, and the use of single-use items has skyrocketed. However, with more environmental mandates being implemented, there is an increased focus on the reduction of possible harmful primary packaging. Most of the related CO₂ from single-use plastic packaging is from the production of the packaging. The primary packaging is exactly what possible consumers would be interacting with, in an arena.

Muranko et al.’s (2021) article “Characterisation and environmental value proposition of reuse models for Fast-Moving Consumer Goods: Reusable Packaging and Products” explored the environmental benefits and challenges of implementing reuse models in a fast-moving consumer goods industry. The study reviewed the advantages and possible challenges of using reusable packaging and products, and offered a framework for evaluating the environmental value of these models. The article concluded that implementing reuse models can reduce waste and greenhouse gas emissions, conserve resources, and provide economic benefits. However, the success of implementing these models is influenced by factors such as consumer behaviour, logistics, and operations management. Overall, this article provided a useful summary of the environmental benefits and challenges associated with using reuse models in a fast-moving consumer goods industry. This provided great insight into the possible challenges that one might experience here in Canada. It also provided me with great resources for further reading about the topic of reusable packaging.



Ross et al.'s (2003) article "Design for the environment: A quality-based model for green product development" presented a quality-based model for green product development. The authors argued that traditional quality models could be extended to include environmental considerations and that this could lead to more sustainable product development. The study provided a review of the literature on the design for environment and quality management. It proposed a quality-based model for green product development that included environmental criteria such as material selection, energy consumption, and waste reduction. The authors also provided a case study of the implementation of the model in a manufacturing company. Overall, the article offered insights into the potential benefits of integrating environmental considerations into quality management systems and provided a useful framework for green product development.



Schmidt et al.'s (2019) article, "Aiding the design of innovative and sustainable food packaging: integrating techno-environmental and circular economy criteria" provided a comprehensive review of the literature on sustainability in supply chain management. The authors reviewed 204 articles published between 1995 and 2018 and identified four main themes: sustainable supply chain management practices, performance measurement, collaboration and stakeholder management, and innovation and technology. The study also proposed a future research agenda, which included examining the impact of sustainability on supply chain management, identifying critical success factors for implementing sustainable practices, and investigating the role of stakeholders in promoting sustainability. Overall, this article offered valuable insights into the current state of sustainability in supply chain management and identified avenues for future research in this area.



Šuškevičė et al.'s (2020) article, "Improvement of packaging circularity through the application of reusable beverage cup reuse models at outdoor festivals and events" discussed the possible application of circular packaging within outdoor festivals and events in Lithuania. They conducted this study with seven concerts and events during the spring-summer festival season in Lithuania. There were around 4000-7000 attendees at some of these festivals. They concluded that there was a mix in demographics and ages of users of circular packaging, as the most ecologically conscious users picked reusable cups and those who did not care as much chose the standard single-use cups. From an economic standpoint, the reusable cup, alongside a partnership with a beverage sponsor, was the most economically viable solution. However, more LCAs must be conducted alongside a Life Cycle Cost (LCC) to fully make a concrete decision.

Twede et al.'s (2004) paper "Supply chain issues in reusable packaging" delved into reusable shipping containers and how they could be integrated into the UK. This paper used two case studies, the US automobile manufacturing industry and the UK supermarket industry, to

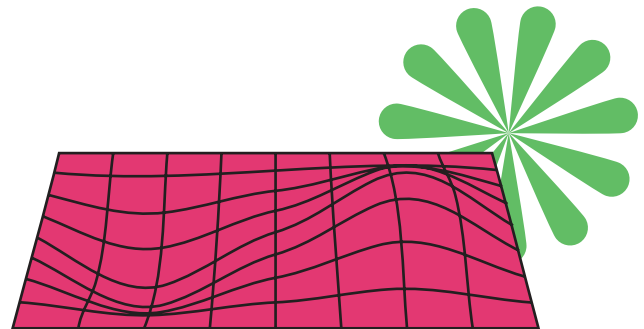


illustrate how a well-managed supply chain facilitates reusable packaging. It also showed how logistics and packaging factors affected the cost of a reusable packaging system overall. One must look at all the inputs and outputs as well as the boundaries one sets in the LCA. For a reusable packaging system in arenas, there needs to be buy-in from both the managers and the consumers for it to be truly successful. It is an investment that needs to have a proper return for it to be economically viable.

The paper authored by Yam, et al. (2012), “Emerging food packaging technologies: an overview. Emerging Food Packaging Technologies”, investigated the socio-economic driving forces behind food packaging technology development. It also discussed important considerations for identifying and evaluating emerging packaging technologies for improving the safety, quality, and sustainability of the food supply chain. The most common industry for reusable packaging was the automotive industry as they utilised reusable pallets, boxes and other containers for storage and transport of automotive parts to assembly lines.

METHODOLOGY

I set out to gather consumer behaviour data from possible attendees of arenas for events, such as sporting or music. I investigated arena-goers consumer behaviour and opinions on reusable packaging in arenas in Canada. There is a gap in the data regarding North America, particularly Canada. I collected qualitative and quantitative data about the consumer perception of the implementation of these reusable packaging systems in arenas using participants from TMU, as well as staff from my former high school.



PARTICIPANTS

GROUP 1: A AND B

Two duplicate surveys were created: one for the high school, Royal St. George’s College (RSGC), staff and basketball association, and the other for TMU students. Overall, the first group of participants was the RSGC staff in downtown Toronto.

Staff members from this private boys’ school in Toronto all have post-secondary teaching degrees. Access to them and their students had already been secured through the school, as I am an alumnus. A mass email was also sent out to parents to promote this survey to try to engage participants. Albany Avenue Basketball Association is an organisation that runs out of Royal St. George’s College on Saturdays. They utilise their gym over the March break and the summer months and run basketball programming for kids aged 9-18, but I primarily focused on high-school-aged kids within this program. There are some RSGC students who attend this program, but it differs from the other groups, as it was mixed in terms of gender and age. I would say this group’s socio-economic status was quite high, but likely more of

a mix than RSGC staff alone. The reasoning behind this assumption was that this group has a greater mix of students from a variety of schools across the city, and from a variety of socio-economic backgrounds.

Many staff in Group 1 were likely frequent visitors of Scotiabank Arena and other Maple Leaf Sports and Entertainment arenas and venues. A number of these participants were season ticket holders for one or multiple sports organisations. This assumption was made as the private school staff have the disposable income to both teach at a private school located in the heart of Toronto and attend sporting events. Additionally, all the students in Group 1 were sports fans.

GROUP 2

The second group was the general student body at Toronto Metropolitan University. I hoped this demographic and socio-economic mix would influence the variety of data that was collected. The general undergraduate population at TMU ranges in ages between 18-25, which accounted for the vast majority of the data in this group.

RESEARCH METHODS

QUALITATIVE RESEARCH

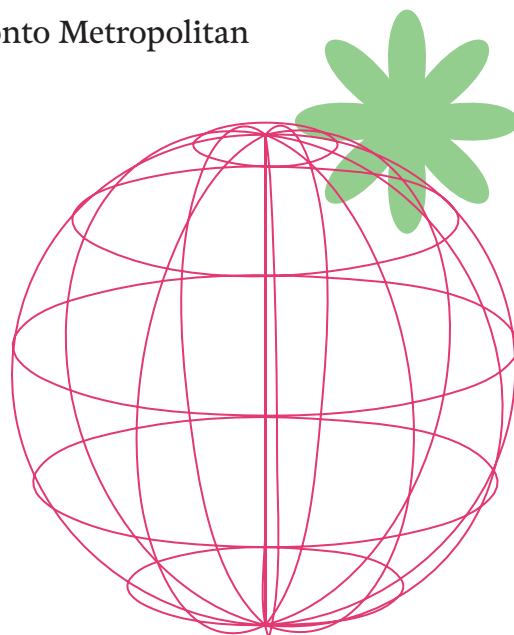
Qualitative data refers to non-numerical data that is descriptive and subjective. It involves the collection of data through observations, interviews, and open-ended questions. Qualitative data can provide rich insights into people's experiences, opinions, and attitudes. It can be analysed using statistical methods to identify patterns and trends in large datasets.

QUALITATIVE QUESTIONS

The following are the qualitative questions from my survey:

Do you think arenas should offer incentives (e.g. discounts, free refills) to customers who bring and use their own reusable containers or participate in a reusable packaging system?

In your opinion, what are the biggest barriers to using reusable containers or cups at arenas?



QUANTITATIVE QUESTIONS

The following are the quantitative questions from my survey:

How often do you attend sporting events in a year?

On a scale of 1-5, how important is sustainability to you when purchasing food or drinks at arenas?

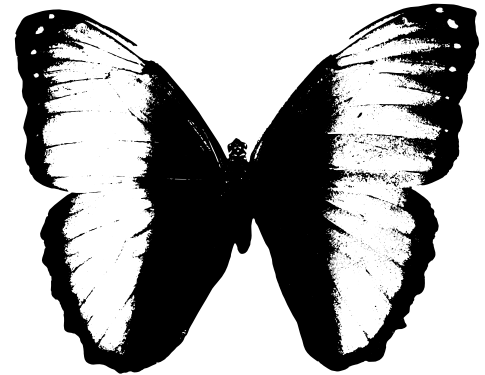
Have you ever used a reusable container or cup at an arena?

How willing would you be to pay a deposit for a reusable container or cup that can be returned for a refund at the end of the event?

If given an opportunity, would you participate in a program to minimise waste in an arena/entertainment venue?

DATA COLLECTION

My method for data collection was a Google survey that included 12 simple questions that any of the participants could complete in a minute or two. I wanted this survey to be easily accessible to all. That was why I planned to utilise a QR code that could be easily scanned using a phone and completed in a short period of time. I believed that this made the survey more accessible, as QR codes became commonplace during the global pandemic of COVID-19. Since many possible participants were familiar with it, I saw this as a benefit as it made the survey easier to access.



The timeline for gathering results at TMU went as follows.

I hung posters around campus to try and attract students to fill out the survey. These posters included a QR code to improve the accessibility of the survey. I tried to utilise my social circle at TMU to spread this survey to as many students as I could. The main location where these posters were hung up was the Heidelberg building on the Toronto Metropolitan Campus.

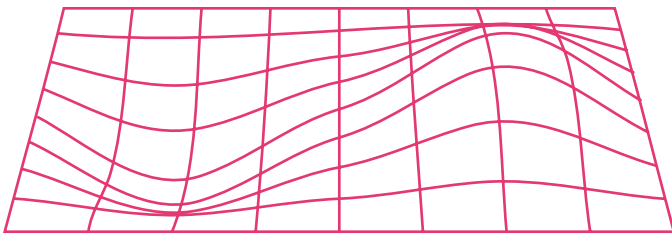
The survey was distributed through media channels such as LinkedIn, email and Instagram. I also put up posters around campus to draw in more data from passersby who might be interested in participating in the study from the second group, which was a general populous of TMU students. I believed that this mix of high socio-economic factors between the surveys would give a good estimation of those who would be willing to partake in a reusable packaging system implemented in arenas here in Canada. I stopped collecting data on April 7, 2023 and closed down the Google survey to prevent it from collecting further data for both RSGC and TMU surveys. A total of 81 respondents were from TMU and 43 respondents were from RSGC staff. A total of 124 respondents filled out my survey. I was unable to get a response rate as I did not send out my survey questionnaire directly but rather posted it around campus to garner respondents.

DATA ANALYSIS

QUALITATIVE

Out of all the survey questions, 9 out of 12 were qualitative. The responses from the participants' answers were transcribed word for word, like groups were linked, and conclusions were made. The themes that emerged were visualised in pie charts to help draw conclusions from the data collected.

QUANTITATIVE

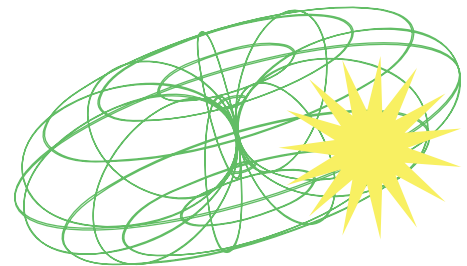


There were 3 out of 12 quantitative questions in the survey with scales from 1-5; with 1 being not likely at all and 5 being extremely likely. I hoped this smaller scale would better help respondents place themselves, as I believed a 1-10 scale gave the respondents too much choice and clustering of data would occur.

My procedure for analysis of this quantitative data was to collect as much raw data as possible, transcribe it into an Excel spreadsheet, and then graph it. The particular graphs that I utilised were pie charts, as I felt they gave the best visual representation of data and better conclusions could be drawn from these charts.

COMPARE AND CONTRAST

Finally, a compare and contrast analysis was conducted on all of the data retrieved from both groups. This was to assess what the main similarities and differences between Group 1 and Group 2 were. Based on that, conclusions were made.



LIMITATIONS

There were some limitations to the study, like the possibility of not capturing the desired information I set out to gather through the survey and analysis of the data. One problem that had arisen was the fact that I did not get approval from the REB at TMU in time, so I did not include demographic information in specific ways. Another limitation of this paper was the scope of the data; a longer timeline would be better as more data would be helpful to make a broader determination of the rest of Canada. A limitation of the survey was also the amount of questions. A longer survey with a wider range of questions could be helpful in collecting more meaningful data and a deeper understanding of the more detailed demographics.

RESULTS

Participants in Groups 1A and B in this survey were asked a series of questions to gauge their attitudes towards sustainability and the use of reusable containers or cups at sporting events. A total of 43 participants completed the survey. The following is a summary of the key findings.

GROUP 1 TEN SURVEY QUESTION RESULTS

Frequency of Attendance

The majority of respondents reported attending sporting events 1-3 times a year, with 31% of respondents attending 3-6 times a year, and 11.9% attending more than 4 times a year.

Importance of Sustainability

When asked about the importance of sustainability while purchasing food or drinks at arenas, 57.2% of respondents rated it as a 4 or 5 on a scale of 1-5, indicating that sustainability is moderately to very important to them.

Use of Reusable Containers or Cups

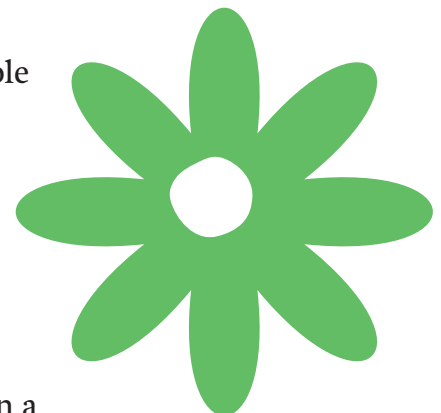
Only 28.6% of respondents reported having used a reusable container or cup at an arena. Of those who had used a reusable container or cup, the main motivators were reducing waste and environmental impact at 66.7%, cost savings at 16.7%, and convenience at 16.7%. For those who had not used a reusable container or cup, the main motivators for them potentially using containers like this in the future were environmental concerns at 41.9%, convenience at 32.3%, and a financial incentive for cost savings at 16.1%. Only 3.2% of respondents chose one of the following provided answers: my understanding is that arenas do not allow reusable cups as they might be thrown at players; if the arena supplies it and makes it easy; and one supplied their own reason, which was if that was the only choice and it was forced on the consumer.

Willingness to Pay a Deposit

When asked about their willingness to pay a deposit for a reusable container or cup that could be returned for a refund at the end of the event, 69.1% of respondents rated it as a 4 or 5 on a scale of 1-5.

Incentives for Reusable Packaging

The majority of respondents, 95.2%, believed that arenas should offer incentives, such as discounts or free refills, to customers who bring and use their own reusable containers or participate in a reusable packaging system.



Participation in Waste Reduction Programs

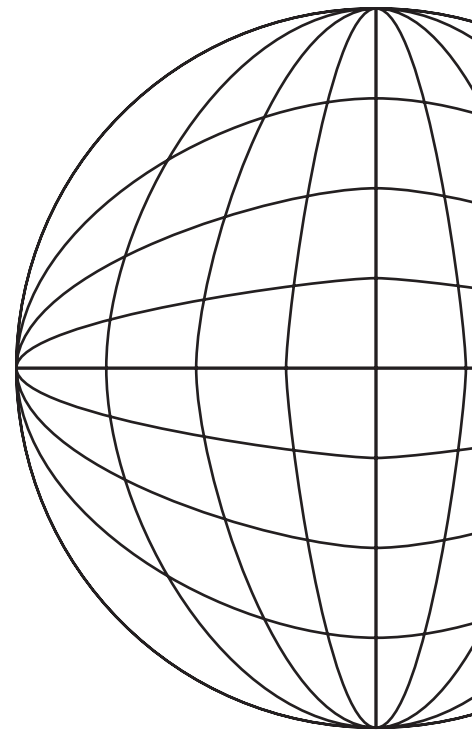
When given the opportunity to participate in a program to minimise waste in an arena or entertainment venue, 69% of respondents reported that they would participate, 9.5% of respondents said no, and 21.4% of respondents said maybe.

Barriers to Using Reusable Containers or Cups

The biggest barriers to using reusable containers or cups at arenas were identified as the inconvenience of bringing and cleaning reusable containers or cups at 64.3%, and the lack of availability of reusable containers or cups at 21.4%. The other categories received one vote each.

Likelihood of Future Use

When presented with the opportunity to use a reusable container or cup at an arena in the future, 49% of respondents rated their likelihood of use as a 4 or 5 on a scale of 1-5, indicating that they are moderately to very likely to use a reusable container or cup in the future.



GROUP 2 TEN SURVEY QUESTION RESULTS

Participants in Group 2 were asked the same series of questions to gauge their attitudes toward sustainability and the use of reusable containers or cups at sporting events. A total of 81 participants completed the survey. The following is a summary of the findings from TMU students.

Frequency of Attendance

The majority of respondents reported attending sporting events 1-3 times a year at 84.6%, with 5% attending 3-6 times a year, and 10.3% attending more than 6-10 times a year.

Importance of Sustainability

When asked about the importance of sustainability while purchasing food or drinks at arenas, 39.6% of respondents rated it as a 4 or 5 on a scale of 1-5, indicating that sustainability is moderately to very important to them.

Use of Reusable Containers or Cups

Only 29.6% of respondents reported having used a reusable container or cup at an arena. Of those who had used a reusable container or cup, the main motivators were environmental concerns at 42.9%, cost savings at 20%, and convenience at 17.1%.



Willingness to Pay a Deposit

When asked about their willingness to pay a deposit for a reusable container or cup that could be returned for a refund at the end of the event, 51.4% of respondents rated it as a 4 or 5 on a scale of 1-5.



Incentives for Reusable Packaging

The majority of respondents, 88.9%, believed that arenas should offer incentives, such as discounts or free refills, to customers who bring and use their own reusable containers or participate in a reusable packaging system. Additionally, 7.4% of respondents were unsure and 3.7% of respondents said no to the incentives.

Participation in Waste Reduction Programs

When given the opportunity to participate in a program to minimise waste in an arena or entertainment venue, 64.2% of respondents reported that they would participate, 30.9% of respondents said maybe, and 4.9% said no.

Barriers to Using Reusable Containers or Cups

The biggest barriers to using reusable containers or cups at arenas were identified as inconvenience at 71.6%, lack of availability at 12.3%, and a preference for disposable packaging at 20%.

Likelihood of Future Use

When presented with the opportunity to use a reusable container or cup at an arena in the future, 59% of respondents rated their likelihood of use as a 4 or 5 on a scale of 1-5, indicating that they are moderately to very likely to use a reusable container or cup in the future.

DISCUSSION

Less than half of the respondents rated sustainability as moderately to very important when purchasing food or drinks at arenas, indicating that sustainability is not a top priority for the majority of respondents. Only a minority of respondents had used a reusable container or cup at an arena (29.6%), with the respondents saying it was due to environmental concerns. This suggests that education is required to notify consumers about the environmental benefits of a sustainable system. I think this highlights the problem with the North American mentality when it comes to sustainability, which is a lack of education. With Group 1 having post-secondary teaching degrees, it shows that in North America there is a lack of foresight when it comes to sustainable thought and education. This sort of sustainable thinking is not part of classical education but is rather part of a planetary-focused one. This planetary-focused education requires no prerequisites, and this is why a sustainable education route could be successful here in North America. Even though consumers are overwhelmingly



unaware of reusable packaging systems, this can be seen as a benefit, as they can be primed for positive sustainable behaviour. Venues and organisations interested in implementing reusable packaging systems should consider the core ethos of many North Americans, which is money. Slightly more than half of the respondents were willing to pay a deposit for a reusable container or cup, indicating that financial incentives may be effective in promoting the use of reusable containers or cups. The majority of respondents for both groups, 95.2% of Group 1 and 88.9% of Group 2, believed that arenas should offer incentives to customers who bring and use their own reusable containers or participate in a reusable packaging system. This suggests that incentivising sustainable behaviour could be an effective way to promote and condition consumers to accept the use of reusable containers or cups in arenas. We see the incentivisation of behaviour in many successful systems in Europe, as seen in Šuškevičė and Kruopienė (2020). This is also good evidence to show that incentivisation is possible for increasing sustainable behaviour. Possible ways to approach incentivisation could include free refills, a points system, or other concession-related discounts. These venues need maximum buy-in and participation from the consumers for these systems to be possible, and I believe free refills or other incentive methods would have great success.

The biggest barrier to using reusable containers or cups at arenas was identified as inconvenience, indicating that efforts should be made to make the use of reusable containers or cups more convenient for consumers. This could be because, in North America, people have been conditioned to have a take, make, waste economy in which they favour single-use options. The majority of respondents rated their likelihood of using a reusable container or cup at an arena in the future as moderately to very likely, indicating that there is potential for increased adoption of sustainable behaviour in the future. To deal with the inconvenience barrier with reusable packaging systems, especially in venues and arenas, these systems could require added infrastructure to help encourage consumers to easily return their reusable packages. Also, the inclusion of smart packaging and some Industry 4.0 technologies, like asset tracking using radio frequency identification to help track and reduce inconvenience-related issues with the packaging, could help to solve this issue with leakage or missing reusable packaging containers. I also believe the gamification of our waste could be beneficial. This approach would make the interaction between the consumer returning the cup or container like a game. This could include a sound or point system where consumers visually see the number of cups left to be returned. I think visualising the waste management in these venues would be beneficial to consumers, as it would help to make these systems more transparent to consumers. I also feel that inconvenient obstacles and wait times related to food and beverages could be easier with bulk food dispensing for snacks and other easily dispensable items. It would allow consumers to get up and get a refill rather than getting stuck in long lines during designated breaks during games or events.

Another feature that I would like to see incorporated into these reusable packaging systems is LED lights. I think this would be the perfect tie-in for venues and arenas. It would perfectly bridge the gap between the food and beverage concessions and the immersive environment of an arena. Perhaps, these cups and



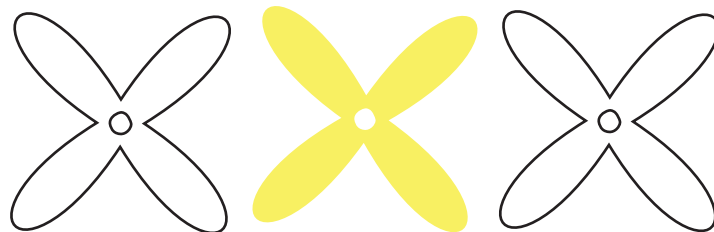
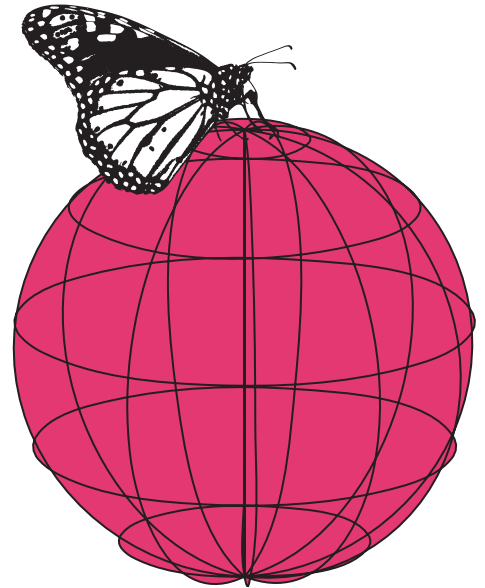
containers could display some kind of light animation when a team scores or makes a big play. I believe this would provide individual immersion that could not be achieved with traditional paper-based packaging.

CONCLUSION

From the data collected from the surveys, I came to the conclusion that sustainability is not at the forefront of consumers' thoughts when purchasing food and beverages while attending sporting events at arenas. However, there is a lot of potential for reusable packaging systems to be implemented, as a majority of users have never used or participated in a circular packaging system in Canada. There is also interest in a deposit-like system where containers would be returned at the end of the event, as the findings show a relatively high interest in these systems.

This suggests that this would be an effective means to get consumers to participate. With that comes the incentivisation of the consumer and increasing participation using food or beverage incentives like free refills or a slight discount. It would garner momentum for both the possible brand owners, like drink corporate sponsors, and the venues themselves. This would enhance awareness of sustainability goals and programs within these venues.

In conclusion, the survey results indicate that there is room for improvement in promoting sustainable behaviour, particularly in the use of reusable containers or cups in arenas. However, efforts should also be made to make their use more convenient, or at least as convenient as SUPs that consumers are used to. There is interest in sustainable behaviour among the respondents, indicating the potential for increased adoption of sustainable practices in the future. With all of this said, education stands as the main point on which many of these other ideas play off of. There needs to be a reshaping of our relationship in Canada with materials and packaging for sustainable futures.



REFERENCES

- Coelho, P. M., Corona, B., ten Klooster, R., & Worrell, E. (2020). Sustainability of reusable packaging—Current situation and trends. *Resources, Conservation & Recycling*, X, 6(2590-289X), 100037. Scencedirect. <https://doi.org/10.1016/j.rcrx.2020.100037>
- de Sadeleer, I., & Lyng, K.-A. (2022). A Life Cycle Assessment on Single-Use and Reuse Beer Cups at Festivals. *Circular Economy and Sustainability*. <https://doi.org/10.1007/s43615-022-00164-y>
- Jiang, X., Dong, M., He, Y., Shen, J., Jing, W., Yang, N., & Guo, X. (2020). Research on the Design of and Preference for Collection Modes of Reusable Takeaway Containers to Promote Sustainable Consumption. *International Journal of Environmental Research and Public Health*, 17(13). <https://doi.org/10.3390/ijerph17134764>
- Keller, J., Scagnetti, & Albrecht, S. (2010). The Relevance of Recyclability for the Life Cycle Assessment of Packaging Based on Design for Life Cycle. *MDPI*, 25, -. <https://doi.org/10.3390/su14074076>
- Muranko, Ž., Tassell, C., Zeeuw van der Laan, A., & Aurisicchio, M. (2021). Characterisation and Environmental Value Proposition of Reuse Models for Fast-Moving Consumer Goods: Reusable Packaging and Products. *Sustainability*, 13(5), 2609. <https://doi.org/10.3390/su13052609>
- Ross, S., & Evans, D. (2003). The environmental effect of reusing and recycling a plastic-based packaging system. *Journal of Cleaner Production*, 11(5), 561-571. [https://doi.org/10.1016/s0959-6526\(02\)00089-6](https://doi.org/10.1016/s0959-6526(02)00089-6)
- Schmidt Rivera, X. C., Leadley, C., Potter, L., & Azapagic, A. (2019). Aiding the Design of Innovative and Sustainable Food Packaging: Integrating Techno-Environmental and Circular Economy Criteria. *Energy Procedia*, 161, 190-197. <https://doi.org/10.1016/j.egypro.2019.02.081>
- Šuškevičė, V., & Kruopienė, J. (2020). Improvement of Packaging Circularity through the Application of Reusable Beverage Cup Reuse Models at Outdoor Festivals and Events. *Sustainability*, 13(1), 247. <https://doi.org/10.3390/su13010247>
- Twede, D., & Clarke, R. (2004). Supply Chain Issues in Reusable Packaging. *Journal of Marketing Channels*, 12(1), 7-26. https://doi.org/10.1300/j049v12n01_02
- Yam, K. L., & Lee, D. S. (2012). Emerging food packaging technologies: an overview. *Emerging Food Packaging Technologies*, 1-9. <https://doi.org/10.1533/9780857095664.1>



APPENDIX

How often do you attend sporting events in a year? (concerts, sporting events, etc)

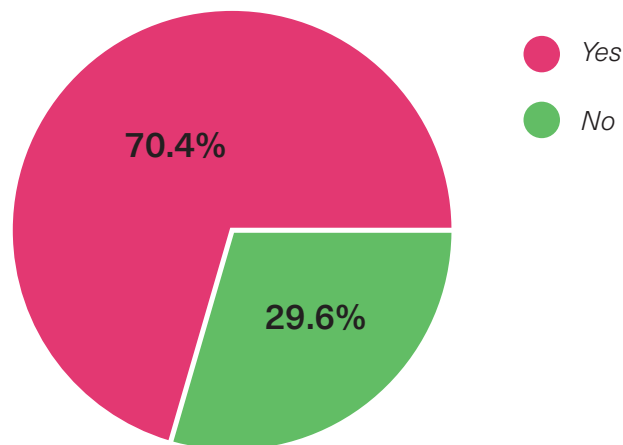
1-3

3-6

6-10

On a scale from 1-5, how important is sustainability to you when purchasing food or drinks at arenas?

Have you ever used a reusable container or cup at an arena? (81 responses)



If you answered yes to question above, what motivated you to use a reusable container or cup?

Environmental concerns

Cost savings

Convenience

If you answered no to the reusable cup question, what would motivate you to use a reusable container or cup in the future?

Environmental concerns

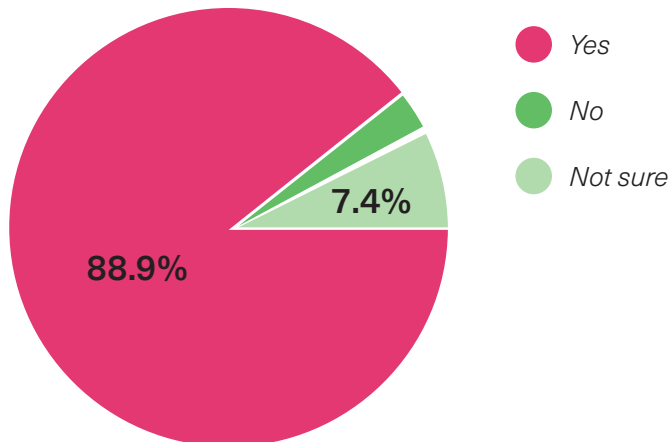
Cost savings

Convenience

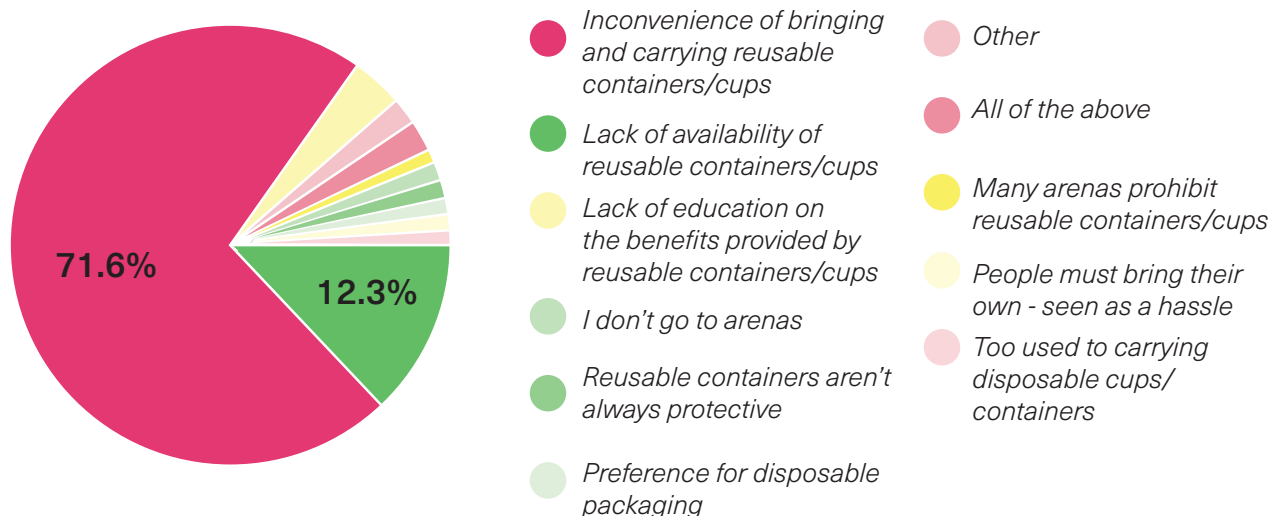


How willing would you be to pay a deposit for a reusable container or cup that can be returned for a refund at the end of the event?

Do you think arenas should offer incentives (e.g. discounts, free refills) to customers who bring and use their own reusable containers or participate in a reusable packaging system (81 responses)



In your opinion, what are the biggest barriers to use reusable containers or cups at arenas? (81 responses)



If given an opportunity, would you participate in a program to minimize waste in an arena/entertainment venue?

Yes

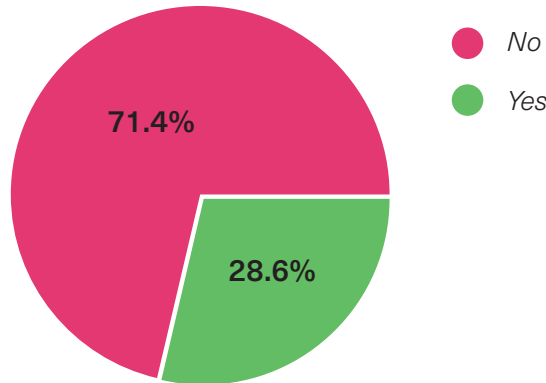
No

Maybe

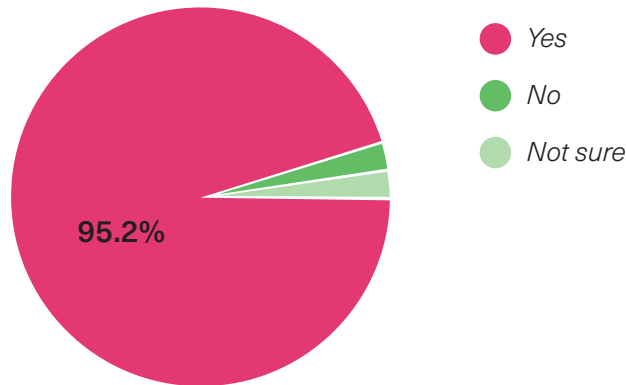


On a scale of 1-5, how likely are you to use a reusable container or cup at an arena in the future if presented the opportunity?

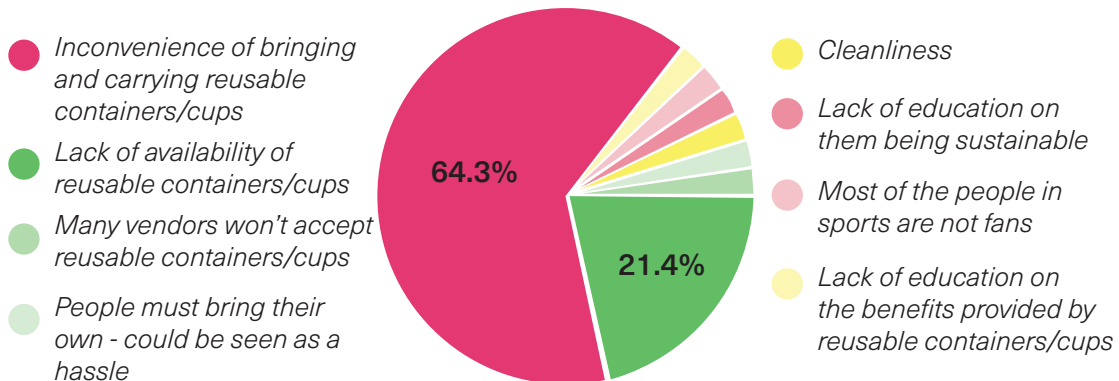
Have you ever used a reusable container or cup at an arena? (42 responses)

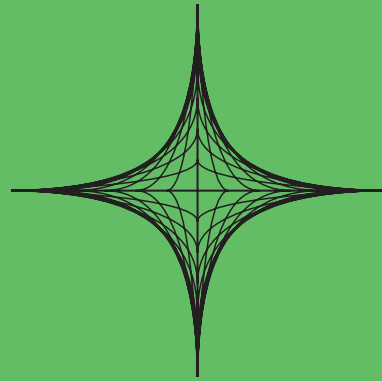


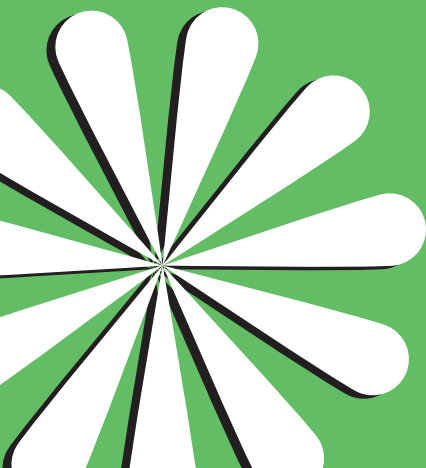
Do you think arenas should offer incentives (e.g. discounts, free refills) to customers who bring and use their own reusable containers or participate in a reusable packaging system (42 responses)

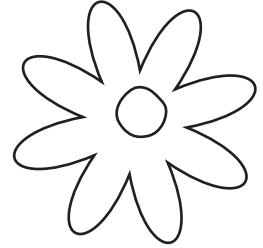
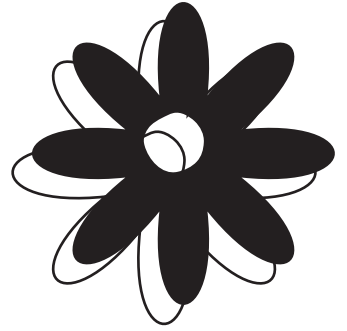
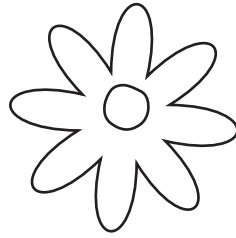
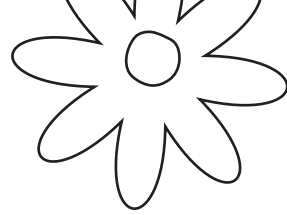
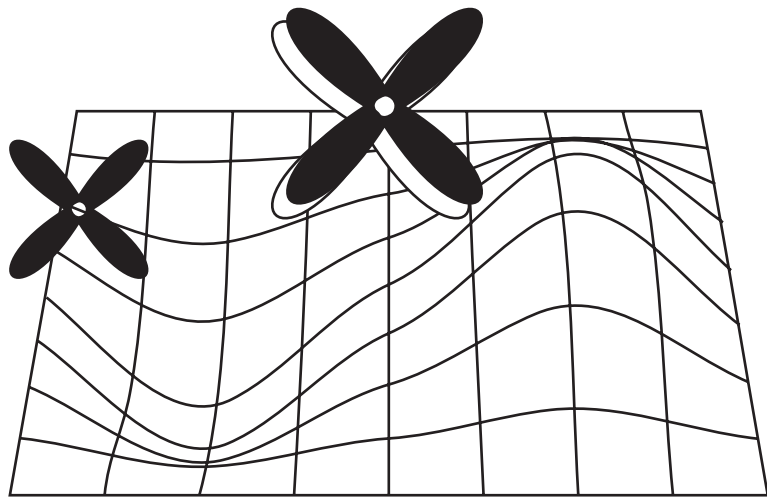


In your opinion, what are the biggest barriers to use reusable containers or cups at arenas? (42 responses)

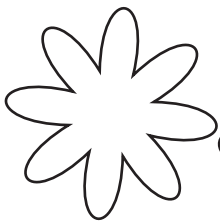
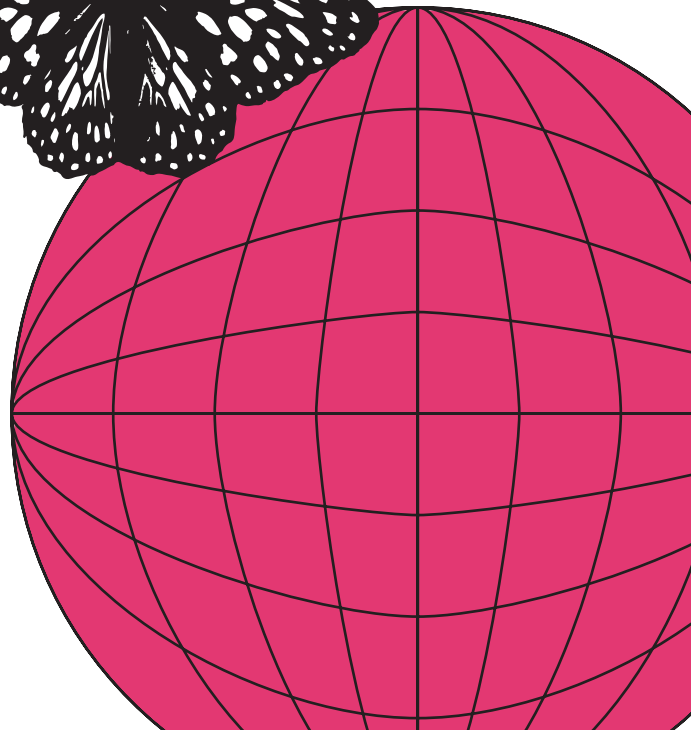
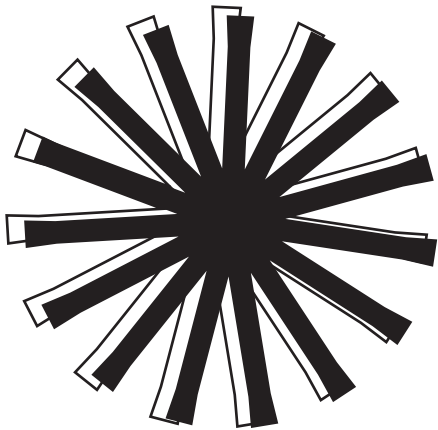


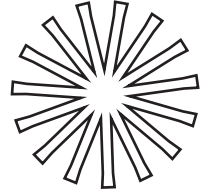
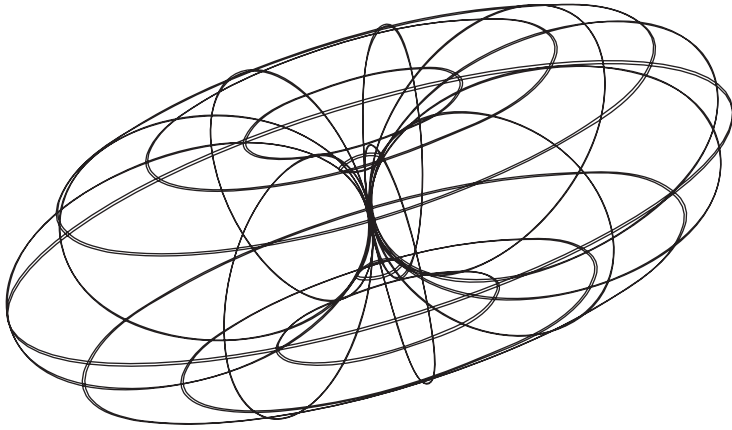




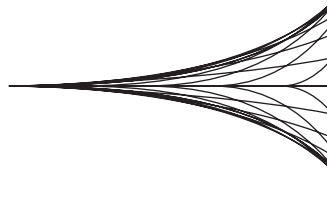
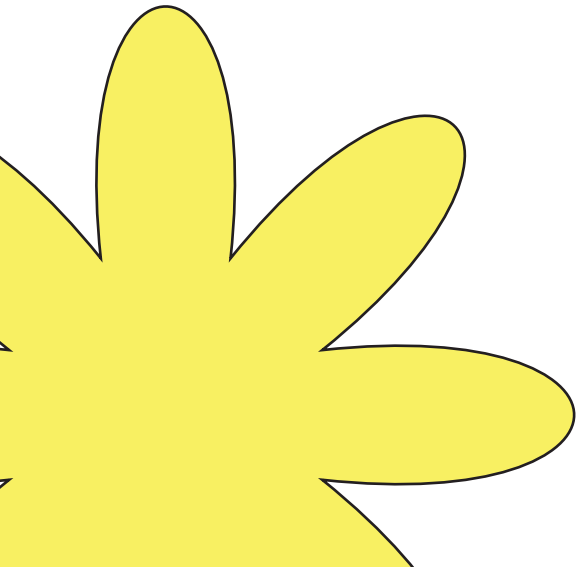
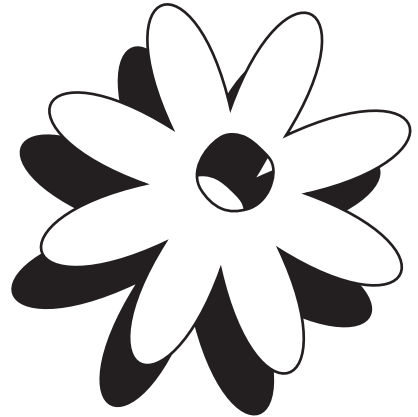


CREDITS

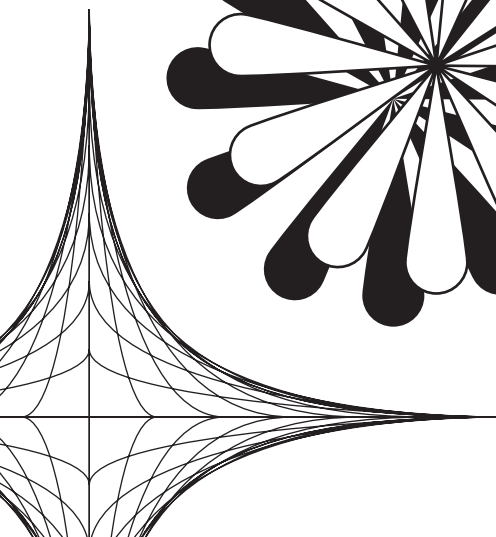
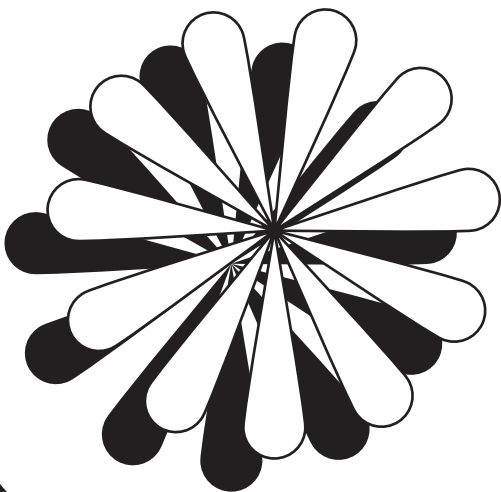
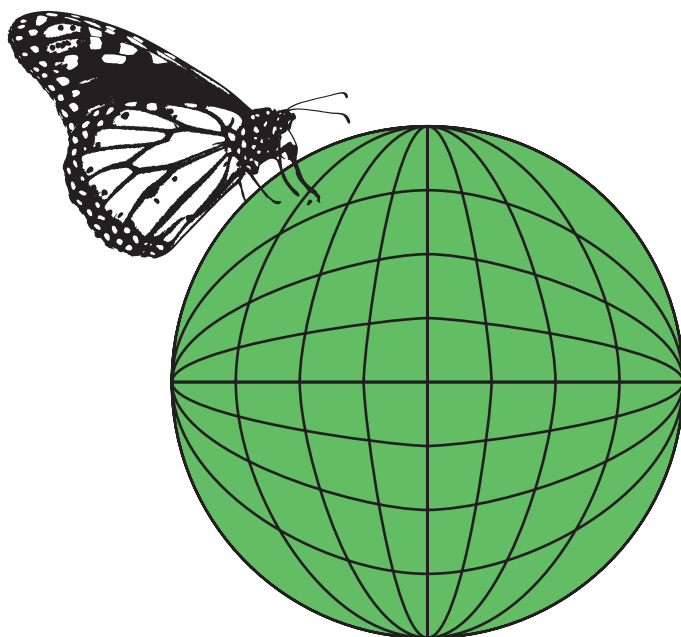
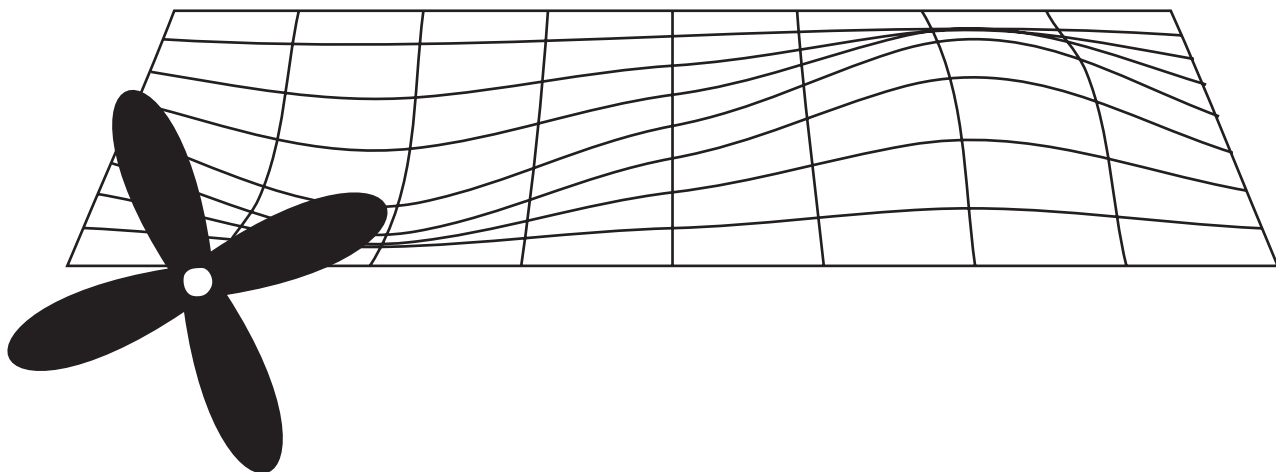




MEET THE TEAM



NY



CO- PRESIDENT

AISHARJA CHOWDHURY SHE/HER

It has been a tremendous honour co-leading the incredible TMUTAGA team this year with my Co-President, Wendy Yang! TMUTAGA has been a defining highlight of my university journey. In the past few years I've not only been able to grow as a person but I have also been able to enhance my skills in project management, art direction, production and communication. Throughout my TMUTAGA journey, I've created amazing connections and lasting friendships. I'm grateful for this experience, and our achievements wouldn't be possible without our dedicated directors and associates. A special thanks to our TMUTAGA faculty advisor, Martin, for always supporting our ambitious ideas. I'm also sincerely grateful to our sponsors and the GCM faculty for their crucial support. Being part of the TMUTAGA team, from idea inception to witnessing its final version, has been incredible. As I approach graduation in 2024, the memories created in TMUTAGA will forever hold a special place in my heart.



CO- PRESIDENT

WENDY YANG SHE/HER

It has been an honour to lead such an amazing TMUTAGA team this year as the Co-President! Having been in TMUTAGA for the majority of my university career, it is bittersweet to know that this will be the last time I will be a part of the student group as I graduate in 2024. Through my time at TMUTAGA, I have met and worked with so many great people and grown my creative, project management, and technical production skills. Our achievements could not have been done without the hard work from all the student directors and associates! Thank you also to all our sponsors, the GCM faculty, and TMUTAGA faculty advisor, Martin, for supporting the team. It has been a blast overseeing the journal process from conception to completion, and I hope you enjoy reading our journal as well.



ADMIN + OPS DIRECTOR

DIANA CARNOVALE *SHE/HER*

It has been such a wonderful experience and honour to be the 2023/2024 Admin and Operations Director for TMUTAGA. As someone who has never previously been on the team before, I am grateful for the opportunity afforded to me. As Admin and Ops, being able to work alongside such creative minds across all aspects of TMUTAGA has been incredible. Everyone brings something new and inspiring to the team, from our associates, to my fellow directors and to our amazing presidents and faculty advisor Martin, it's been such a pleasure to watch the magic happen!



CREATIVE DIRECTOR

MIGUEL CASTRO *HE/HIM*

It has been such a pleasure getting to be the TMUTAGA 2024 Creative Director! Three years of being in TMUTAGA has really let me develop my creativity and my skill set into what it is today, (and hopefully it's for the better) and I hope that this journal encapsulates that. Being a designer in these times, seeing my work in a physical form is a rarity that I treasure so much, and I really do value everyone on this team who has made this possible, from our faculty advisor Martin, my wonderful team of directors, and of course my creative associates. Y'all are my rocks and none of this would've happened without any of you <3



MULTIMEDIA DIRECTOR

JASDEEP GAIDU *HE/HIM*

TMUTAGA is the first student group that I joined in my time at university. I wanted to be a part of a student group so that I can gain more experience in the field of multimedia. The best thing about being TMUTAGA's multimedia director was that I got to gain the experience that I was looking for while also having fun at the same time! Working alongside fellow directors, associates, presidents, and also the faculty advisor has been a great experience from start to finish. I am happy that I was able to be a part of this student group before graduating in 2024. I would like to thank everyone that was involved for making this such a great experience that was fun and also knowledgeable at the same time :)



EDITORIAL DIRECTOR

JACLYN MARCO *SHE/HER*

Being the 2023/2024 Editorial Director for TMUTAGA has been both an honour and an incredible experience. I've had the opportunity to work and interact with so many amazing people at TMUTAGA while being able to develop my project management and technical writing skills. So much of my work is digital, it is nice to work on a project that has a physical form. Nothing could have been done without the directors, the authors, the TMUTAGA faculty advisor Martin, and the amazing editorial associates. Thank you to everyone for their work and support in creating this year's journal!



CO-PRODUCTION DIRECTOR

REBECCA KARTON *THEY/THEM*

This year I took Miguel's theme to heart: to promote learning, and having fun doing it. I'm grateful for the chance to try our hand at packaging and t-shirts. The associates who lent their time prototyping/printing/finishing and the advising GCM staff deserve an extra large thank you for experimenting with us, along with the sponsors who offered a variety of resources. Last year's airport plan for Ash and Wendy to become Co-Presidents took flight into an amazing, dedicated group of Directors to work with. I'll fondly remember the hours spent with Amy choosing paper, and the thousand issues-to-solutions that came with a larger trim size. While I am graduating this year, TMUTAGA is going to stay in my heart and on my bookshelf for a long, long time.



CO-PRODUCTION DIRECTOR

AMY HEISTERBERG *SHE/HER*

Being one of the Production Directors for TMUTAGA this year has been such an incredible learning opportunity. Witnessing our journal transition from a concept to a tangible piece has been unbelievably rewarding. I am deeply grateful to my fellow directors, our production associates, the GCM faculty, and our generous sponsors for all of their hard work, dedication, and contributions. A special thank you to Rebecca for being such an amazing partner in crime, truly cannot imagine having done this without you.



MARKETING + EVENTS DIRECTOR

KATRINA JAVIER *SHE/HER*

Partaking in TMUTAGA as the 2023/2024 Marketing and Events Director has been an incredible and new experience for me and there was no better team to have grown in that with than TMUTAGA. Being on the team challenged me through the tasks I was given, the events we hosted, and the wonderful people I've met and learned from! Working alongside the other directors, our Faculty Advisor, Martin Habekost, and witnessing the partnership of our presidents, Wendy and Ash, has made my last year in GCM memorable. Thanks to everyone for their hard work and support in making this year's journal. It has been a privilege to see it all come to life from start to finish!



ASSOCIATES

MARKETING + EVENTS

Lily Clements

Wafir Osman

Bella Pham

Pegah Smiley

CREATIVE

Aya Hilal

Sarib Nazir

Talea Shaw

Man Shan Tung

MULTIMEDIA

Matthew Karton

EDITORIAL

Nicole Cheung

Cyra Kaur

Haneen Al-amar

PRODUCTION

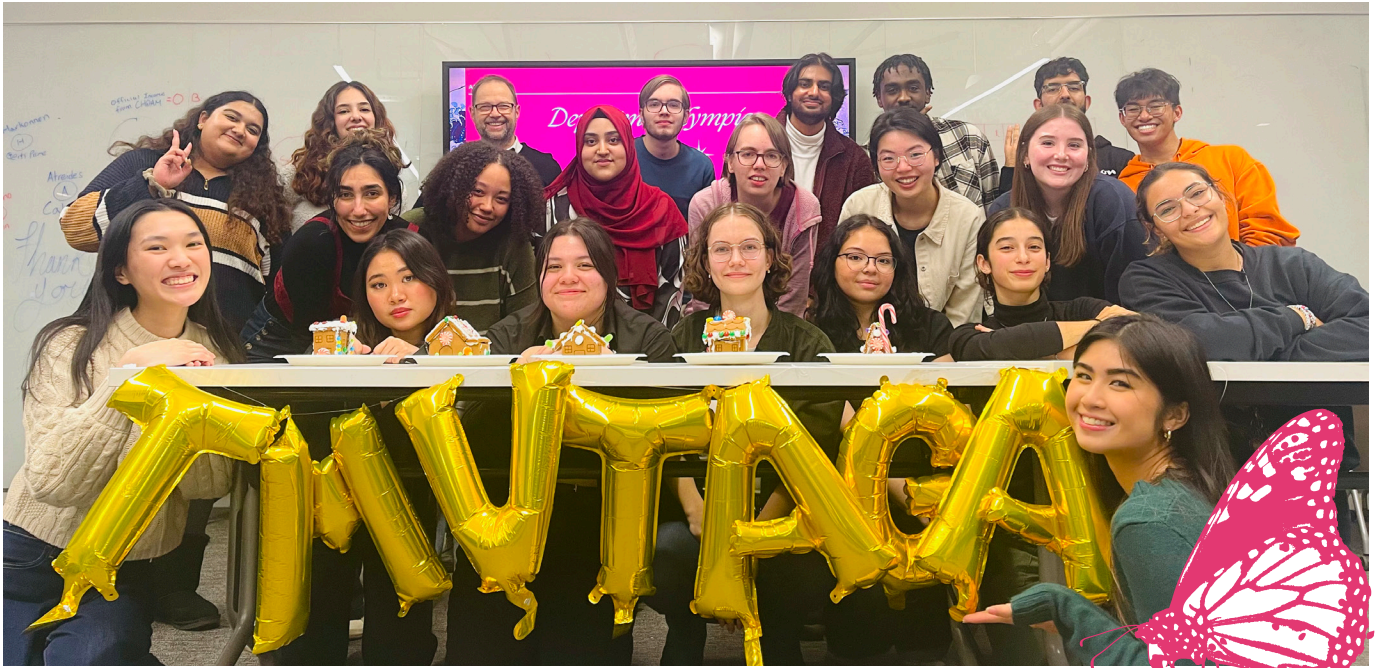
Umme Abiha

Ciel Ben-Adi

Daniela Bonilla Flamenco

Minrui Wen





COLOPHON

SOFTWARE

Adobe InDesign CC
Adobe Illustrator CC
Adobe Acrobat CC
Adobe Photoshop CC
Fiery Command Workstation
i-cut Production Console
Kodak Preps
VersaWorks

TYPEFACES

Neue Haas Unica WIG
Fleur
Meno Text

STOCK

Rolland Enviro Blue White 70lb Text
Astrobright Gamma Green 60lb Text
Opus Gloss Digital 100lb Cover
White Vinyl Adhesive

EQUIPMENT

Ricoh Pro C7210X
Kongsberg V20 Cutting Table
Roland TrueVIS VG3-540
Polar 78 Paper Cutter
Müller Martini Amigo Plus
Highcon Euclid II+

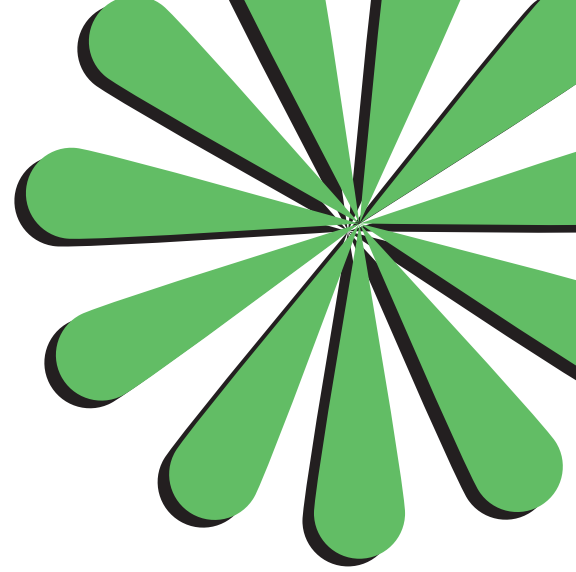
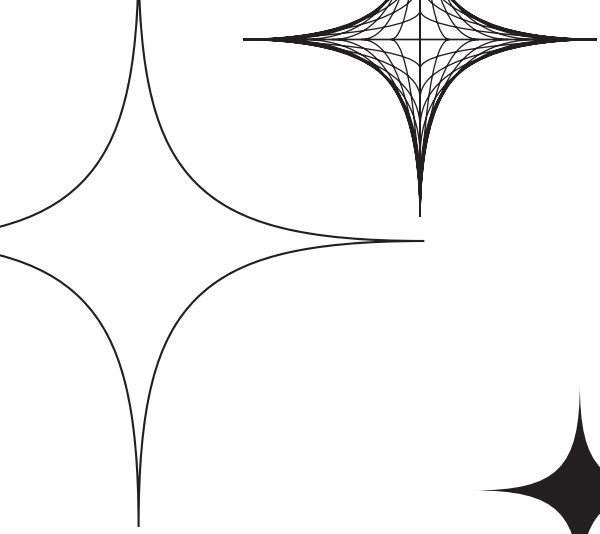
PRODUCTION NOTES

Like a butterfly emerging from a cocoon, we have been evolving from previous production experience. Thanks to the resources provided by the School of Graphic Communications Management (GCM) as well as support from our co-presidents and faculty advisor, we were able to prioritize in-house production. We received help from Peter Roehrig, GCM's Printing Processes, Binding and Finishing Technician, Darsan Sivanantharajah, GCM's Client Support Technician, and Scott Millward, a GCM contract lecturer.

Our prepress process included preflighting in Adobe InDesign, imposing in Kodak Preps, and concept proofing with Fiery Command Workstation. The journal was printed on GCM's Ricoh Pro C7120X, using Fiery Command Workstation's mixed media capabilities to combine the white and green text stocks. We also used the 5th colour station to create more visual interest on the green divider pages with white toner. Our paper size and trim size were deliberately chosen to print the pages 2-up and simply cut the sheets in half to create the book blocks.

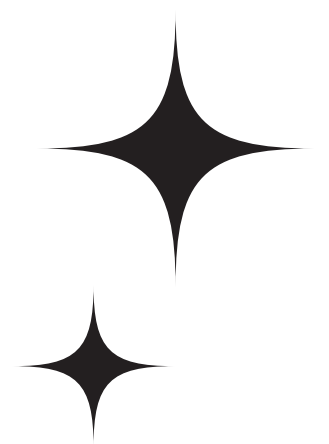
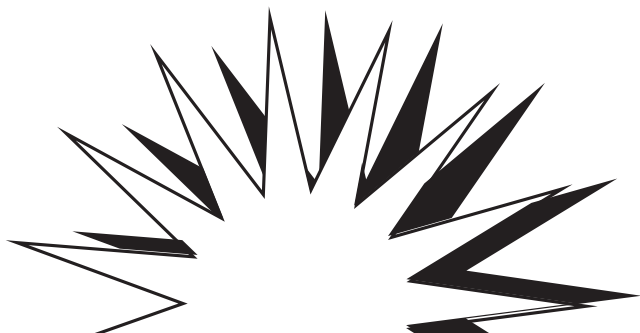
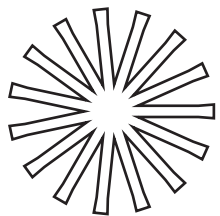
The stickers were printed on the Roland TrueVIS VG3-540, trimmed to size, and manually inserted into the book block. The covers were printed on the Ricoh, then die-cut on the Kongsberg V20. The book blocks were bound to the cover using GCM's Müller Martini Amigo Plus. The journal was then trimmed to its final trim size with the Polar 78 Paper Cutter. Our slipcover was printed on the Ricoh, and outsourced to CJ Graphics for die cutting on the Highcon Euclid II+ to produce the detailed design with better quality than possible in-house.





MEET OUR SPONSORS

On behalf of the 2023-2024 TMUTAGA team, we would like to express our gratitude to our sponsors for their generous contributions and support in creating this year's journal.



SNAPCHAT 





sappi





CJ GRAPHICS INC.
COMMUNICATION SOLUTIONS



Canon



KK PURI





KONICA MINOLTA



MARQUIS



Graphic Communications Management

at The Creative School



**Toronto
Metropolitan
University**



LAURA BRADY



NOTES

A series of horizontal dotted lines for writing notes.



