

## DEEP DIVE: ANALYTICAL PERSPECTIVES ON ECONOMIC DEVELOPMENT

### RAPiD Monthly Webinar Series

The Impact of Colour Vision Defect on Product Purchase Decision and Brand Perception of Physical Retail Customers in Bangladesh



Exploring the Incorporation Decision in Bangladesh: The Influence of Regulatory Delays, Bribery, and Informal Sector



30 June 2024  
8.00 PM (BST)

Meeting ID: 843 9044 8026  
Passcode: 414381



# Tawhid Reaz

**Facilitator**

**Detail:**

**Linked **





Dear All,  
My Life is Full of Murphy's  
Law :).

If during presentation any  
technical issue do take  
place, please give me 3-4  
minutes for finding  
Alternatives...

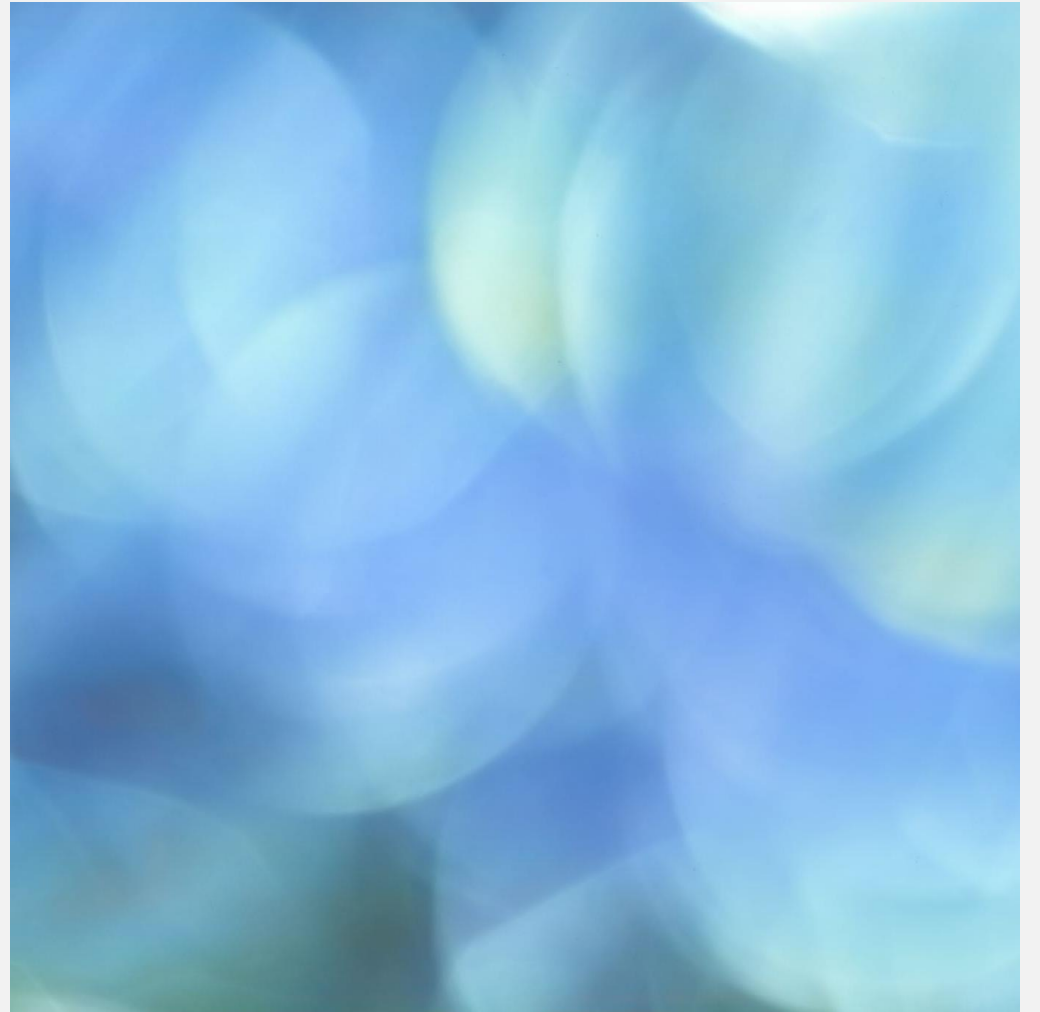
# My Understanding about PhD

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--Its not what you want,  
its about what your  
Supervisor wants....

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--It's about the  
combination of Passion  
and patience



# The Common Advices from my Supervisor

**“Tawhid you are not doing PhD in Medicine/Science, you are doing PhD in Management”**

**“Don’t Rush....”**

Me



Supervisor



Co-Supervisor



**PROPOSAL DEFENSE**

**PhD Candidate:**

**Mohammad Tawhid Reaz**

**(TP069322)**

**Supervisor:**

**Dr. Morakinyo Dada**

**Co-Supervisor:**

**Dr. Mutia Anggeraini Khalid**



# **THE IMPACT OF COLOUR VISION DEFECT ON PRODUCT PURCHASE DECISION AND BRAND PERCEPTION OF PHYSICAL RETAIL CUSTOMERS IN BANGLADESH**





# Chapter 1

# Introduction



Pic: Another defining picture of a Dhaka University building, Curzon Hall: the red brick building and green field become indistinguishable by red-green CVD viewers.



**People with Deuteranopia/Deuteranomaly**



**People with Normal Color Vision**



**People with Protanopia/Protanomaly**

Pic: How Red-Green CVD affected people see the fruits

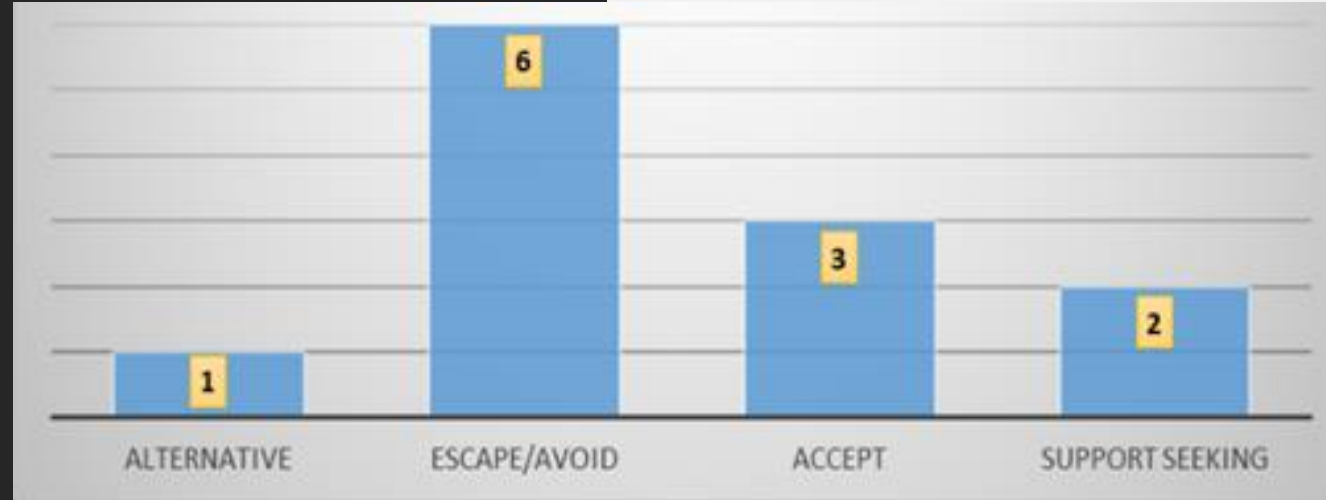


Figure: Coping strategies selected by the CVD affected respondents.

Dada et. al. (2023)

**Fig. 6** View of a Green Bag kept on Gray Bag with Red Ribbon and all the bags kept on a brown tool. The upper picture shows normal vision, whereas the lower picture shows how people affected by Deuteranopia visualize



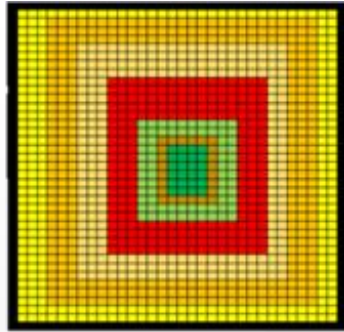
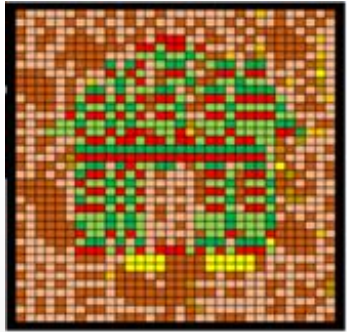


Plate 05 & 06



Plate 01: 1 in Bangla Numerical

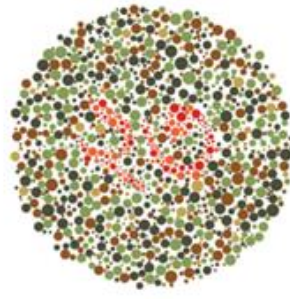


Plate 02: 23 in Bangla Numerical

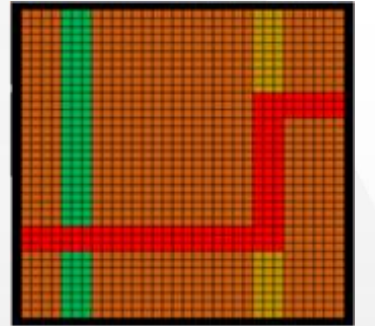
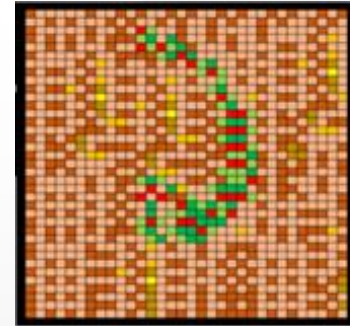


Plate 03 & 04



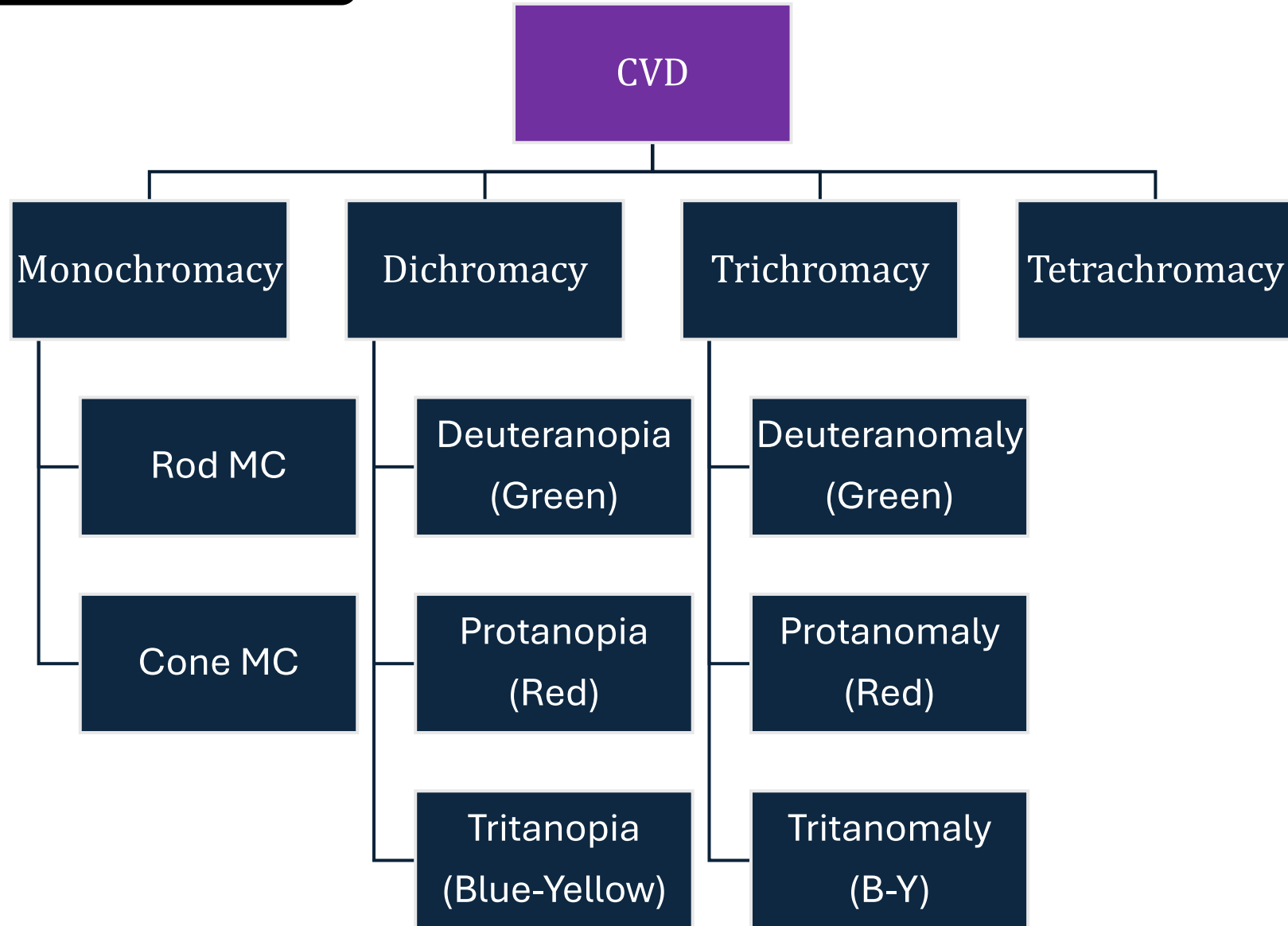
# What is CVD?

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**Colour vision deficiency (CVD) is the inability to distinguish certain shades of color.**

*(Source: American Optometric Association)*

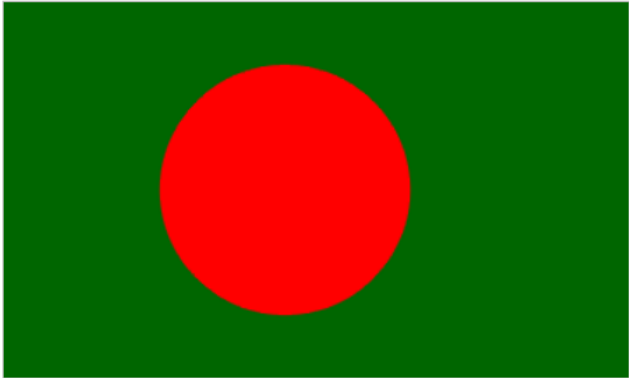
# CVD Types



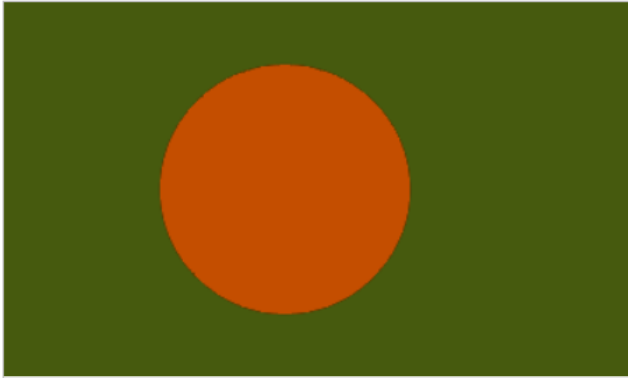


**Color  
Blind  
Visions**

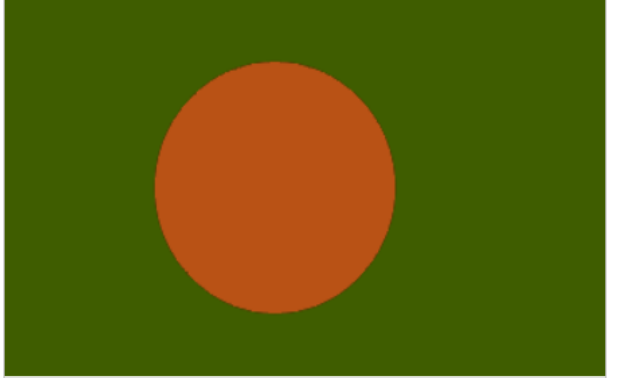
**Normal Vision**



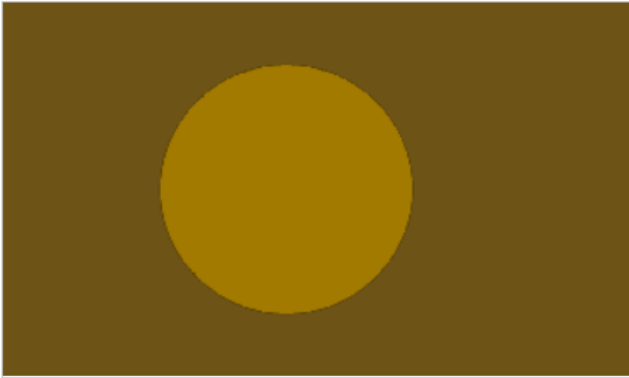
**Deuteranomaly**



**Protanomaly**



**Deuteranopia**



**Protanopia**



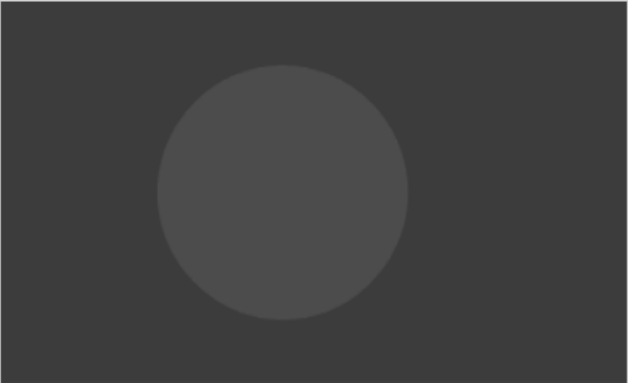
**Tritanomaly**



**Tritanopia**



**Monochromacy**

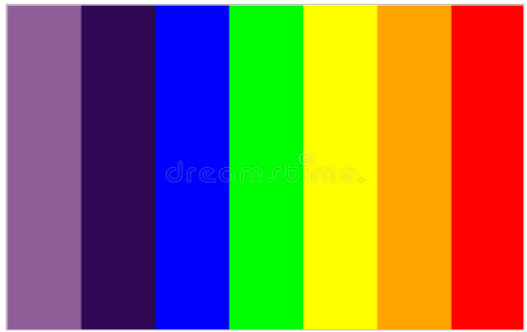


**Blue Cone Monochromacy**



**VIBGYOR  
thru Color  
Blind  
Visions**

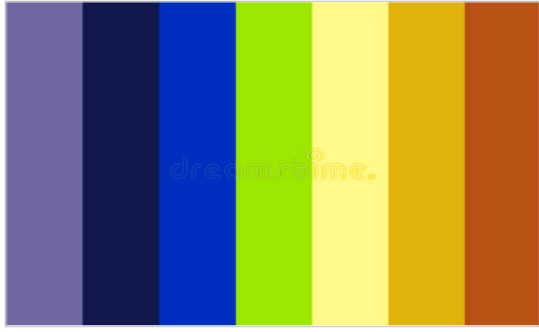
**Normal Vision**



**Deuteranomaly**



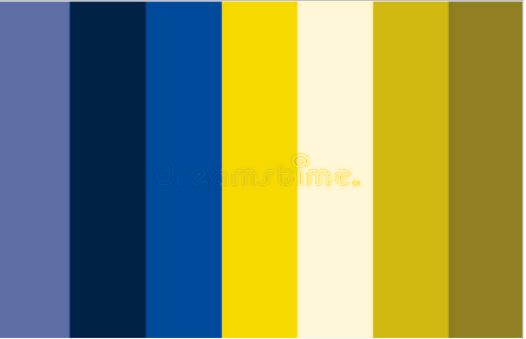
**Protanomaly**



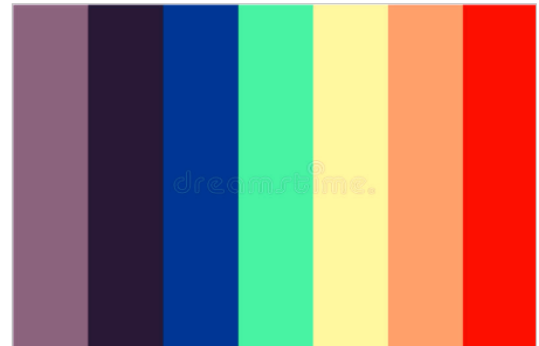
**Deuteranopia**



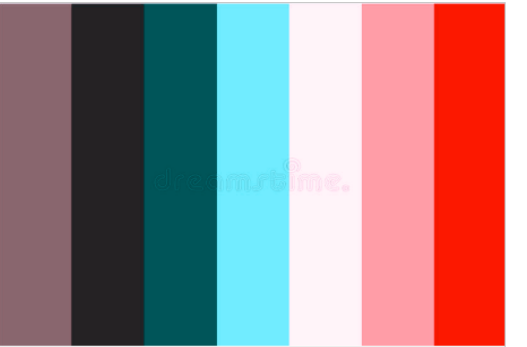
**Protanopia**



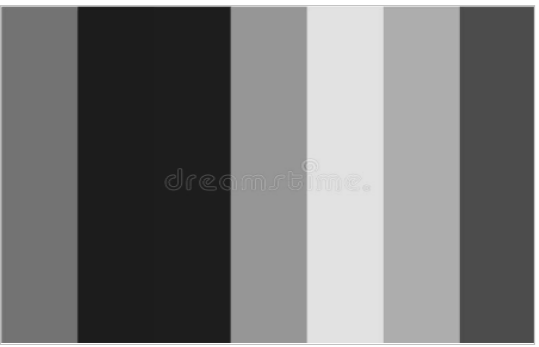
**Tritanomaly**



**Tritanopia**



**Monochromacy**



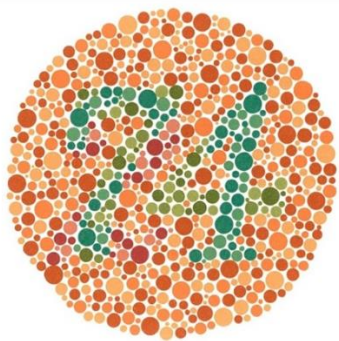
**Blue Cone Monochromacy**



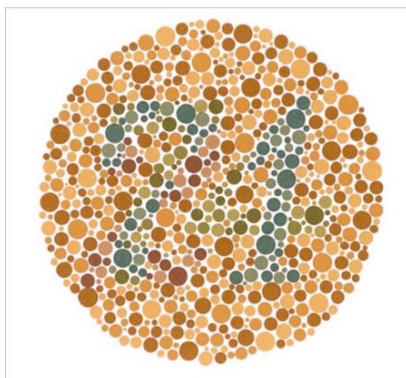
**74  
Ishihara  
Plate  
thru  
Color  
Blind  
Visions**

**Red Bars  
used for the  
number  
wrongly  
identified or  
illegible**

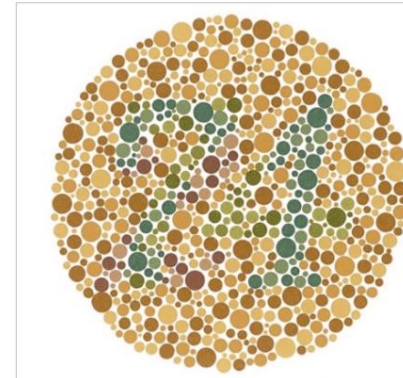
**Normal Vision**



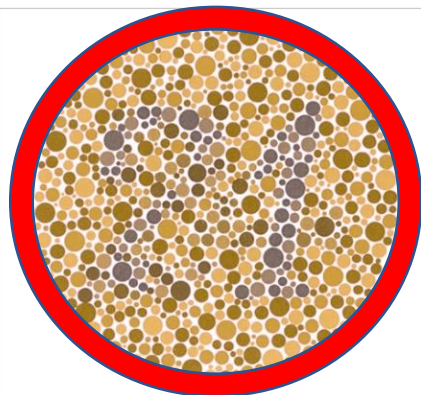
**Deuteranomaly**



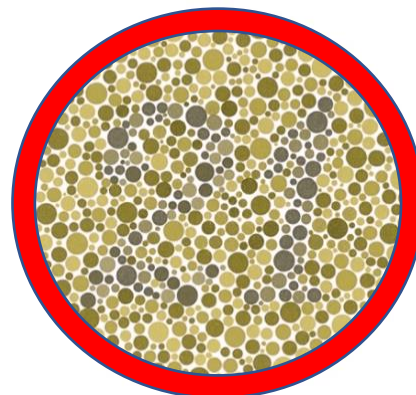
**Protanomaly**



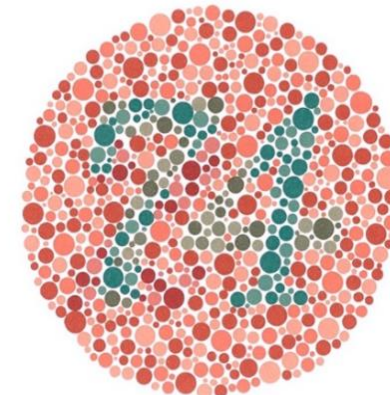
**Deuteranopia**



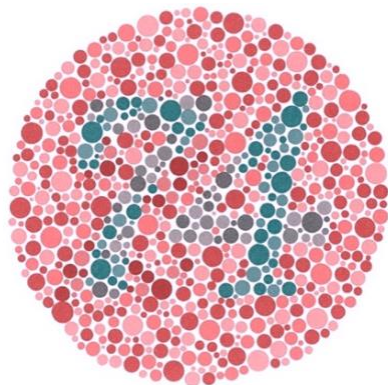
**Protanopia**



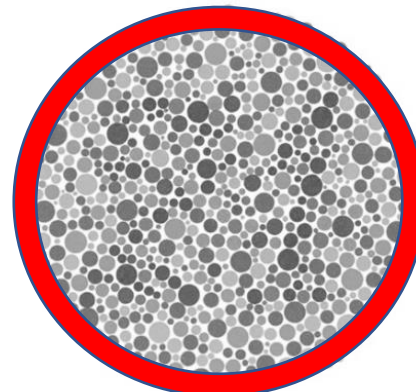
**Tritanomaly**



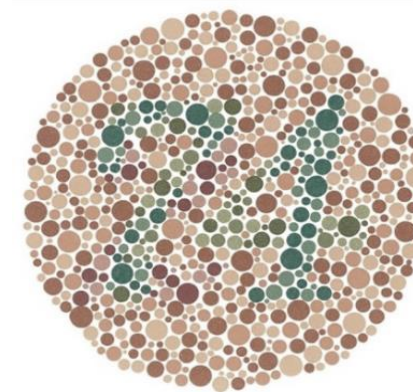
**Tritanopia**



**Monochromacy**



**Blue Cone Monochromacy**



Dada et. al. (2023)

**Fig. 6** View of a Green Bag kept on Gray Bag with Red Ribbon and all the bags kept on a brown tool. The upper picture shows normal vision, whereas the lower picture shows how people affected by Deuteranopia visualize





# Product Packaging



The effect of packaging on consumer behaviour & brand perception is significant as most customers believe that product packaging design plays a crucial role in their purchasing decisions (Peek, 2015).

Customers who have difficulties in visual ability cannot see the product packaging properly. Important packaging features like colour, fonts used for customer information, signs, and graphical markings and even the pictures cannot be properly seen by the CVD affected person.

Disability to distinguish and hence to choose the right product not only results in wrong selection of product, but it can also lead towards brand disloyalty.

CVD affected customers face difficulties reading the instructions, signs given over the product packaging. This situation may lead to negative purchase decisions. Since brand perception has direct linkage with the product packaging, any misunderstanding created by colour vision deficiency will create a negative impact on brand perception as well (Roberts, 2017)

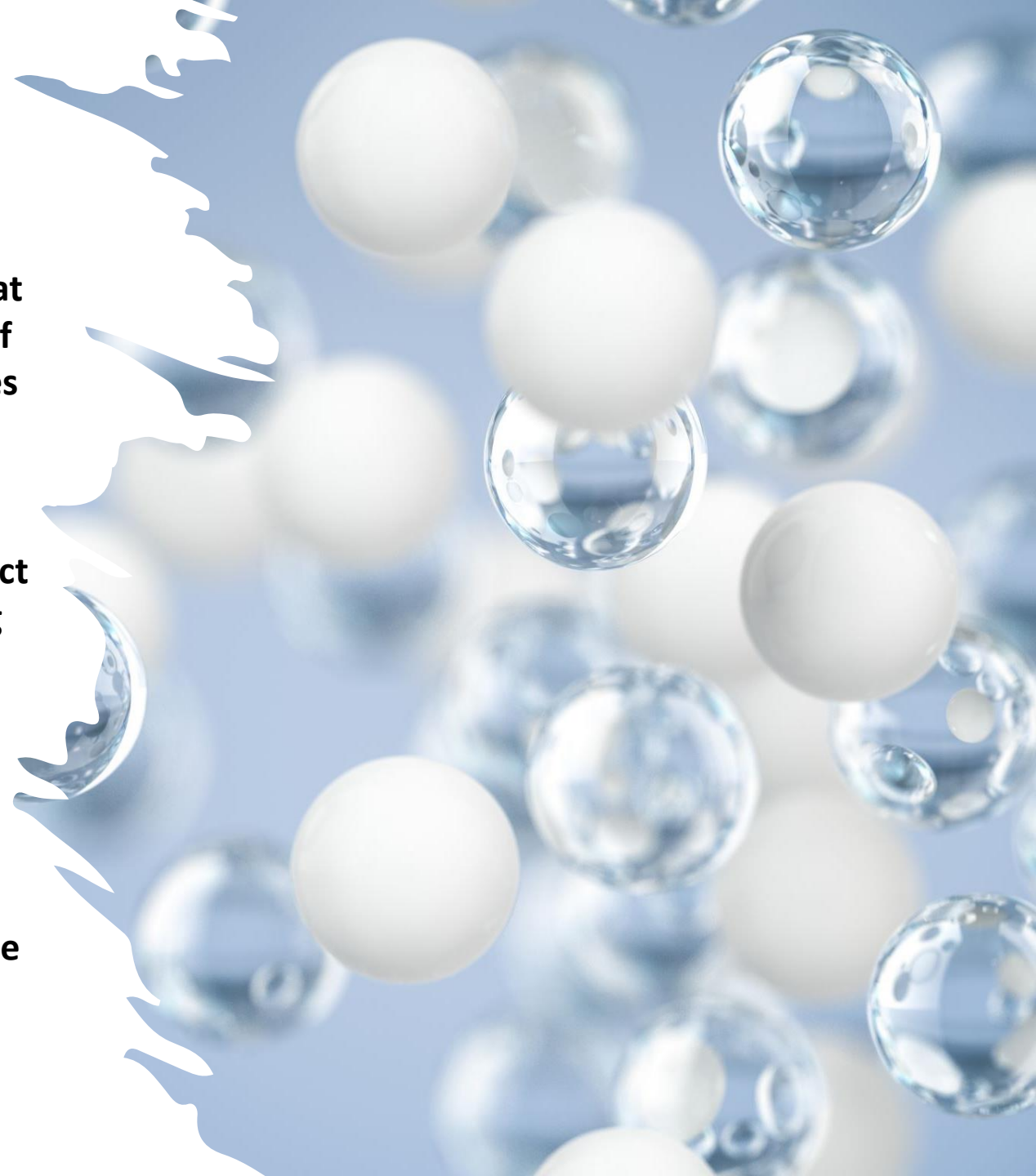
# Product Shape

**According to Jiaing et. al., 2023, another important factor that attracts consumers' first vision in a retail store is the shape of the product. The product shape is an attribute that influences a purchase decision (Polson et. al., 2021).**

**Though product shape may not be a direct obstacle for the people with CVD, product shape combined with other product packaging features like colour, or size can be a great deciding factor for consumers product selection process.**

**Unattractive product shapes can also be a great barrier to excite the visual stimulus of the consumers & hence to the product selection process.**

**CVD affected people have difficulties to identify shapes of the pictures or artifacts printed over the product, this will affect product purchase decision (Liu et. al., 2019).**



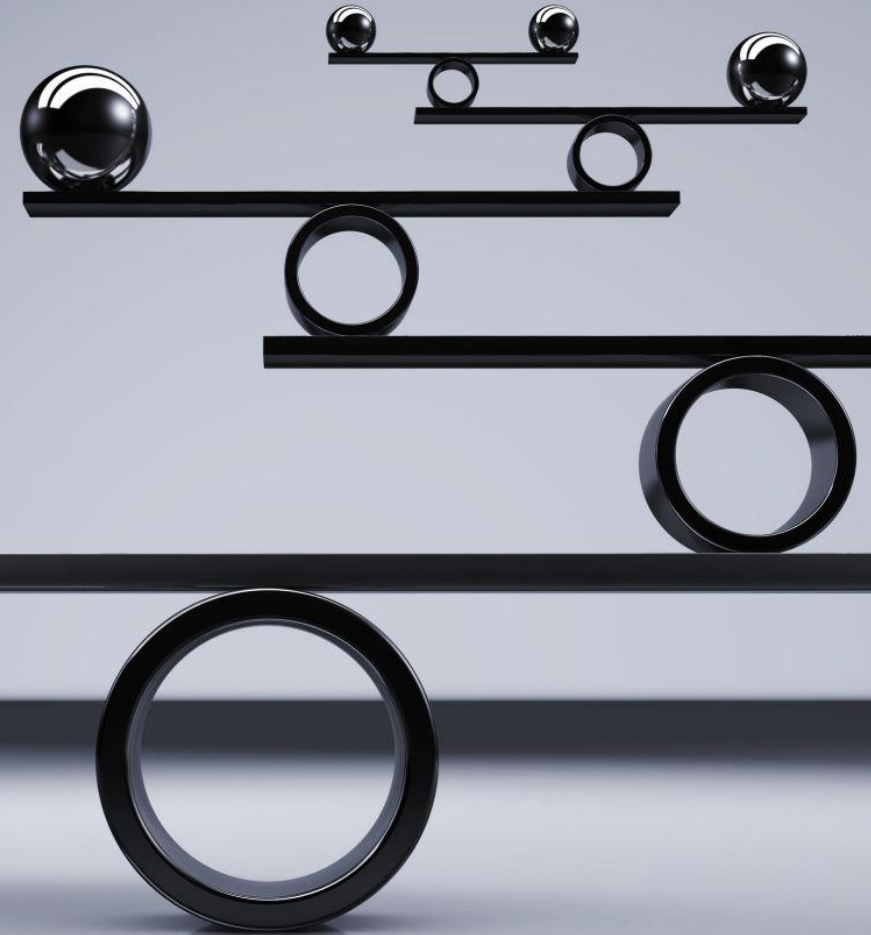
# Product Size

When the size of the products gets smaller it becomes tough for the CVD affected people to distinguish the colours (Monaco, 2022).

For example, if small red items are kept with small green items, most of the red-green colour-blind consumers may get confused and hence they may face difficulties while selecting right products. The smaller the size of the product, the greater the chances become for the wrong selection/overlooking of the right product from the shelf of the store (Roskoski, 2019).

As all the customers wants easy accessibility of all the products while being in store, smaller items may lose customers attention from being seen due to their sizes.

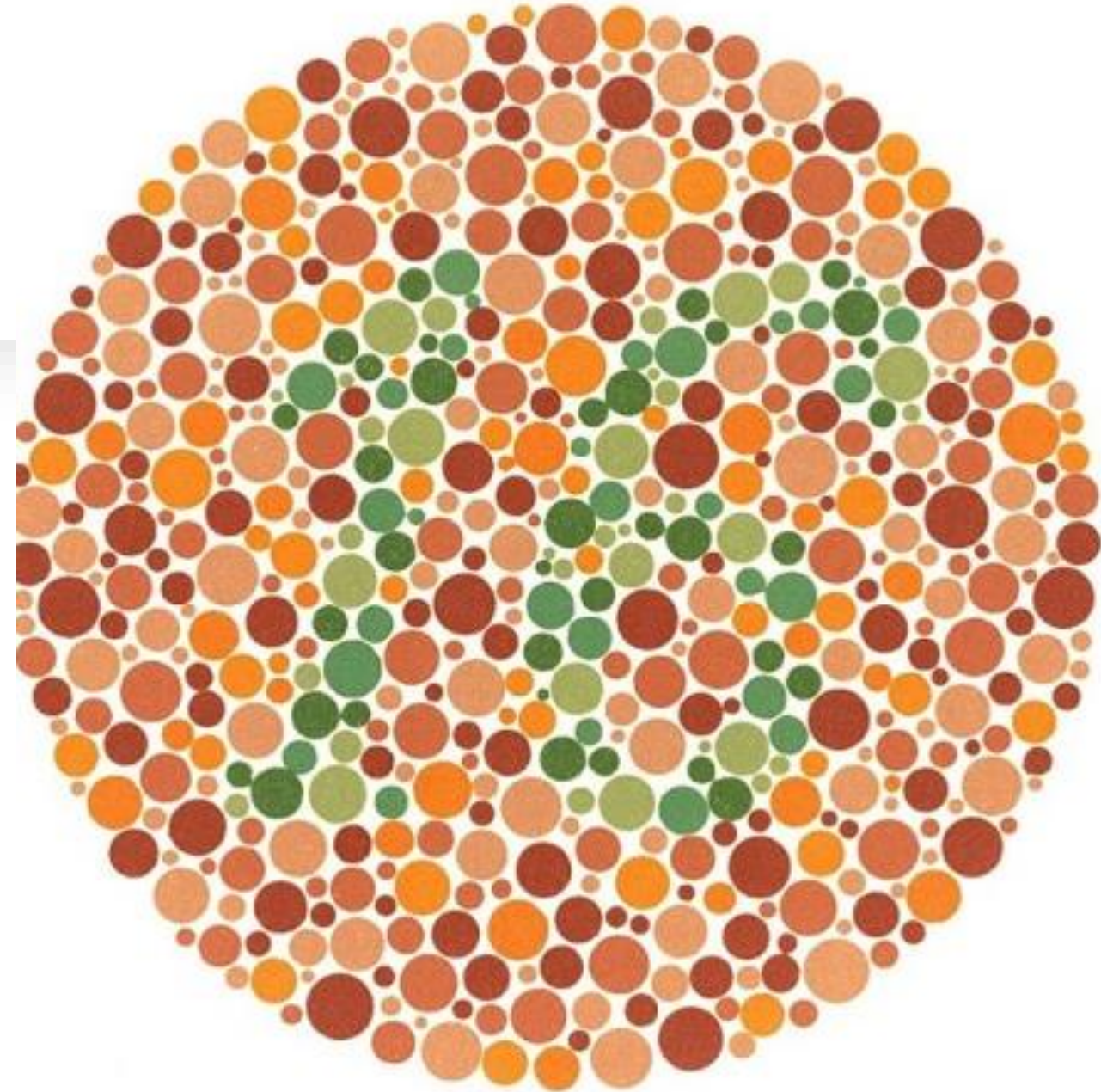
Smaller sized products get easily unnoticed by the CVD impulse buyers. Therefore, smaller items if not properly placed in a superstore can increase the chance of being unpicked by CVD customers and remain unsold.





Globally almost 8% males and 0.5% females are either severely or partially affected by colour vision defect (CVD).

(Kerber 2022; Fakorede et. Al., 2022).



## Prevalence of CVD Around the World

Sl.	Study By/Reference	Place	Sample Size	Prevalence	
				Male	Female
1	Reddy et. al. (2017)	India	1629	1.71%	0.18%
2	Karim et. al. (2013)	Iraq	1856	8.47%	1.37%
3	Wale et. al. (2018)	Ethiopia	850	3.18%	1.06%
4	Woldeamanuel et. al. (2018)	South Ethiopia	844	3.65%	0.60%
5	Rajavi et. al. (2015)	Iran	2160	3.50%	1%
6	Moudgil et. al. (2016)	Punjab India	3259	1.69%	0.18%
7	Hashemi et. al. (2019)	Iran	3132	15.85%	12.96%
8	Niroula et. al. (2010)	Pokhara, Nepal	964	3.80%	0%
9	Aprioku (2019)	Nigeria	1000	2.15%	0.70%
10	Chhipa et. al. (2017)	Karachi, Pakistan	3437	1.40%	0.40%

Sl.	Study By/Reference	Place	Sample Size	Prevalence	
				Male	Female
11	Hamida et. al. (2016)	Quetta, Pakistan	1450	5.75%	1%
12	Oriowo et. al. (2008)	Saudi Arabia	1638	5.85%	0.75%
13	Chia et. al. (2008)	Singapore	1249	5.30%	0.20%
14	Modarres et. al. (1996)	Tehran, Iran	2058	8.18%	0.43%
15	Shah A et. al. (2013)	Manipur India	2654	8.73%	1.69%
16	Fareed et. al. (2015)	Jammu, India	1028	7.52%	0.83%
17	Kundu et. al. (2020)	India	13179	3.89%	0.18%

## Prevalence of CVD in Bangladesh

- **Yasmin et al. (1970)**, involved a sample of 500 youngsters from schools in Dhaka City. According to the findings of the study, a mere 5 out of a total of 500 kids were identified as having colour blindness. Furthermore, it was observed that all these 5 students were male. In the 1970 study, it was observed that out of the whole student population, consisting of 290 males and 210 females, **1.7% of the male students were identified as colour blind, while none of the female students exhibited colour blindness.**
- In a separate research investigation conducted in Bangladesh by **Hossain et al. (2013)**, it was observed that the overall prevalence of CVD among individuals was **3.35%**. Notably, there was a significant gender disparity, with a higher prevalence observed among **males (8.04%) compared to females (0.66%)** (Hossain et al., 2013). The study was conducted on a sample of medical and dentistry students enrolled at Mymensingh Medical College (MMC), located in Bangladesh.
- In another study conducted by **Shahidul et al. (2016)** surveyed on the students and workers of Dhaka University, the prevalence of CVD was found to be **6.95%**. The study further revealed that among the participants, **8.03% were male and 1.89% were female.**

# Research Objectives

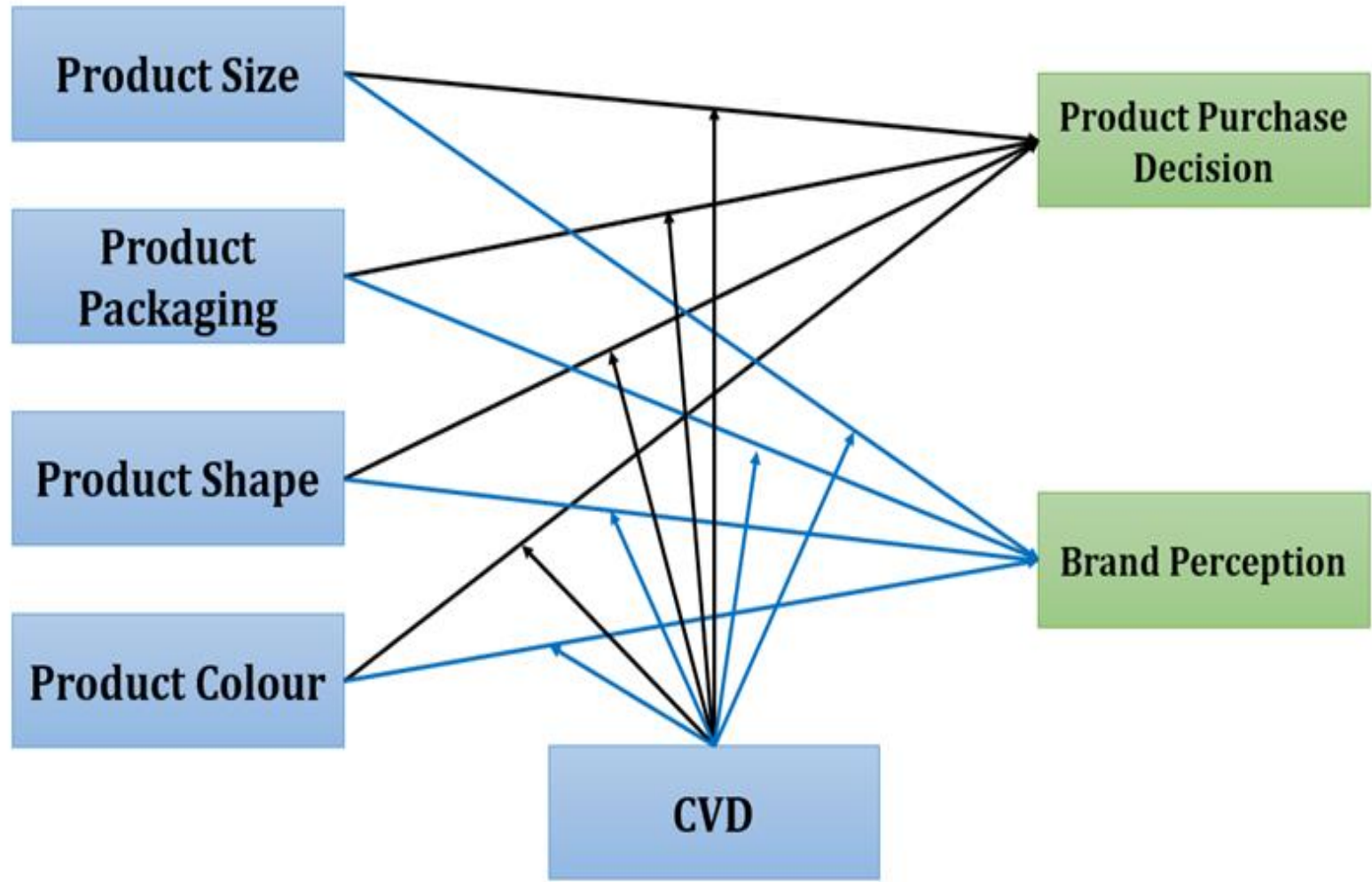
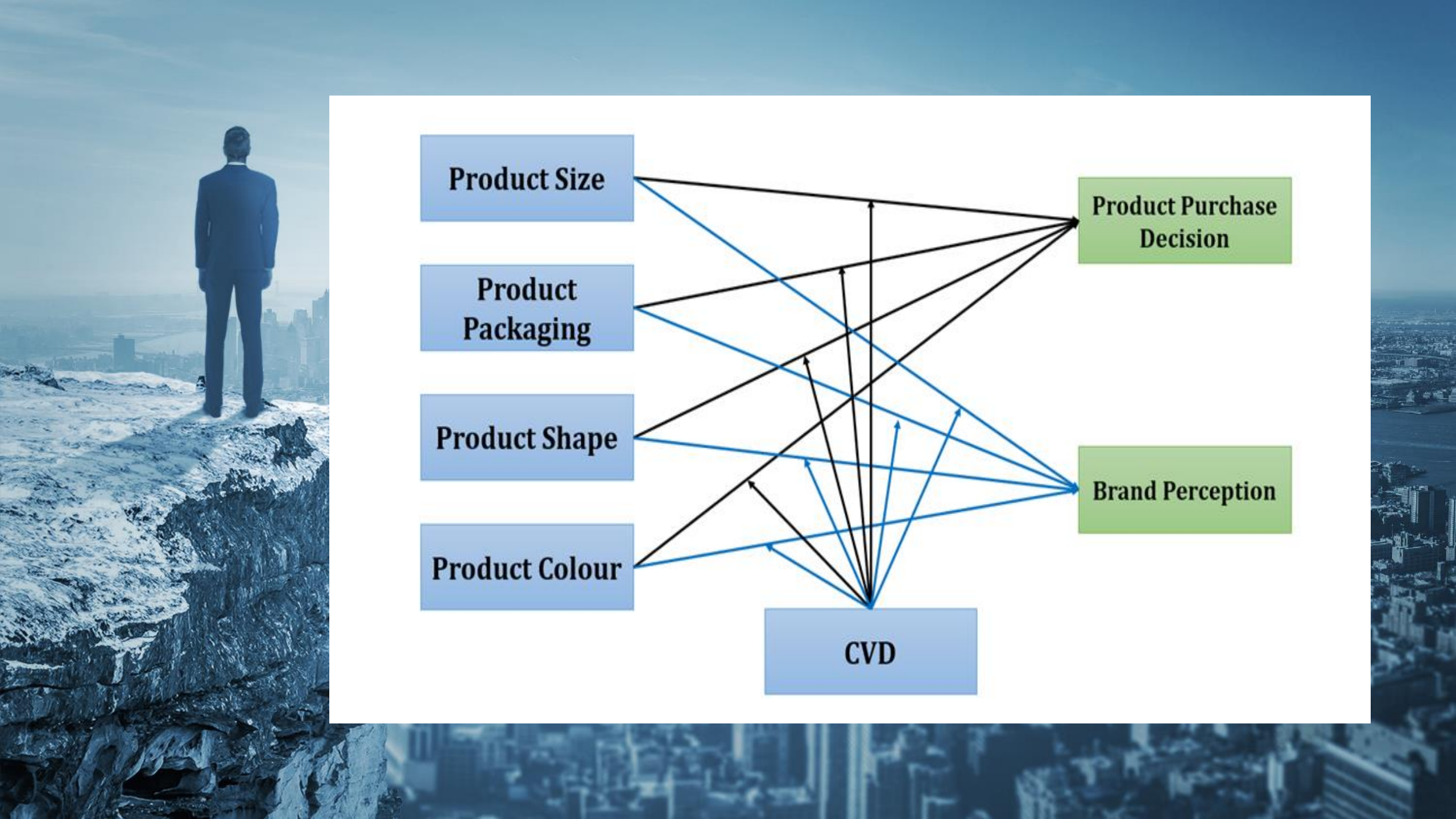
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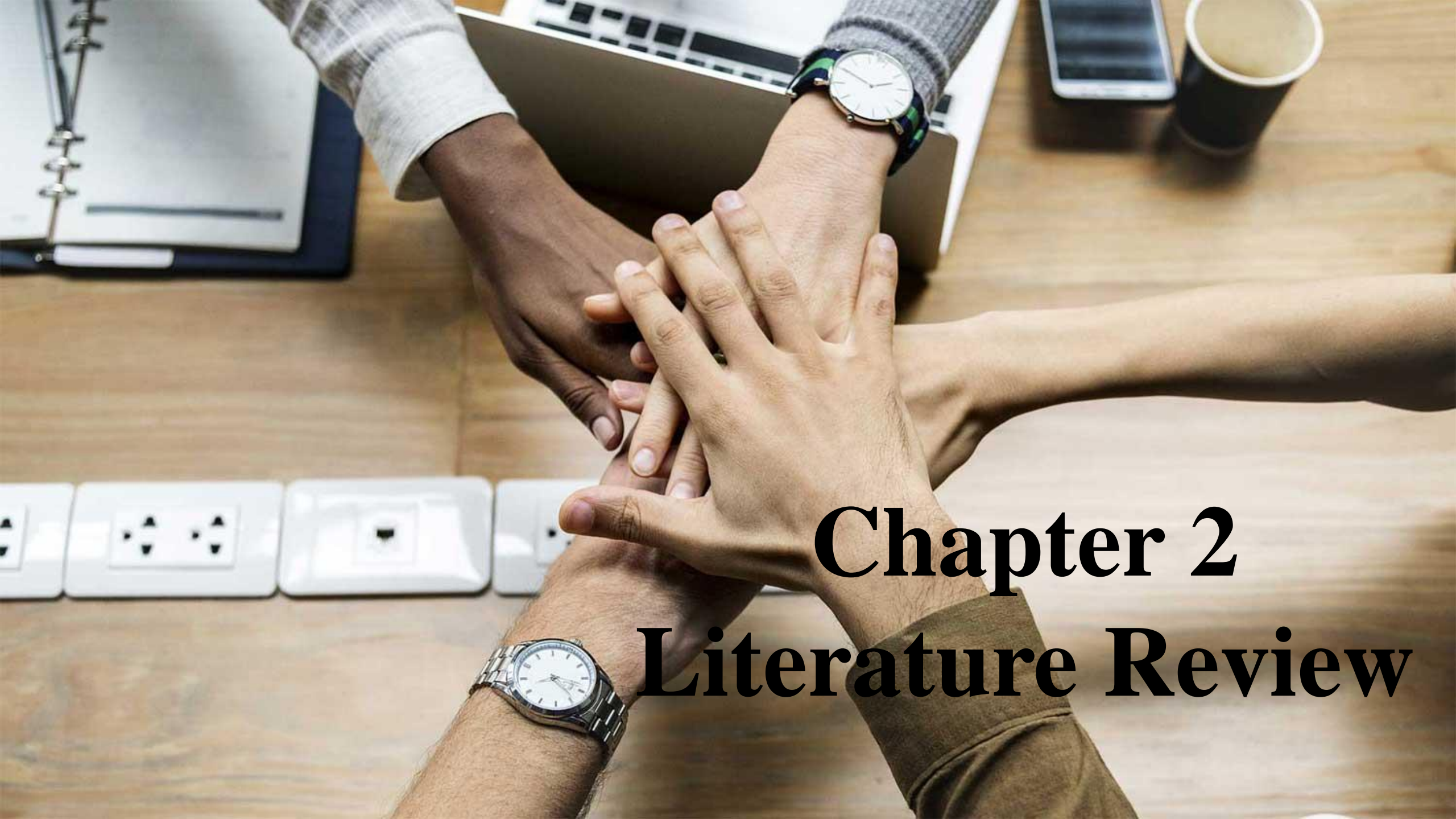
- To analyze the relationship between product attributes and consumer's product purchase decision while purchasing from physical retail stores in Bangladesh.
- To examine the relationship between product attributes and consumer's brand perception while purchasing from physical retail stores in Bangladesh.
- To examine how CVD moderates the relationship between product attributes and consumer's brand perception and product purchase decision.

# Research Questions

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1. What is the relationship between product attributes and consumer's product purchase decision while purchasing from physical retail stores in Bangladesh?
2. What is the relationship between product attributes and consumer's brand perception while purchasing from physical retail stores in Bangladesh?
3. Does CVD moderate the relationship between product attributes and consumer's brand perception and product purchase decision?





# **Chapter 2**

# **Literature Review**

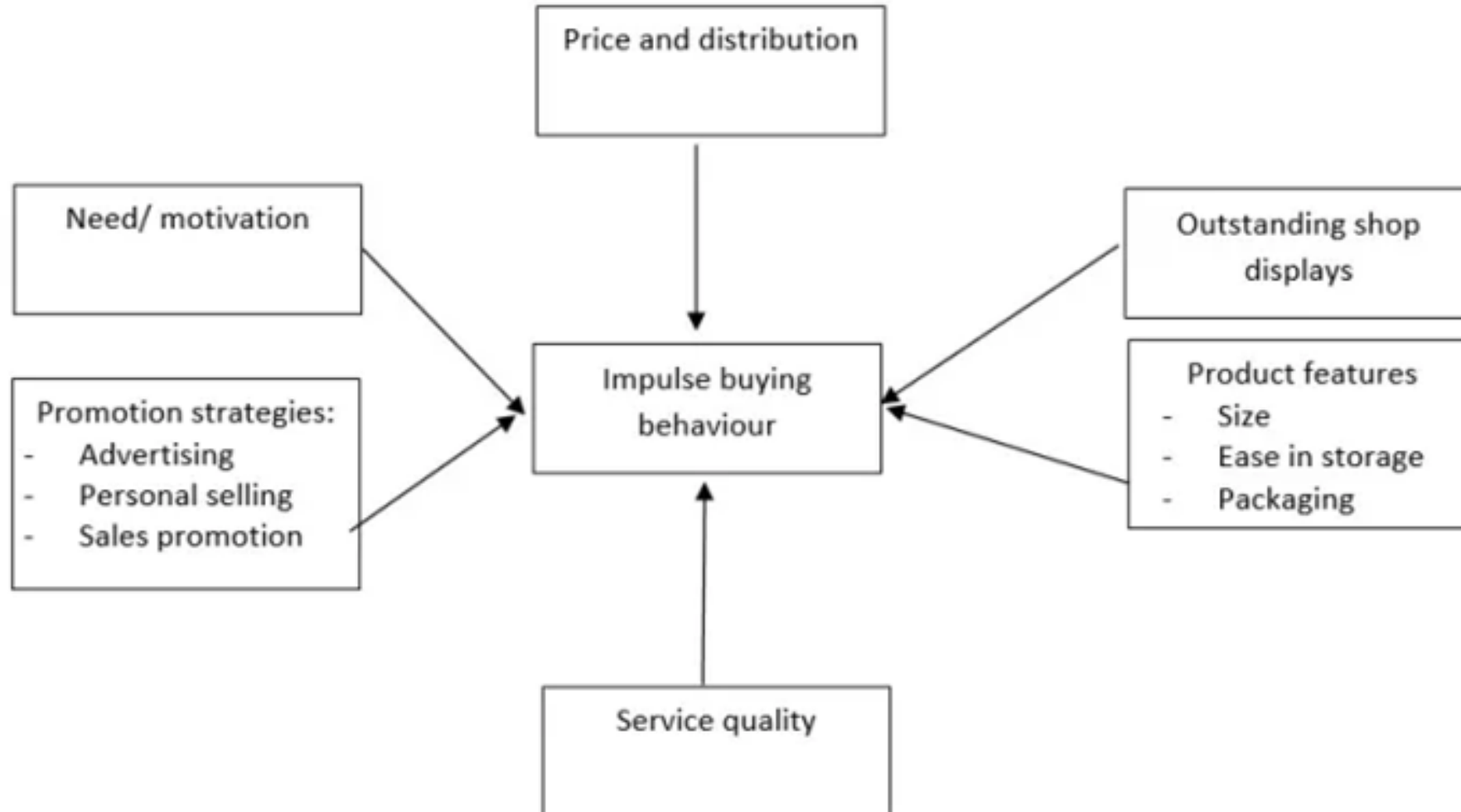


The background features three overlapping circles in shades of blue, centered horizontally. A horizontal light beige bar spans the width of the image, containing a blue rectangular box with a thin dark blue border. The text "Underpinning Theories" is centered within this box.

# Underpinning Theories

## Hawkins Stern's Impulse Buying Theory

## Underpinning Theory

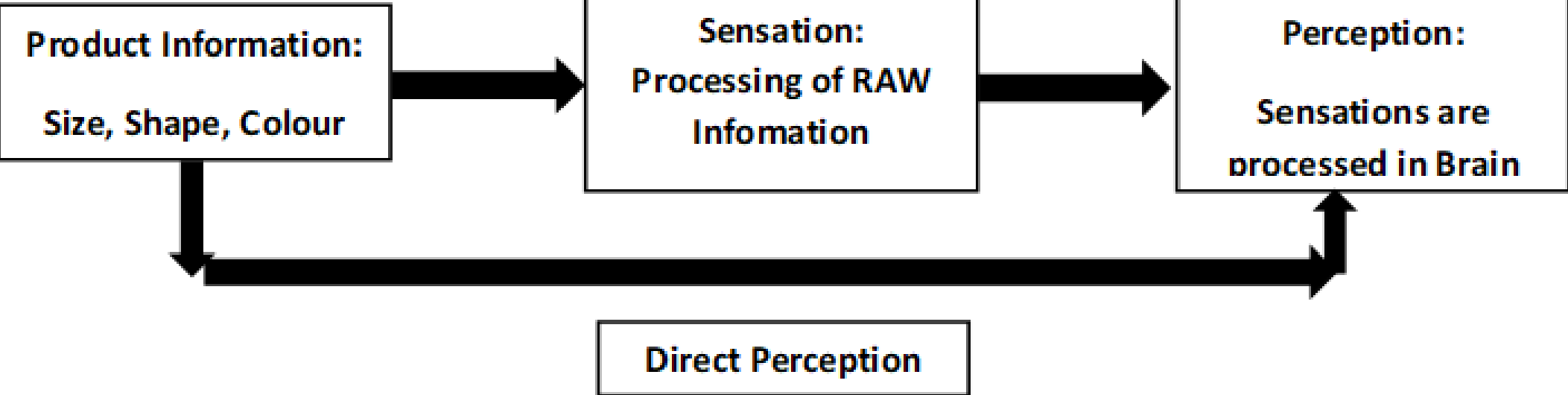


Impulse buying accounts for 40–80% of purchases (Rodrigues et. al., 2021). Researchers found that physical shoppers are also prone to impulse buying, but visual and sensory arousals can influence their behaviour (Rodriguez et. al., 2021).

**This research will contribute to the thought process on how CVD can restrict affected customer's impulse buying. As CVD is an important variable for consumers product purchase decision, this study will work as an important contribution to Hawkins Stern's Impulse Buying Theory.**

**Gibson's Direct Theory of Perception (1966)**

**Underpinning Theory**



As Gibson's direct theory of perception did not suggest anything about misinformation or any information wrongly identified due to viewers' visual disability. Therefore, this study will be a good input for Gibson's direct theory of perception for CVD-affected viewers. Gibson's theory suggested that customers' perception comes directly from how they see products in the marketplace.

**This research will examine how CVD-affected people perceive items from radically different angles, therefore the product's colour can be a useful retesting point for Gibson's Direct Theory of Perception.**

## Gestalt Theory of Perception

## Underpinning Theory

Gestalt theory/psychology focuses on how people perceive objects, shapes, and forms as whole entities rather than separate parts. It proposes that the mind organizes sensory inputs into meaningful wholes, following principles like similarity, proximity, and closure. Gestalt is German for “Unified Whole”.

The Gestalt theory suggests that structures include distinct properties that differentiate them from the mere aggregation of its constituent parts when perceived as a unified entity (Mungan, 2023).

# Gestalt Theory of Perception

# Underpinning Theory



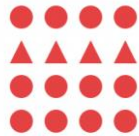
## Good Figure

Objects grouped together tend to be perceived as a single figure. Tendency to simplify.



## Proximity

Objects tend to be grouped together if they are close to each other.



## Similarity

Objects tend to be grouped together if they are similar.



## Continuation

When there is an intersection between two or more objects, people tend to perceive each object as a single uninterrupted object.



## Closure

Visual connection or continuity between sets of elements which do not actually touch each other in a composition.

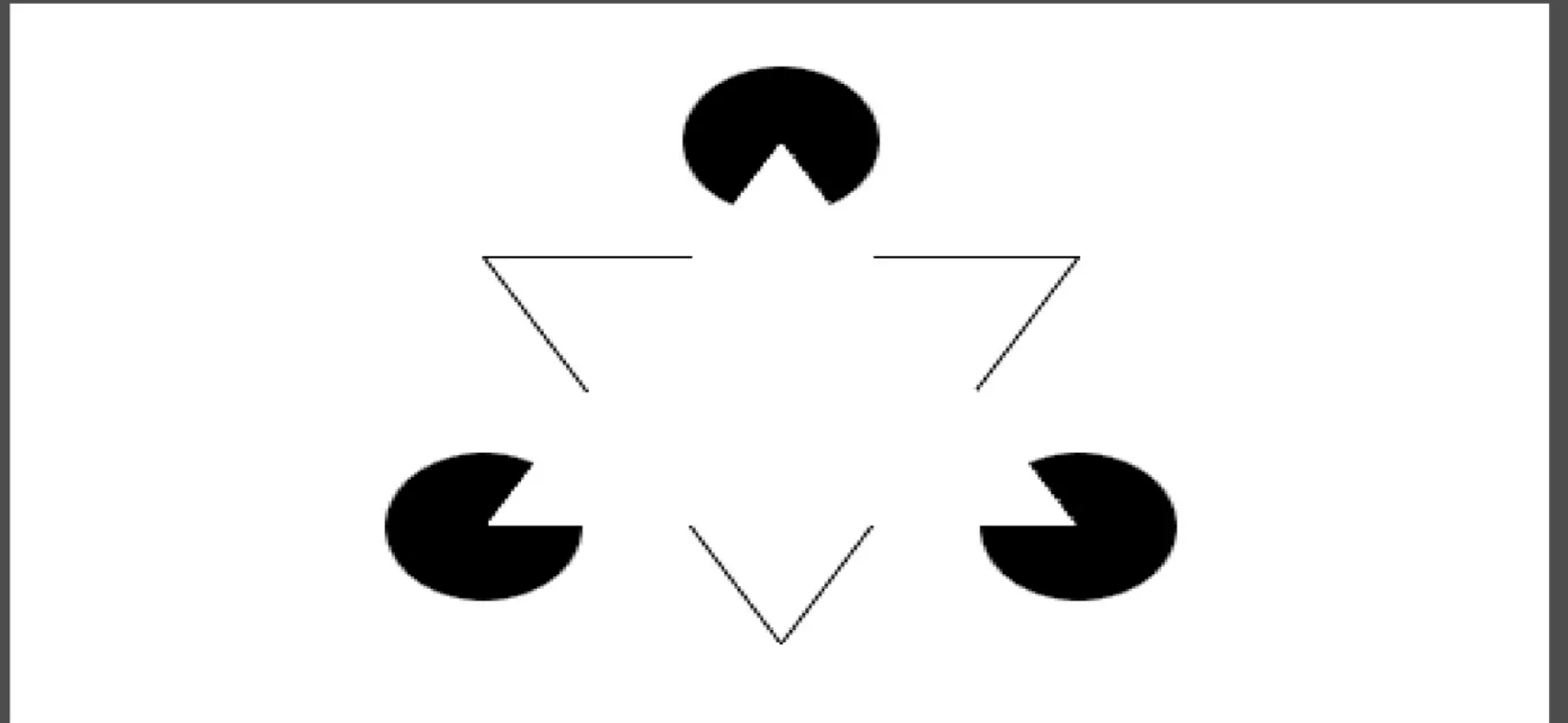


## Symmetry

The object tend to be perceived as symmetrical shapes that form around their center.

# Gestalt Principles of Visual Perception

Illusory  
Contours



The Kanisza triangle as figure-ground illusory contours



Colour perception is fundamental to perceptual psychology. Colour vision disorders impede colour differentiation, therefore people with CVD see the world differently.

**This study will examine how colour vision-impaired physical users navigate and interact with digital platforms. The study will reveal how people with different colour vision capacities interpret visual signals and product displays, shedding light on visual perception, cognitive processes, and consumer behaviour.**

## Summary of Related Studies

The Study	Brief Description	Methodology	Main Results
<p><b>Male et. al., 2023</b></p> <p>Impact of colour vision deficiency on the quality of life in a sample of Indian population: Application of the CVD-QoL tool</p>	<p>The primary aim of this study was to examine the quality of life (QoL) among a group of individuals with colour vision deficiency (CVD) in India, and to explore the psychological, economic, and occupational impacts of colour vision deficiency on their productivity and well-being.</p>	<p>120 respondents were selected among which 60 were colour vision defected. 27 different quality of life related questions were asked among which clothes purchasing issues were also there. CVD were tested thru Ishihara Plates and Cambridge Molen CVD testing tool.</p>	<p>The Result showed in this study that, the CVD affects almost every aspect of life. In case of buying thing due to colour and associated issues CVD affected people's purchase gets deviated. CVD also affects</p>
<p><b>Martinez et. al., (2021)</b></p> <p>True colours: Consumers' packaging choices depend on the colour of retail environment</p>	<p>The aim of this study was to examine the possible influence of prominent colours in retail environments on their appeal and the intention of customers to acquire products. This study specifically investigated the impact of products having identical colours to the store versus products having colours that harmonize with the store.</p>	<p>A total of 653 individuals were recruited to participate in two experimental studies conducted using online platforms. The researchers conducted a study to examine the impact of complementary colours (product × retail environment) on consumer behaviour. The objective of the phase two of this study was to expand upon the results phase one by examining the relationship between colour associations, context, and product category.</p>	<p>Phase one of the study showed a strong relationship between the store and product colour, affecting the product's appeal and purchase intent. It was found that the nature of the products can affect how complementary colours impact attractiveness and purchase decisions. Phase two revealed that the product attributes influence how people perceive colours based on meaning when selecting their preferred colours. These findings highlight a complex link between product type, environment, and colour, which may influence various cognitive decision-making processes.</p>

## Summary of Related Studies

The Study	Brief Description	Methodology	Main Results
<p><b>Swasty et. al., 2021</b></p> <p>The Effect of packaging colour scheme on perceptions, product preferences, product trial and purchase intention.</p>	<p>This study aimed to examine how different colour schemes affect people's perceptions, preferences for products, willingness to test the products, and intention to make a purchase. This research has examined and assessed how colour, packaging shape, and size influence product purchasing decisions.</p>	<p>This study employed a quantitative methodology, where the data collected by questionnaires were analyzed using chi-square and one-way ANOVA tests.</p>	<p>The noteworthy findings of this study indicate that the colour and packaging of a product not only influence the perception of the brand, but also impact consumers' perception of its pricing. Therefore, the colour can have an impact on consumers' purchasing decisions.</p>
<p><b>Alin et. al., (2023)</b></p> <p>The psychology of colour in brand packaging</p>	<p>This study aimed to demonstrate that colour is the primary visual factor in packaging that influences favorable brand perception and brand identification. This study confirmed that colour is the primary driver of attraction, motivation, and stimulation in the development of Branding and Packaging. Visual appeal would not exist without it.</p>	<p>This research used mixed method where both quantitative and qualitative method with literature review has been done. Total sample size for this research was 384.</p>	<p>This study verified that colour plays a central role in attracting, motivating, and stimulating consumers in the creation of branding and packaging. Visual attractiveness relies on colour. This research has shown that visual communication involves more than just skillfully using compositional elements and their principles. The incorporation of psychological components and the range of emotions they arouse are the main factors driving the success of Branding and Packaging.</p>

## Summary of Related Studies

The Study	Brief Description	Methodology	Main Results
<p><b>Pertiwi et. al., 2023</b></p> <p>The Model of Product Attributes and Brand Image: Purchase</p>	<p>This Study tried to prove the positive relationship among product attributes such as colour, packaging, shape and size with brand perception and product purchase decision. How product attributes influence customer's product purchase decision is the</p>	<p>This study employed descriptive and explanatory survey approaches to examine variable behaviour and confirm hypotheses. It used a causality-focused approach to investigate how independent variables, such as product attributes and brand image, impacted purchase decisions.</p>	<p>This study indicated that both product attributes and brand image impact purchase decisions. However, when considering their individual effects, brand image was found to have a greater impact on purchasing decisions compared to product attributes. This demonstrated that purchasing decisions are influenced by additional elements beyond these two variables, such as individual external influences, individual internal factors, and the overall marketing mix.</p>
<p><b>Yandikaputri et. al., (2021)</b></p> <p>The importance of inclusivity in supporting colour-blindness study case: Gelora Bung Karno</p>	<p>The objective of this research was to investigate the visual perception and spatial exploration of individuals with colour vision deficiency in outdoor environments. This study also examined how individuals with colour vision deficiencies see shapes and how the size of an object impacts their perception.</p>	<p>The technique used in this research were observational methods and were supported by an in-depth descriptive interview with each of the respondents.</p>	<p>The primary aim of this study was to incorporate individuals affected by colour vision defect (CVD) into design processes. The results of this study demonstrated that variations in the shape and size of items have a significant impact on those with colour blindness.</p>

## Summary of Related Studies

The Study	Brief Description	Methodology	Main Results
<p><b>Sharma (2021)</b> Impact of colours on brand association of popular brands</p>	<p>This study sought to provide a framework and gather empirical evidence on the influence and significance of colour psychology in the context of college students.</p>	<p>A questionnaire was created to assess the notion. Ten prestigious brands/products from the country being studied, specifically aimed at college students, were selected using random sampling. There were 100 samples in all. Both established and modern companies were intentionally included to enhance the comprehension of the impact of colours. This study intended to ascertain if the correlation between colours and brands is solely a result of frequent exposure or if it is impacted by the colours themselves.</p>	<p>The study findings indicated that although certain colours elicit particular emotions, the alignment between brand association and these colours is not as consistent as implied by colour emotion research. Furthermore, there exists a significant correlation between colours and the recognition of a brand. This study also demonstrated that, regardless of the varying degree of segmentation, colours indeed influence customers' perception and connection with the brand and its identity. The field of colour psychology greatly influences the development of stronger connections, memory, and sense of self.</p>
<p><b>Peng et. al., (2022)</b> How does the use of simultaneous contrast illusion on product-background colour combination nudge consumer behaviour? A behavioural and event-related potential study</p>	<p>This study basically focused on to analyze the impact of product-background and colour on consumers perception, behaviour, and purchase decision.</p>	<p>Total 1,119 participants were participated. Product and background have been created by computer simulation method.</p>	<p>This research proved the fact that colour is one of the most important aspects of creating consumers perception about the product. Not only the colour of the product impacts the consumer behaviour, in addition to colour of the product only product-background colour also impacts the consumers perception and impacts on product purchase decision.</p>

# Hypothesis

- **H1-A: There is a relationship between product size and consumer's brand perception.**
- **H1-B: There is a relationship between product size and consumer's product purchase decision.**
  
- **H2-A: There is a relationship between product colour and consumer brand perception.**
- **H2-B: There is a relationship between product colour and consumer's product purchase decision.**
  
- **H3-A: There is a relationship between product shape and consumer's brand perception.**
- **H3-B: There is a relationship between product shape and consumer's product purchase decision.**
  
- **H4-A: There is a relationship between product packaging and consumer's brand perception.**
- **H4-B: There is a relationship between product packaging and consumer's product purchase decision.**

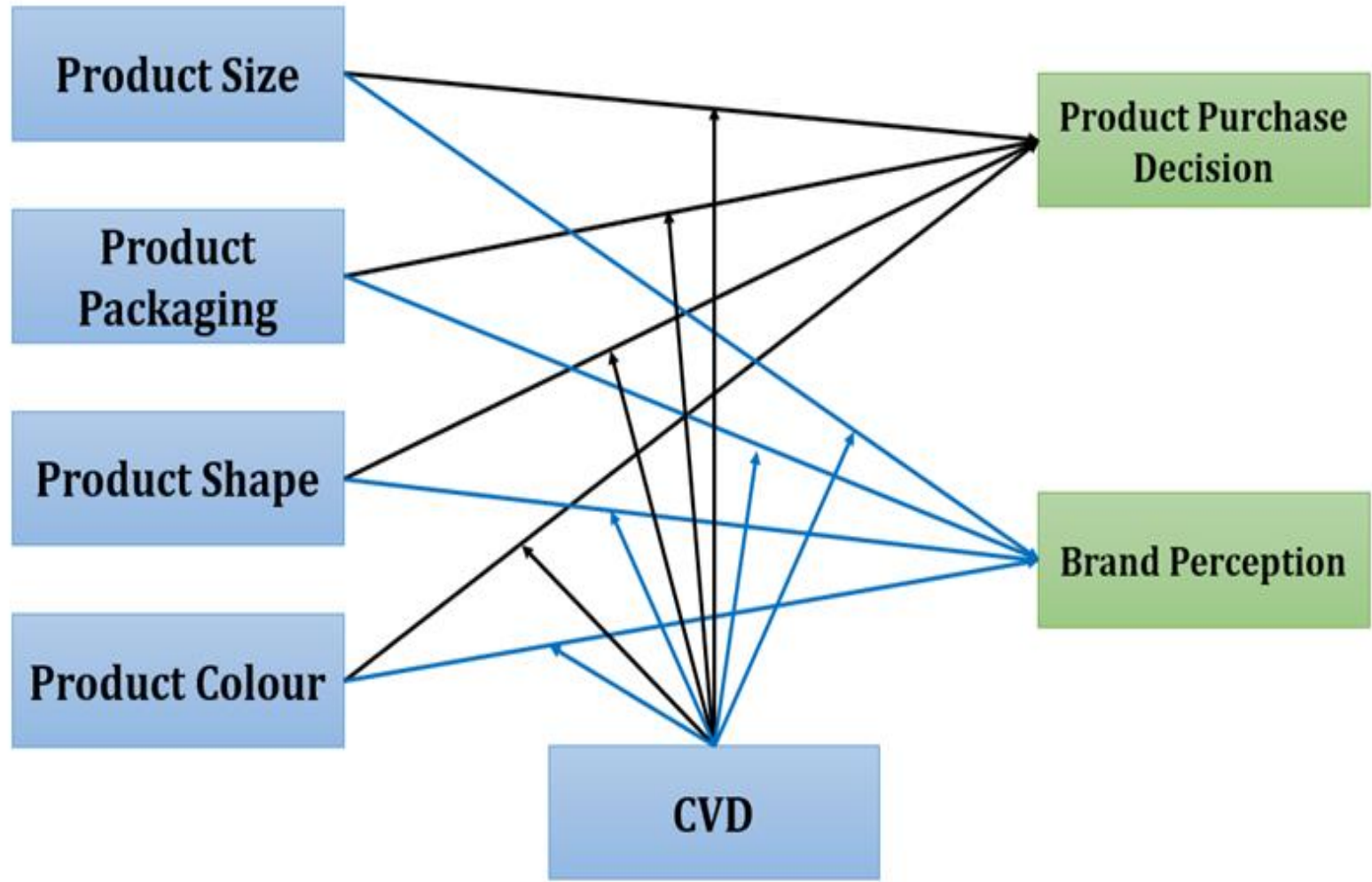
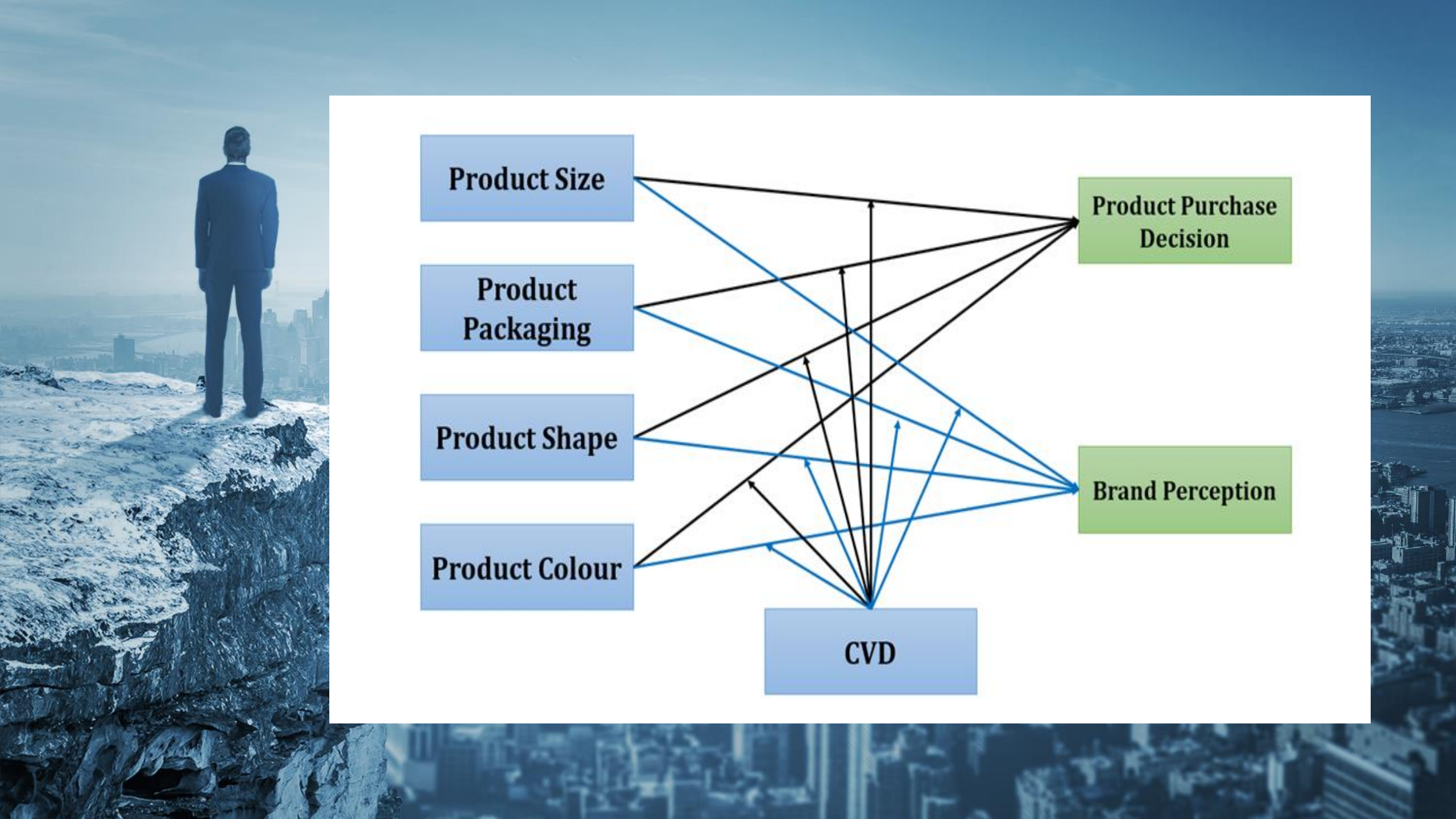
# Hypothesis

- **H5-A: CVD moderates the relationship between product size and consumer's brand perception.**
- **H5-B: CVD moderates the relationship between product size and consumer's product purchase decision.**
- **H6-A: CVD moderates the relationship between product colour and consumer's brand perception.**
- **H6-B: CVD moderates the relationship between product colour and consumer's product purchase decision.**
- **H7-A: CVD moderates the relationship between product shape and consumer's brand perception.**
- **H7-B: CVD moderates the relationship between product shape and consumer's product purchase decision.**
- **H8-A: CVD moderates the relationship between product packaging and consumer's brand perception.**
- **H8-B: CVD moderates the relationship between product packaging and consumer's product purchase decision.**

# GAP IN THE LITERATURE

Researcher	Brand Perception	Purchase Decision	CVD	Product Size	Product Shape	Product Colour	Product Packaging
(Male et. al., 2023)	√	√	√			√	
(Martinez et. al., 2021)		√				√	
(Swasty et. al., 2021)	√	√		√	√	√	
(Alin et. al., 2021)	√					√	√
(Pertiwi et. al., 2023)	√	√		√	√	√	
(Yandikaputri et. al., 2021)	√		√	√	√		
(Sharma 2021)	√					√	
(Peng et. al., 2022)	√	√				√	
(Ward et. al., 2024)	√	√				√	√
(Huang et. al. 2022)	√	√		√	√	√	
(Chen et. al., 2022)	√	√		√		√	

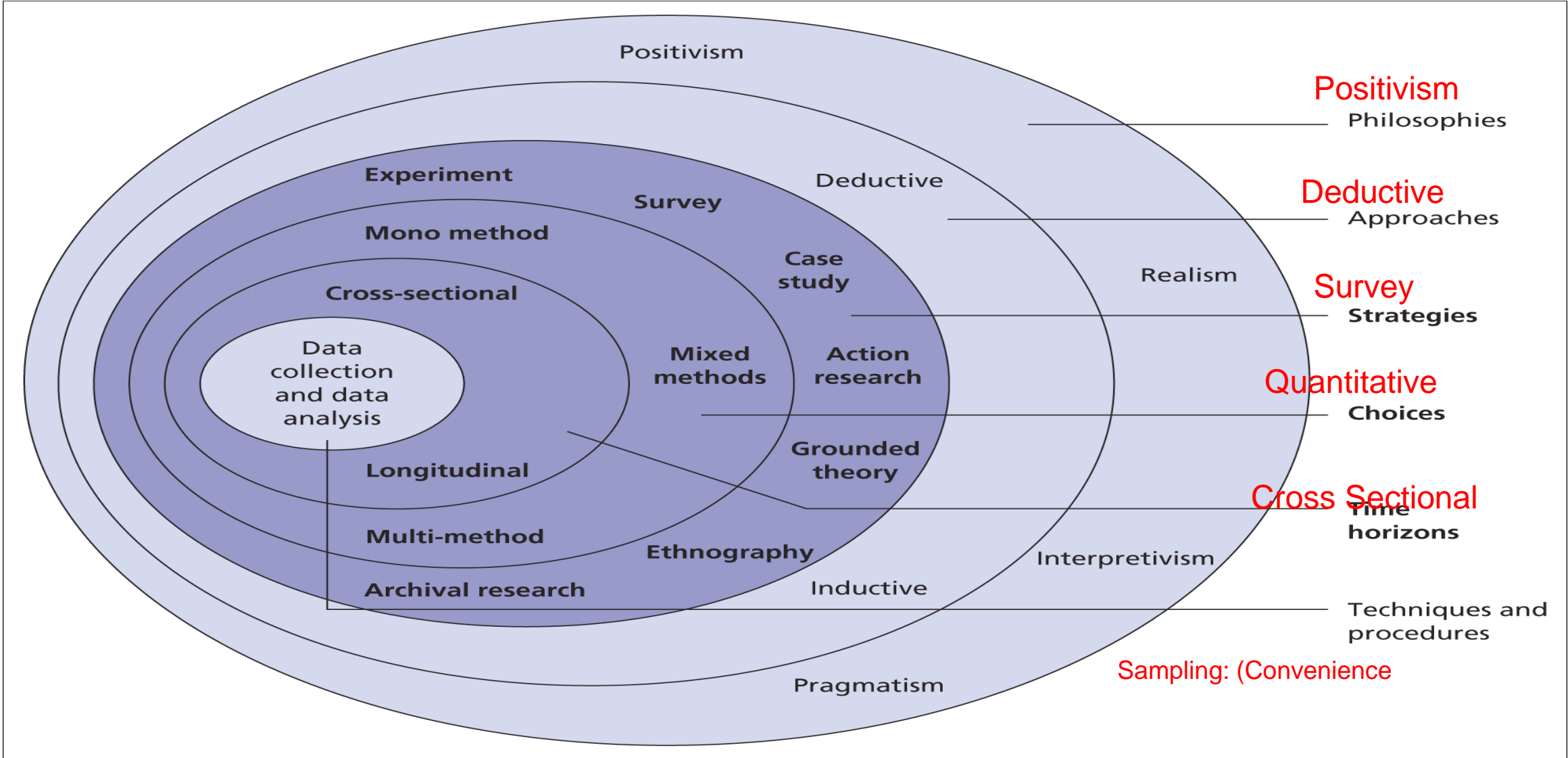






**CHAPTER 3**  
**RESEARCH**  
**METHODOLOGY**

# High Level Research Methodology



# Research Methodology- Research Onion

<b>Research Methodology</b>	<b>My Research Steps</b>
<b>Philosophy</b>	Positivism
<b>Approach</b>	Deductive
<b>Methodological Choice</b>	Quantitative
<b>Research Strategies</b>	Survey
<b>Time Horizon</b>	Cross Sectional
<b>Techniques &amp; Procedures</b>	Sampling: Convenient

Research Philosophy



**1. Singularity**

There is only one reality  
Only one set of solution to the problem



## Research Approach

- ❑ The research approach is **deductive**.
- ❑ It starts from theory to observation to rejection or confirmation of hypotheses (Mahlangu, 2021).
- ❑ It allows for the collection of quantitative data and the application of mathematical analysis to conclude (Singh, 2022).

## Research Strategies

- ❑ Survey

- The research choice is quantitative research.
- It Involves collecting and analyzing numerical data (Yusuf et. al., 2023).
- It aims to establish forms between variables (Prastika et. al., 2023).

- ❑ This study will utilize a survey approach to collect data and the data will be gathered just once.
- ❑ This research study will employ a cross-sectional strategy as its time horizon.



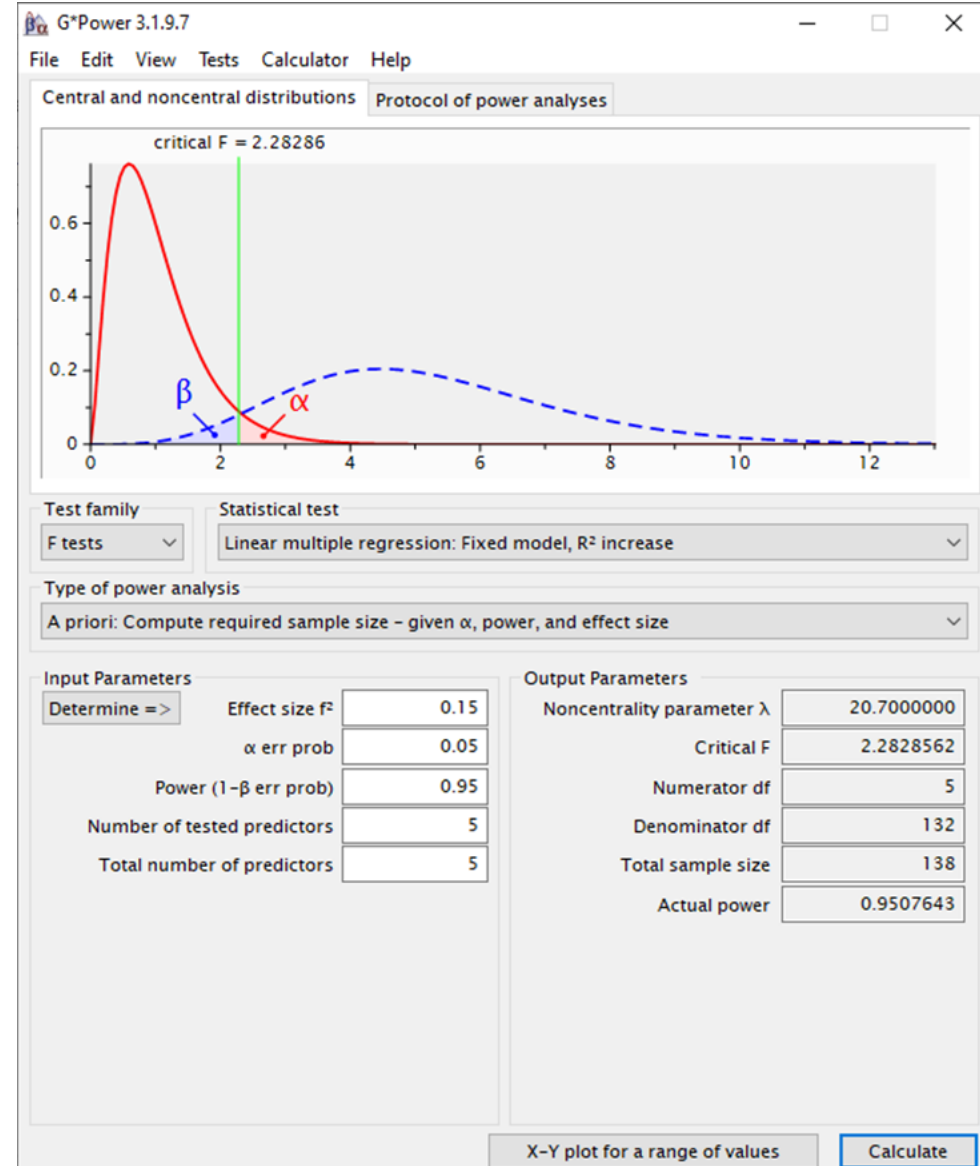
# Sampling

Sampling Technique: **Convenient Non-Probability Sampling**

Total Sample Size: 138 CVD Affected People.

So far 2100+ respondents surveyed and already 71 colour blind respondent's database is ready. Ishihara plates has been used to detect CVD.

Previous three studies have been conducted and currently a research grant is ongoing where already 1007 students have been surveyed for CVD testing.



# Testing Device

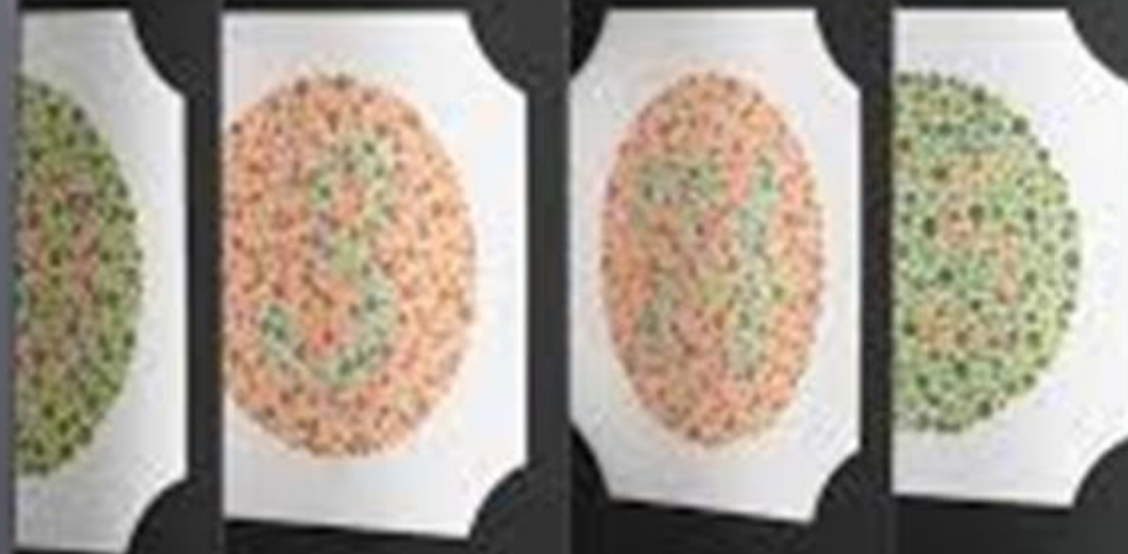
Farnsworth Munsell 100 Hue Tester



ISHIHARA'S TESTS  
FOR  
COLOUR DEFICIENCY

24 Plates Edition

2019



Ishihara Colour Plates



We shall also take  
Advice from Medical  
Professionals



Rakib



Habib



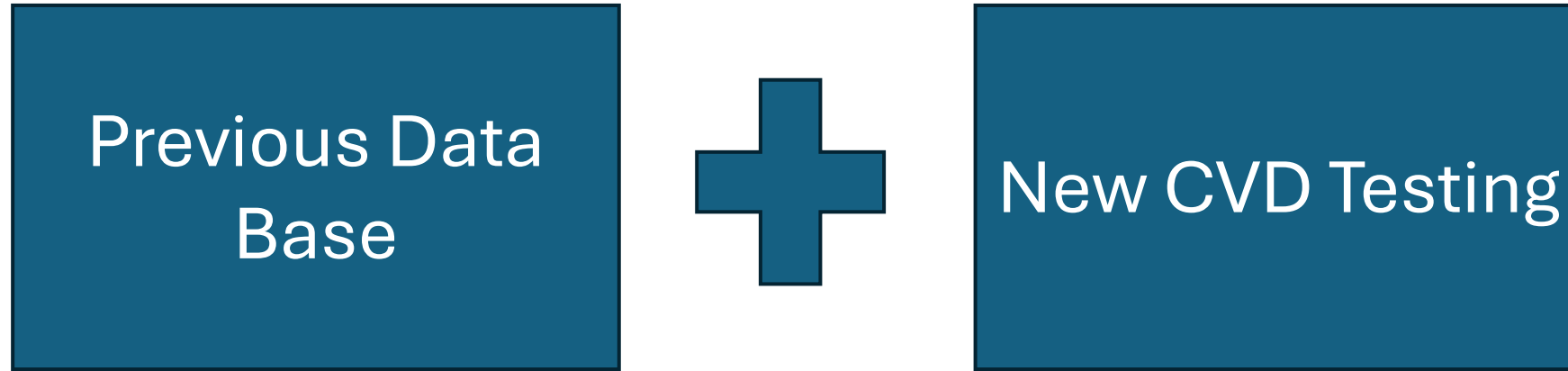
Papon



Shuvo



# How to make the Sample Size more than 138





# Sources of Data Collection

- **Quantitative data are targeted to quantify relationships and test hypotheses (Yeoh, 2022).**
- **The data collection and analysis processes focus on objectivity (Putri & Rahmawati, 2020).**

# Questionnaire Design

- ❑ Each construct will be measured using 5-point Likert scale Ranging from “Strongly Disagree” to “Strongly Agree” (Ferrer & Curt, 2021).
- ❑ The ordinal scale will be utilized for the moderator, independent, and dependent variables (Lee et al., 2022).



# Data Analysis

The tests will be carried out utilizing the **SmartPLS** software and two specific models, namely **the Reflective Measurement Model** and the **Structural Equation Model**.

This study will utilize **confirmatory factor analysis**, **composite reliability** for internal consistency, construct **validity**, and **Fornell-Larcker** and **cross loading methods for discriminant validity assessment** within the Reflective Measurement Model.

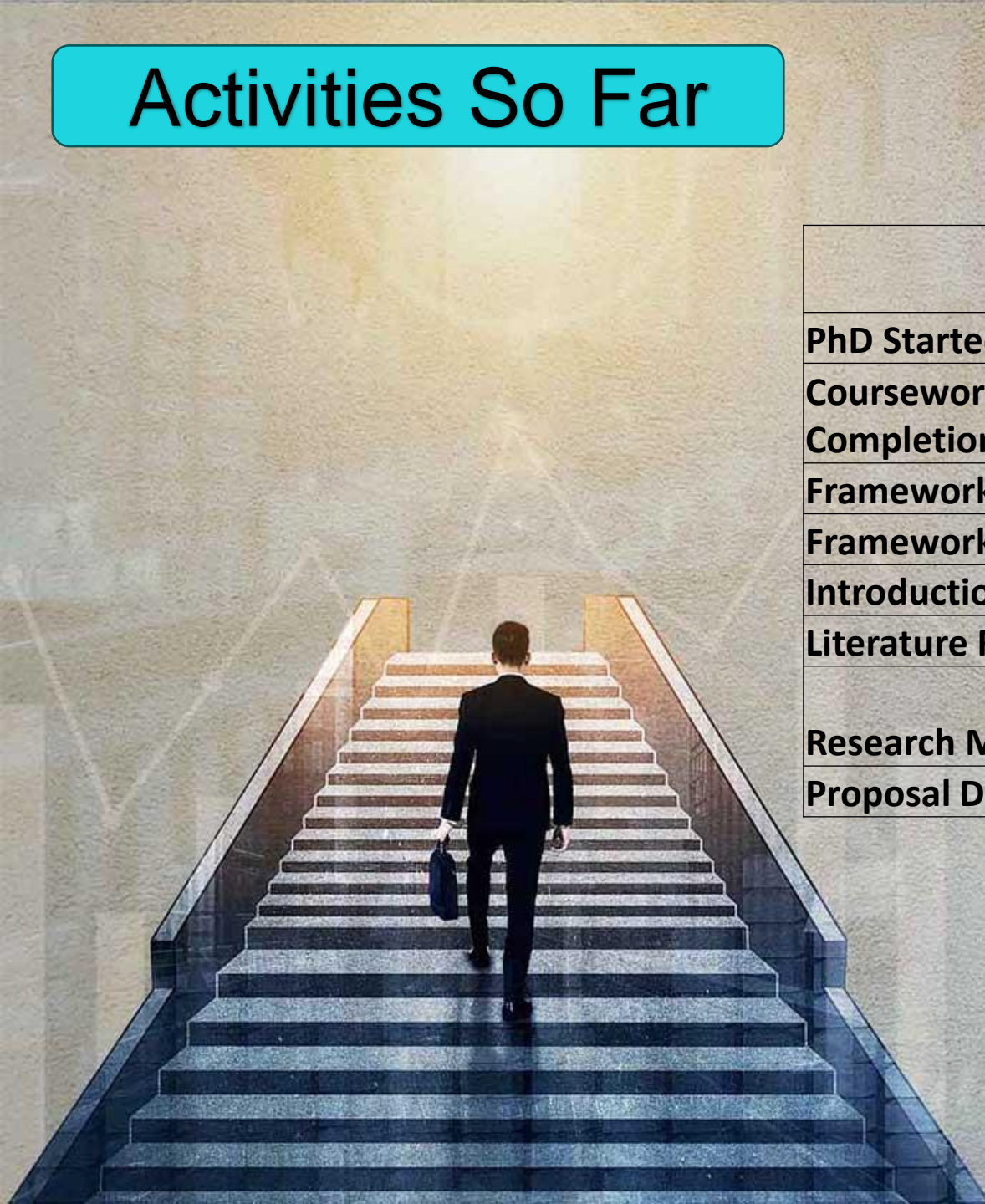
The structural equation model includes collinearity statistics, **R Square value**, **model fit**, and path coefficients, which combined indicate the presence of multiple linearity.

In order to evaluate the hypotheses of this study, the researcher employs the **Pearson correlation matrix** and **Regression analysis** to investigate the connection between the independent and dependent variables (Sekaran, 2003).



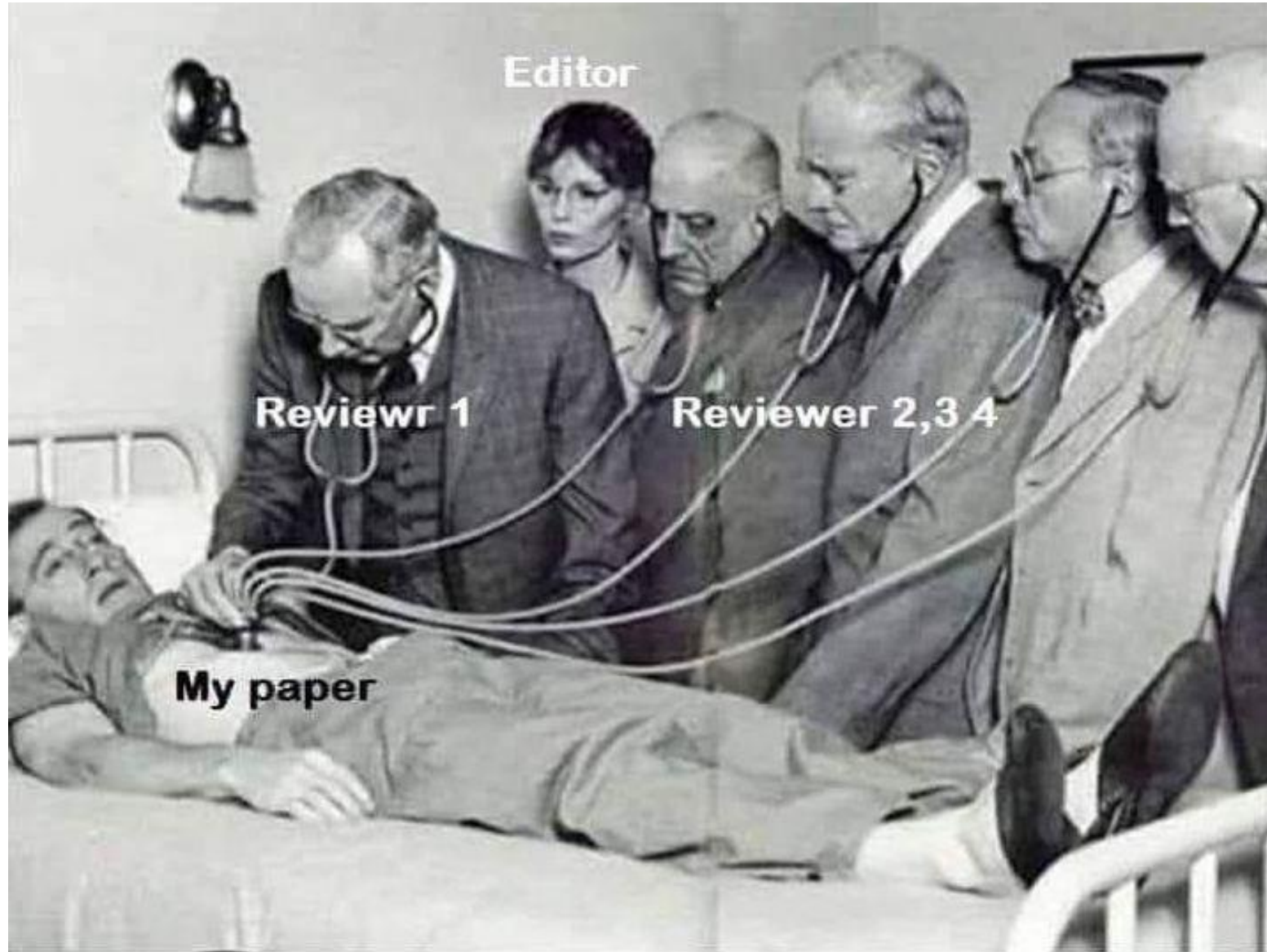


# Activities So Far



	Q4, 22	Q1, 23	Q2, 23	Q3, 23	Q4, 23	Q1, 24	Q2, 24
<b>PhD Started</b>	■						
<b>Coursework Completion</b>			■	■	■		
<b>Framework Fixation</b>		■					
<b>Framework Change</b>				■			
<b>Introduction</b>		■	■	■			
<b>Literature Review</b>			■	■	■	■	
<b>Research Methodology</b>						■	■
<b>Proposal Defense</b>							■





**Current Status**

# SDG

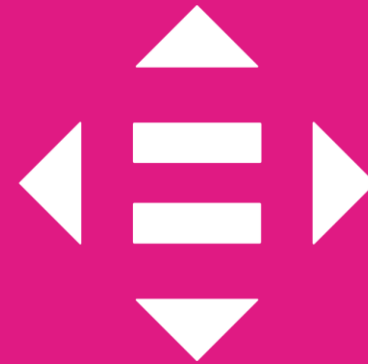
**3** GOOD HEALTH  
AND WELL-BEING



**9** INDUSTRY, INNOVATION  
AND INFRASTRUCTURE



**10** REDUCED  
INEQUALITIES





Q & A



**THANK YOU**