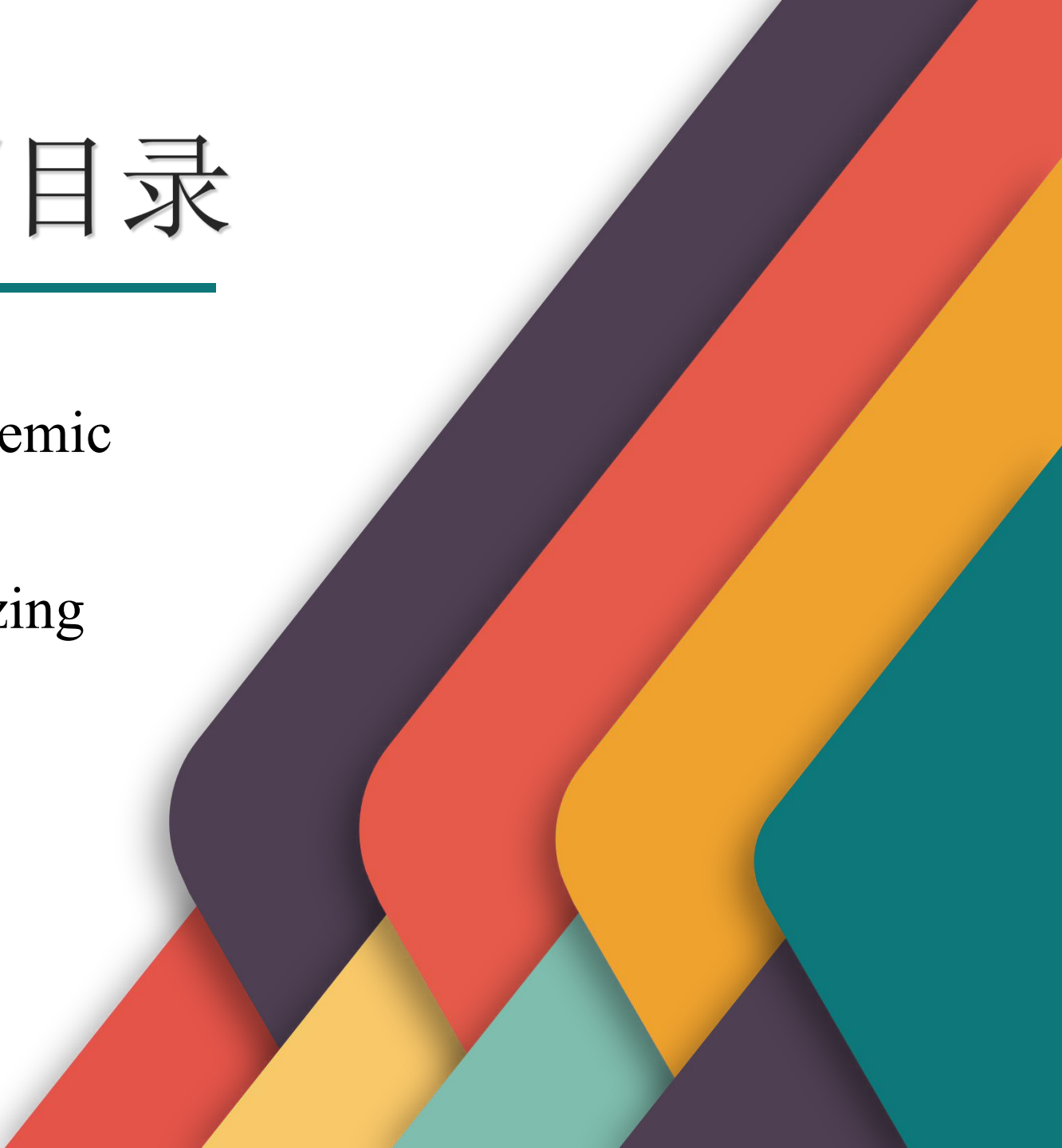# Silk Road Doctoral Forum

Topic: Analyzing the dynamics of research by extracting key aspects of academic research

Speaker: Mansoor Ahmed

PhD Student, School of of Economic and Management, China University of Geosciences, Wuhan, China

CONTENTS /目录

01 Exploring the nature of academic world

Identification of knowledge

Exploration as a purpose of research is when a research is conducted to explore the concept

Observation/experiments

Description fulfills the need to provide more insight to a problem, accordingly solve the issues

01

02

03

04

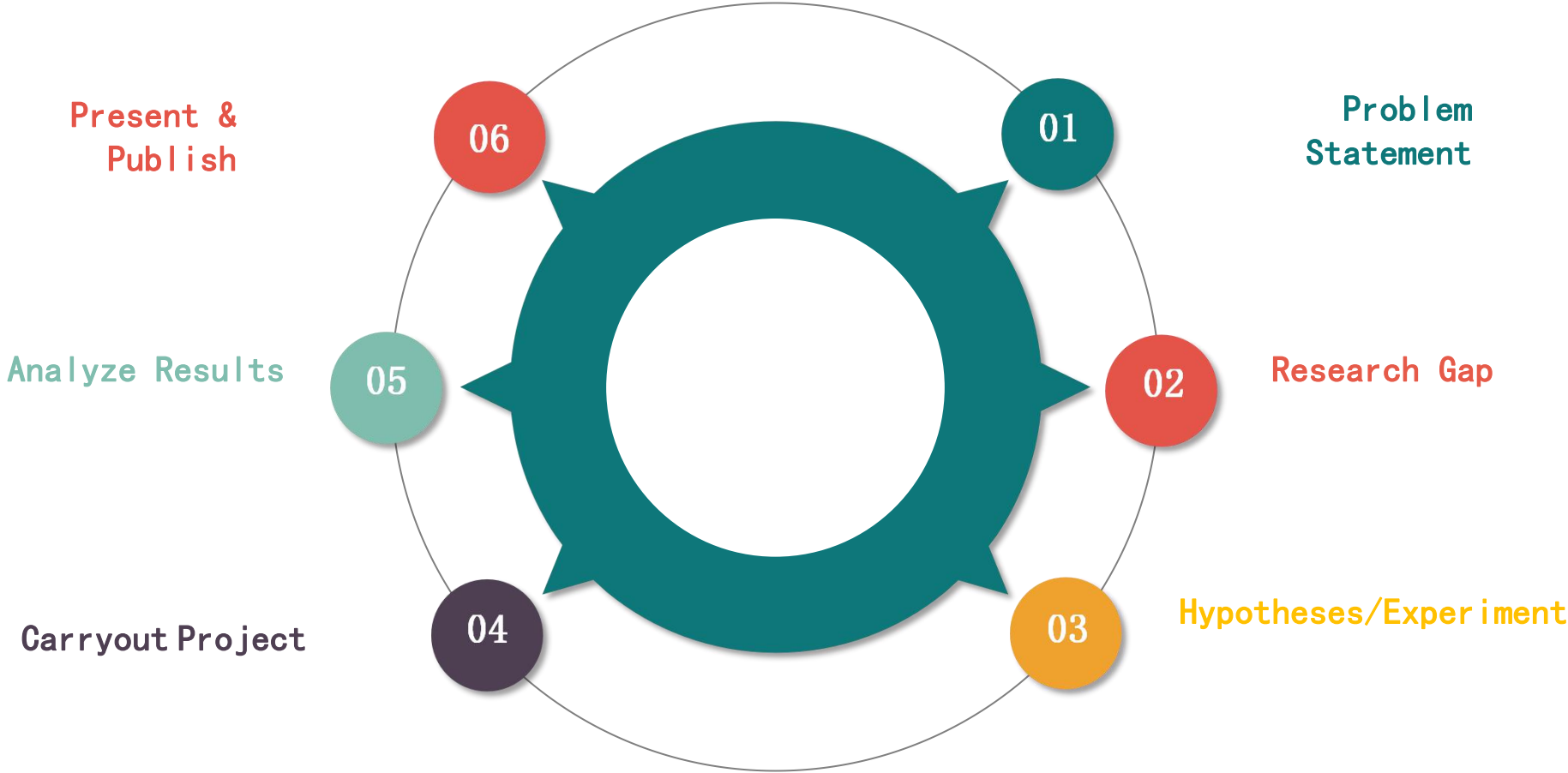Nature of academic world

Develop theories

Explanation is the use of existing knowledge to give a new prospective to the current research

Problem Solving

Research is born out of the need to increase knowledge and improve the understanding of humans about things that affect us.

Research cycle

Research is a systematic application of a family of methods that are employed to provide trustworthy information about problems (Gay, 2000)
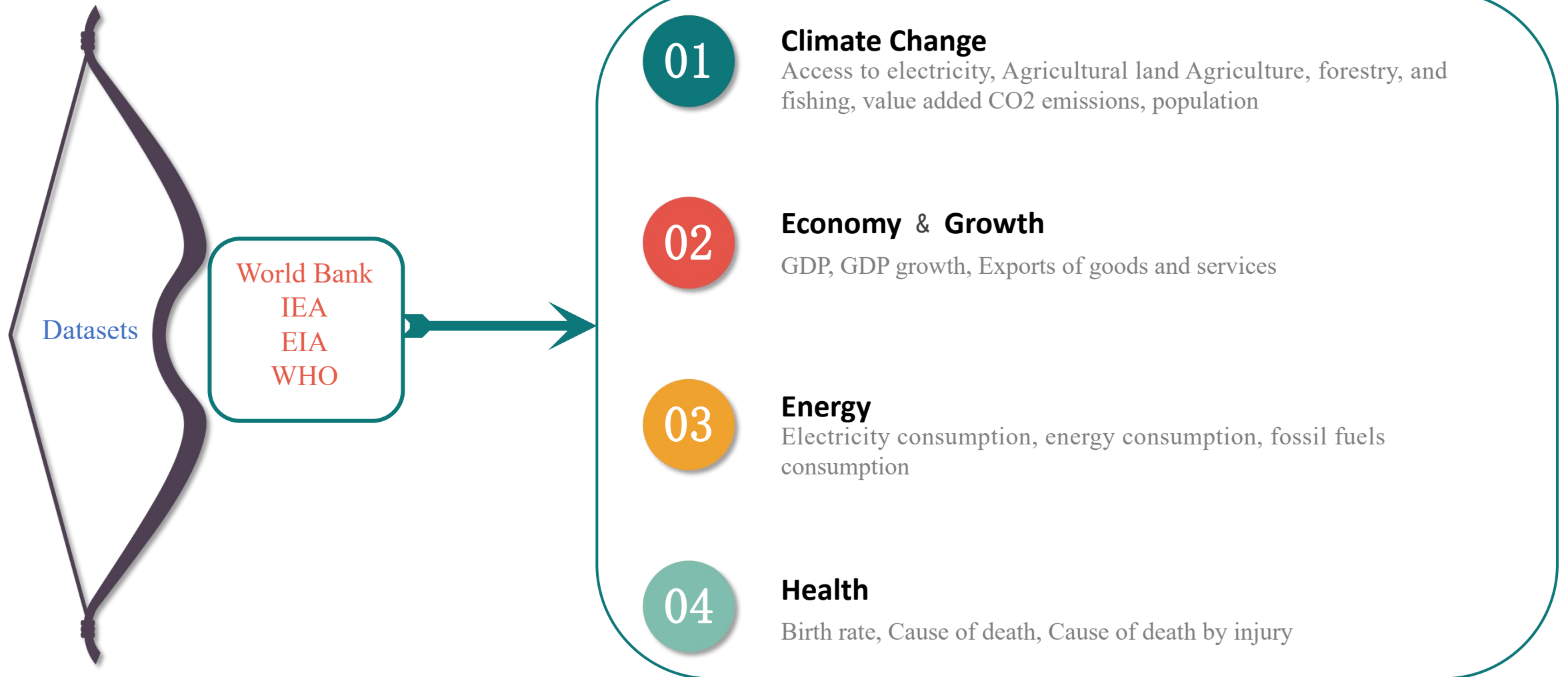
Present & Publish

06

Problem Statement

01

Analyze Results

05

Research Gap

02

Carryout Project

04

Hypotheses/Experiment

03

Some useful Sources of data collection

➢ https://data.worldbank.org/

➢ https://www.iea.org/data-and-statistics

➢ https://www.eia.gov/international/data/world

➢ https://ourworldindata.org/about

Available datasets

Datasets

World Bank
IEA
EIA
WHO

01 **Climate Change**

Access to electricity, Agricultural land Agriculture, forestry, and fishing, value added CO_2 emissions, population

02 **Economy & Growth**

GDP, GDP growth, Exports of goods and services

03 **Energy**

Electricity consumption, energy consumption, fossil fuels consumption

04 **Health**

Birth rate, Cause of death, Cause of death by injury

Some important sources of findings literature

- https://www.nature.com/
- https://www.sciencedirect.com/
- http://www.lib.cug.edu.cn/
- https://onlinelibrary.wiley.com
- https://connect.springerpub.com
- https://pubs.acs.org
- https://www.researchgate.net/
- https://scholar.google.com/
- https://sci-hub.tw/
- https://clarivate.com/webofsciencegroup/solutions/web-of-science/

Some important sources of findings literature

Key notes for academic publication before writing a manuscript

Questions To Ask Yourself 2

Questions To Ask Yourself 4

Have you read enough papers?

Do you have any plan how to design the paper in an effective way?

Have you summarized literature section?

Have you gone through the recent published papers of your targeted journals
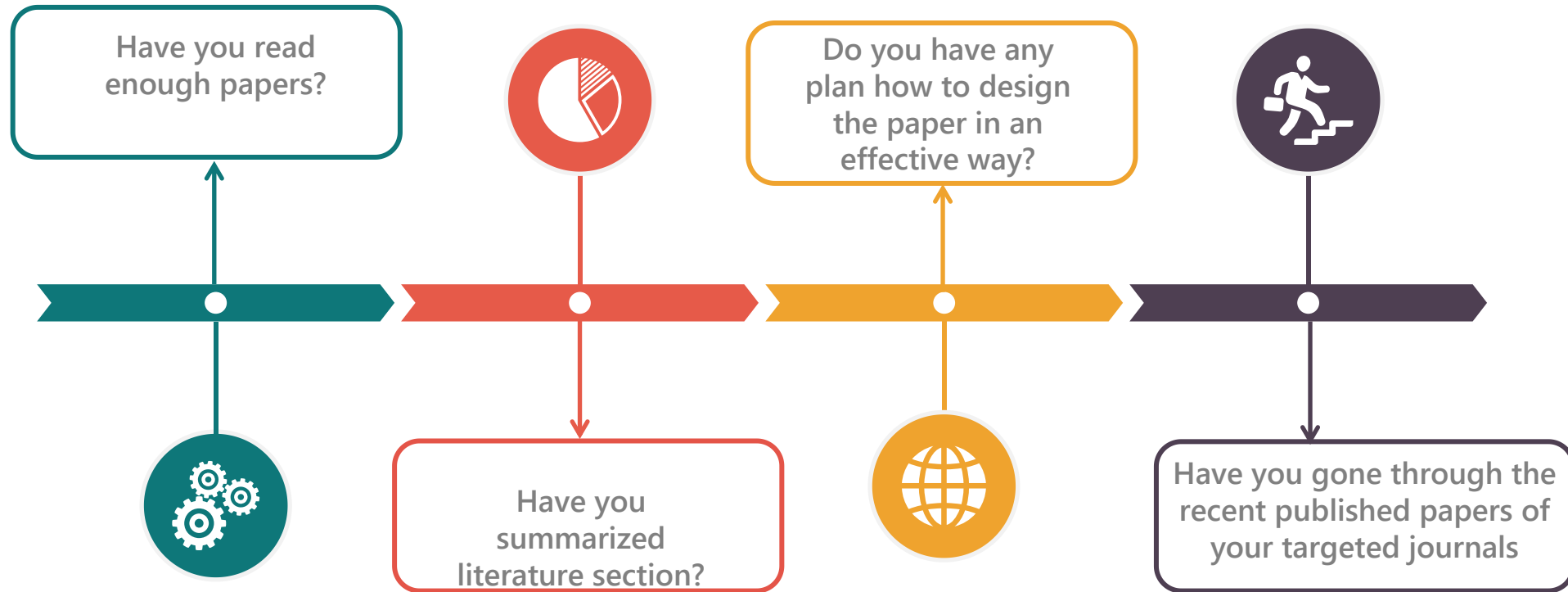
Questions To Ask Yourself 1

Questions To Ask Yourself 3

Key Challenges in summarizing desired work: My experience

01 Identification of problem

02 Novelty of the study

03 Literature Gap

Theoretical contribution

Practical implication

Methodological contribution
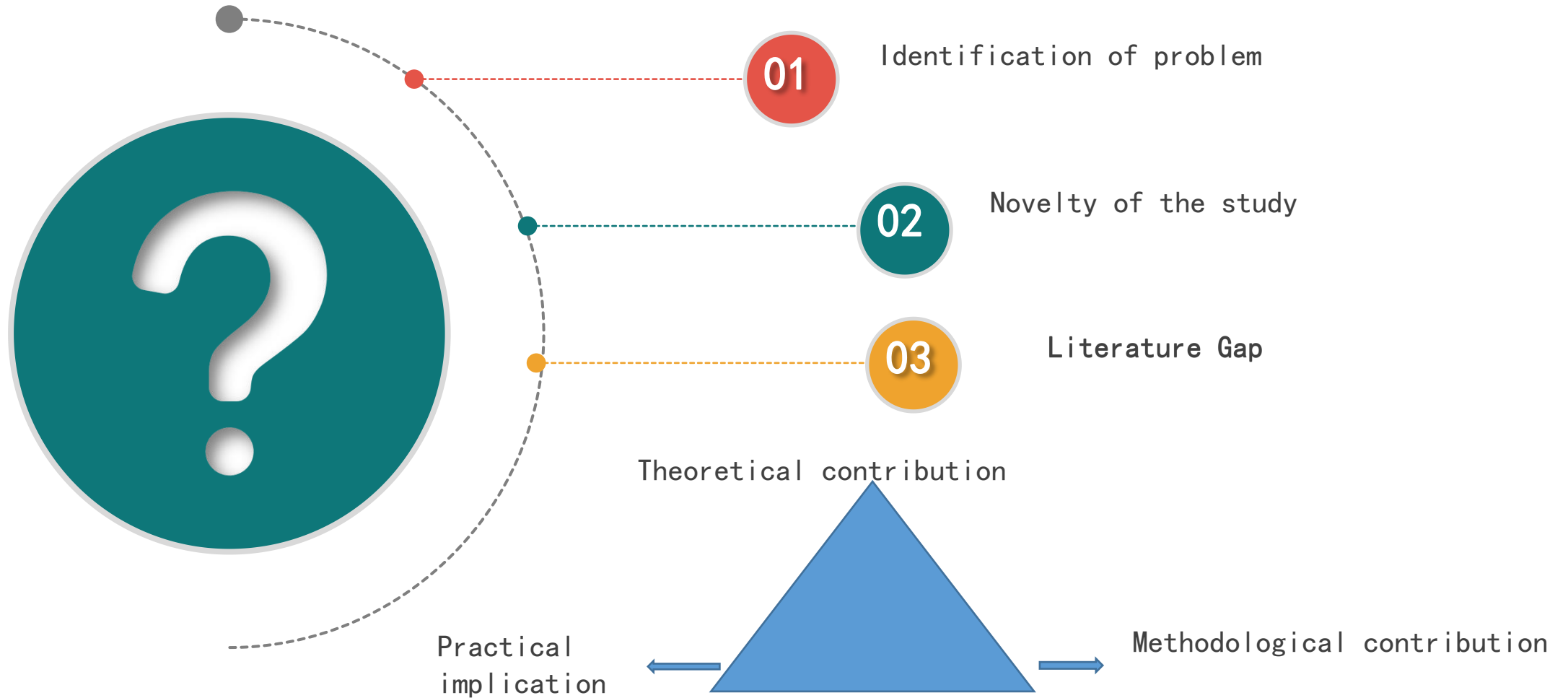
Identifying research gaps

Theoretical Gap

The theoretical gap deals with the gap in theory with the prior research.

Methodology Gap

A methodological gap deals with the conflict that occurs due to the influence of methodology on research results

Empirical Gap

An empirical research gap deals with the research findings need to be evaluated empirically

Population Gap

The gap occurs when some of sub-populations have been un-explored.

Writing research gaps with some examples

Research Type Gap	Examples
Methodological gap	The authors have identified a methodological gap in the prior studies. There is lack of ---------------------------------- research design. We seek to extend ……………work by addressing …………..
Empirical gap	The existing studies have focused primarily on qualitative research concerning ……………………….. However, based on author's knowledge, no study to date has attempted to empirically evaluate…………………………
Theoretical Gap	Some of the theory appear to be important. However, an investigation in terms of …………………………is warranted. The previous theories tend to focus primarily on…………………………It does not encompass new paradigms in…………
Population gap	Previous research has focused on this population of ……………very little research has been done on …….

Important Factors of writing quality work

1. Coherence

o   Include all necessary information in each section

o   Don't repeat information unless necessary (eg. Phrases)

2. Organization (structure)

o   The body of the paper (put the right parts in the eight place)

3. Relevance

o   Keep paper focused

4. Clarity

o   Should be easy to read and understandable

Basic structure of a paper

Abstract

Introduction

Literature review

Methodological Section

Results and Discussion

Conclusion
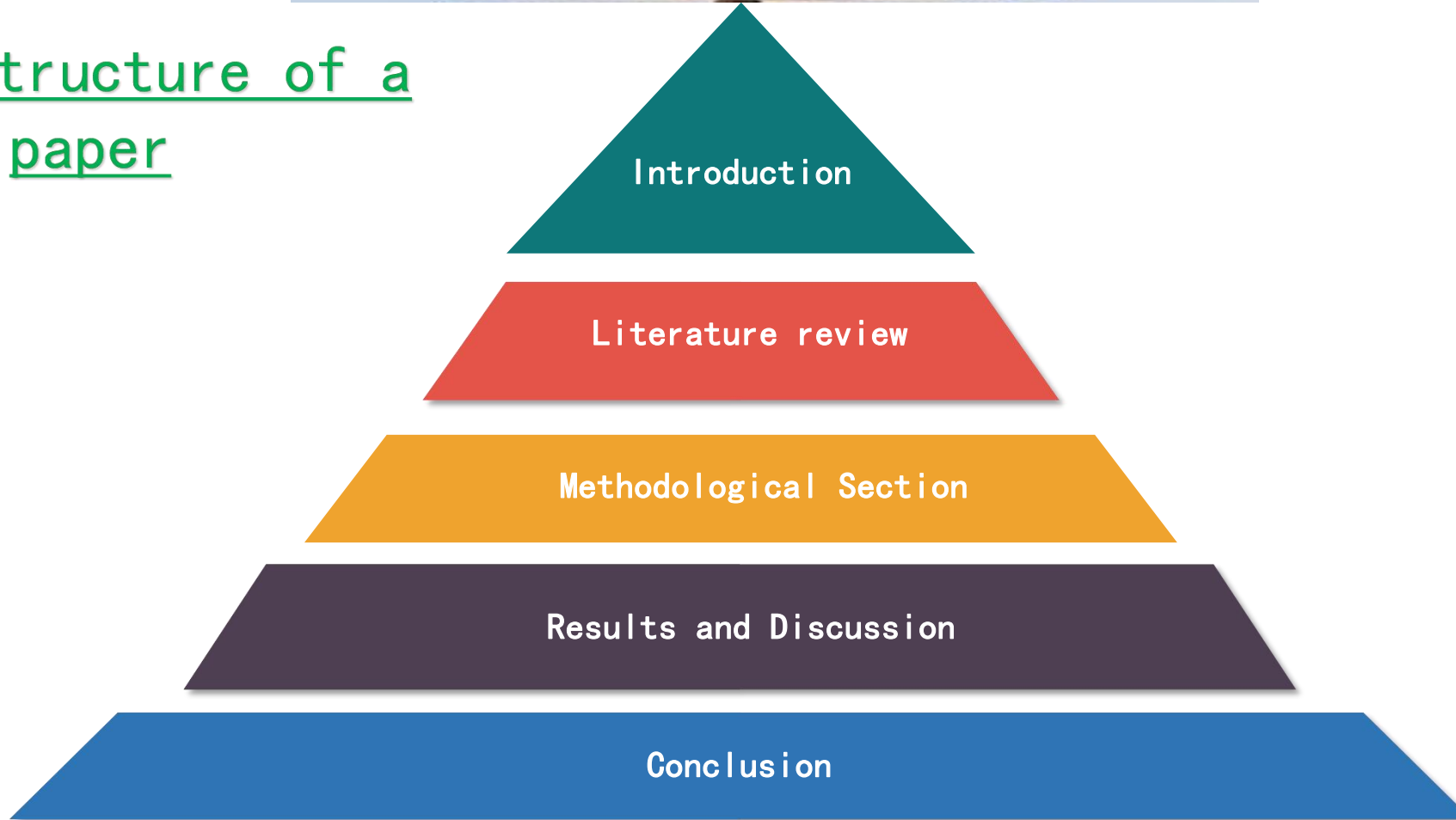
Abstract of a research article

➢ **An abstract must be fully self-contained and make sense by itself, without further reference to outside sources or to the actual paper. Followed by a description of the existing gap, research method and design**

➢ **The major findings of the research**

➢ **Conclusions of the study**

➢ **Implications (optional)**

Abstract of a research article with examples

ABSTRACT

Small and medium enterprise (SME) competitive advantage has been recognized as an important topic for researchers dealing with SME internationalization. Previous studies have long discussed the role of firm competitive advantage as a determinant of international performance, but there are few studies analyzing the determinants of firm competitive advantage and its potential mediating role in the relationship between organizational capabilities and SMEs' international performance. In this paper, we hypothesize four essential export capabilities (market intelligence, product innovation, pricing, and marketing communication) as determinants of competitive advantage for exporting SMEs. Based on a sample of 119 active exporting Malaysian SMEs and using partial least squares (PLS) structural equation modeling, the results revealed that three of the mentioned capabilities lead to competitive advantage. In addition, results indicated that competitive advantage only acts as a mediator between pricing capability and SMEs' international performance. The main conclusions of this investigation can be valuable to SMEs and startups that intend to explore or exploit opportunities in foreign markets.

1
2
3
4
5

- Abstract

Purpose – The purpose of this paper is to boost the internationalization of companies by implementing key factors that will help them to increase their exports in a context of an emerging country. **Methodology/approach –** According to different theories on the internationalization of companies, five independent variables were designed to measure their effect on the export performance using a multiple regression model. **Findings –** The results indicate that innovation has a positive relationship, while the price of the product has a negative relationship with the internationalization. **Originality/value –** These results will help companies to focus their efforts on obtaining resources to maintain and expand exports

1= significant of the topic   2= Research gap

3= Methodological section   4= Results interpretation

5= conclusion/implications

Introduction section of a research article

Writing Introduction section: 5 Ws'

➢ **Why** you choose that particular topic for research

➢ **Why** it is important

➢ **What** is already known and what is not known about your research work

➢ **Why** you adopted a particular method or approach

➢ **What** it contributes in the existing knowledge (Theoretical and practical contribution)

Introduction section of a research article

❖ State the purpose of the work in the form of hypothesis, question or

Problem you investigated.

❖ Briefly explain your approach, and whenever possible, provide outcome of your

Study that can reveal.

❖ Introduction section must answer the question what was I studying and prove that

This study will advance the knowledge of existing studies.

❖ Be sure to clearly state the research problem, research question and novelty of your work.

Literature section of a research article

- **Search** for relevant literature

- **Provide** some background information (concepts, theories)

- **Identify** themes, debates and gaps

- **Outline** the structure

- **Summarize** the existing gap

Sources of Literature

- Scholarly articles

- Books

- Conference proceedings and annual meetings

- Annual Report

Literature search from annual reports

CO₂ emissions

International Energy Agency (IEA), British petroleum, world bank, and WHO release annual, and monthly reports on energy, health, environment, etc.

Carbon emissions from energy use fell by 6.3%, to their lowest level since 2011. As with primary energy, this was the largest decline since the end of World War II

Related downloads

CO₂ emissions – 2020 in review	PDF / 1.1 MB
CO₂ emissions – methodology	PDF / 75.4 KB
Statistical Review of World Energy	PDF / 7.9 MB

Download all

Carbon

Carbon dioxide emissions

Million tonnes of carbon dioxide	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Growth rate per annum 2020	2009-19	Share 2020
Canada	550.1	554.7	551.1	564.6	571.8	570.2	553.3	565.9	576.2	578.0	**517.7**	-10.7%	0.8%	1.6%
Mexico	454.8	473.0	476.7	483.2	471.2	475.2	480.4	486.1	477.1	459.8	**373.2**	-19.0%	0.1%	1.2%
US	5495.0	5348.4	5101.5	5268.3	5277.6	5165.6	5060.8	5003.2	5166.0	5029.4	**4457.2**	-11.6%	-0.5%	13.8%
Total North America	6499.9	6376.1	6129.4	6316.1	6320.5	6211.0	6094.5	6055.2	6219.4	6067.1	**5348.1**	-12.1%	-0.4%	16.6%
Argentina	168.8	174.8	183.7	189.4	189.5	192.8	191.5	189.7	187.5	175.8	**164.1**	-6.9%	0.9%	0.5%
Brazil	403.1	427.2	445.7	485.8	508.0	490.7	454.1	460.6	445.5	444.9	**417.5**	-6.4%	2.2%	1.3%
Chile	76.1	87.0	89.4	91.2	88.5	89.0	94.2	92.5	93.1	94.7	**87.7**	-7.6%	2.4%	0.3%
Colombia	73.4	70.5	79.0	82.3	87.3	88.3	92.7	86.7	88.6	94.9	**92.7**	-2.6%	3.4%	0.3%
Ecuador	33.1	33.8	35.2	38.1	40.4	39.6	37.7	36.4	38.8	37.5	**30.7**	-18.4%	2.6%	0.1%
Peru	40.8	45.4	46.4	47.3	48.4	50.8	55.3	54.2	56.9	56.7	**44.6**	-21.6%	4.9%	0.1%
Trinidad & Tobago	26.1	26.0	25.5	26.3	25.4	24.5	22.6	21.8	21.1	21.1	**18.6**	-12.4%	-1.1%	0.1%
Venezuela	180.6	185.6	200.2	203.1	194.5	192.2	169.8	162.4	138.3	112.3	**88.5**	-21.4%	-4.8%	0.3%
Other S. & Cent. America	196.3	203.8	203.1	201.5	203.7	214.0	221.8	218.4	224.0	236.5	**213.3**	-10.1%	2.0%	0.7%

Methodological section of a research article

Examples →

➢ Methodological section

- [Describe your methods of data collection](#)
- [Explain your methodological approach](#)
- [Describe your methods of analysis](#)
- [Evaluate and justify your methodological choices](#)

❑ The data for this study was acquired from world Bank.

❑ The two-way MANOVA is a multivariate analysis technique used for comparing one or more dependent variables across two or more than two independent variables. It allows us to look for differences across several dependent and independent variables.

❑ First, there should be at least two or more dependent variables, and they need to be measured in interval or ratio level. The model has nine dependent variables mixed up of categorical, binary, and continuous in nature. Interestingly, SPSS Statistics software refers to those levels collectively at scale.

❑ We used MANOVA due to the various reasons. First, our group of dependent variables consists of binary and categorical variables. Second, for MANOVA, there must be different groups and different outcome variables; our research considers a large number of samples, particularly focusing on multiple indicators related to health.

Results section of a research article

- **Indicate how the approach fits the overall research design**. Your methods should have a clear connection with your research problem. In other words, make sure that your methods will actually address the problem. One of the most common deficiencies found in research papers is that the proposed methodology is unsuited to achieving the stated objective of your paper.

- **Explain how you intend to analyze your results**. Will you use statistical analysis? Will you use specific theoretical perspectives to help you analyze a text or explain observed behaviors?

Results section of a research article

- **Describe the specific methods of data collection you are going to use**, such as, surveys, interviews, questionnaires, observation, archival research. If you are analyzing existing data, such as a data set or archival documents, describe how it was originally created or gathered and by whom.

- Data presented in tables, charts, and graphs, can attract readers.

- All data that corresponds to the central research question(s).

- All secondary findings (secondary outcomes, subgroup analyses, etc.)

- This section should be sufficiently expanded as it's the most important one explaining your work's

new results.

Conclusion section of a research article

- **Start** the conclusion section with objectives/research question of the study

- **Provide** summary of the results

- **Explain** the importance of the results

- **Suggest** implications/recommendations

- **Summarize** the existing gap

- **Recognize** the limitation of the study

Examples

- **The presents study was carried out……………**

- **In this research, the goal was….**

- **The** study has identified that ……..

- **The findings indicate that …………**

- **This study** contributes to the existing knowledge….

- **The empirical study** provides a new understanding of…..

- **The results of our** study has an important implications ……………

- **Policymakers** and Government personnel should encourage….

- **The study** only focuses on Pakistan………

Highlights (Mandatory in some journals)

- Highlights are **three to five bullet** points that help increase the discoverability of your article via search engines. It offer your paper a considerable advantage in the online world to the right audience.

- These bullet points should capture the **results of your research** as well as **new methods** that were used during the study

- Don't try to capture all ideas, concepts or conclusions as highlights

- Limit 80-85 characters

Highlights (Some examples)

- MANOVA and OLS are employed to provide a robust analysis of the causal link

- A cross-sectional data of Pakistan, India, and Bangladesh are analyzed

- The type of cooking fuel affects the pregnancy and sterilization of a woman

- The place of cooking negatively affects age at sterilization of a woman

Highlights

- The study uses a dataset of 701,834 households from six South Asian countries.

- It measures energy poverty with a multidimensional approach across South Asia.

- MANOVA is used to examine the causal relationship between health issues and MEPI.

- Most of the health variables have a statistically significant relationship with MEPI.

Some examples of Sentence starter of a paper

This essay discusses …	……. is explored …………..	…….. is defined …….
The definition of …….. will be given	…………. is briefly outlined ……	…… is explored ……
The issue focused on …….	……. is demonstrated …….	…… is included ……
In this paper …….	……. is explained …….	…… are identified ……
The key aspect discussed ……	……. are presented ……	…… is justified ……
The central theme …….	……. is described ……..	…… is analyzed …….

Some examples of Sentence starter of a paper

Conclusion	Conclusion	Conclusion
This essay discusses …	……. is explored ………….	…….. is defined …….
In summary, …	To review, …	In conclusion, …
In brief, …	To summarise, …	To sum up, …
It has been shown that …	In short, …	Hence, …

Some examples of Sentence starter of a paper

To show relationship or outcome between sentences		
Therefore . . …	As a result . . ….	For that reason . . …
Hence, . . ….	Otherwise, . . …	Consequently, ...
The evidence suggests/shows . . .	It can be seen that . . .	With regard to . . .
After examining . . .	These factors contribute to . . .	It is apparent that . . .
Considering ... it can be concluded that ...	Subsequently, . . .	The effect is . . .
The outcome is . . .	The result . . .	The correlation . . .

Linking Words

<u>Examples / Support / Emphasis</u>

in other words	notably	in fact
to put it differently	including	in general
for one thing	like	in particular
as an illustration	to be sure	in detail
in this case	namely	to demonstrate
for this reason	chiefly	to emphasize
to put it another way	truly	to repeat
that is to say	indeed	to clarify
with attention	to certainly	to explain
by all means	surely	to enumerate

Linking Words

Effect / Result /Consequence

• as a result	for	consequently
• under those circumstances	thus	therefore
• in that case	because the	thereupon
• for this reason	then	forthwith
• henceforth	hence	accordingly

- **Opposition / Limitation / Contradiction**

• although this may be true	but	although
• in contrast	(and) still	instead
• different from	unlike	whereas
• of course ..., but	or	despite
• on the other hand	(and) yet	conversely
• on the contrary	while	otherwise
• in spite of	besides	rather
• even so / though	as much as	nevertheless
• be that as it may	even though	nonetheless
• then again		regardless
• above all		notwithstanding

Reviewer's comments and concerns (My paper)

Reviewer's comments:

Introduction:

➤ The manuscript claims to contributes both empirical and theoretically. However, it only states the empirical contribution, i.e., the application of a new method different from past studies. Please state all the contributions explicitly.

➤ How the selection of independent variables was made. This selection should be justified in that why some factors were included and others were excluded. (The relationship between dependent and independent variable).

➤ The paper should not solve a case, rather an issue should be the center of the discussion.

Literature section:

• I highly recommend adding a comprehensive documentary to identify the research gap.

• I would also suggest building the argument based on a theory.

Author's response:

• **Thank you for your comment.** The authors have explicitly defined the objectives, importance and novelty of work. Please see paragraph # (lines….)

• **Thank you for your constructive comment.** The authors have explicitly defined the explanation about the selection of explanatory variables. Please see paragraph # (lines….)

• **As per your timely instruction**; the authors have revised the literature section and added a paragraph that defines the working hypothesis. Please see paragraph # (lines….)

Reviewer's comments and concerns (My paper)

Reviewer's comments:

Methodological section:

➢ The Methods and Data section should provide comprehensive information on the experimental methodologies, as well as the significance and novelty of the approaches in contrast to the existing methods.

➢ What are scientific contributions? From the methodological perspective, the authors should justify the current approach.

Results and discussion section:

➢ I suggest citing and discussing some related studies in this section to justify your findings compared to past studies ' findings.

➢ The results produced seem interesting. However, these do not seem to be compared to other results of this type produced elsewhere.

Author's response:

- **As per your valuable suggestion,** the authors have added a new paragraph in the methodological section that briefly explains the advantage of the machine learning approach, its differentiated role from other methods, and its use in our study. Please see paragraph # (lines....)

- **As per your good advice,** the authors have expanded the discussion part and cited relevant studies to justify the findings. Please see paragraph # (lines....)

- The authors have highlighted the findings of existing studies related to air pollution and then compared our findings with the available literature. Please see paragraph # (lines....)

Reviewer's comments and concerns (My paper

Reviewer's comments:

Author's response:

Conclusion and policy implications :

Reviewer: The conclusion seems too general. It should be to the paper's main results.

- As per your valuable suggestion, the authors have added a new paragraph in the methodological section that briefly explains the advantage of the machine learning approach, its differentiated role from other methods, and its use in our study. Please see paragraph # (lines….)

Reviewer: In such studies policy recommendations are critical. I recommend expanding policy recommendation sections

- We appreciate your good comment. The authors have expanded policy recommendations. Furthermore, we have compared the results with existing studies to justify the findings Please see policy implication section on page no. 24, 25 and 26

Conclusion of today's lecture

- **Research** is a name of "creative and systematic **work.**

- **Every one** is at the stage of learning, so, work with dedication, commitment and consistency will give you the desired out put.

THANK . YOU