

Introduction Chapter of ISI report & Abstract for FYP

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ISI Report – Introduction

Chapter 1. Introduction

Lead Paragraph

Section 1.1 Overview

Describe the general functions of your online shopping mall, what kind of products are sold, and what special considerations in problem domain, if any, are considered.

Section 1.2 Objectives

- **Description of objectives:** Summarizes the functional requirements you attempt to implement.
- Give summary and outline of your paper, telling readers what they should expect to find in it.

Note that you should include proper citations and references as well.

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ISI Report – Introduction – Lead Paragraph

- ▶ Introduce your topic and explain the problem you are investigating.
- ▶ A **lead** paragraph is the opening paragraph of an article, essay, news story or book chapter.
- ▶ It precedes the main body of the article, and it gives the reader the main idea of the story.

ISI Report – Introduction Section 1.1 Overview – Examples

The usage of the Internet grows day by day. Internet gives a way to retail business to solve some traditional problem. For customers, they may want to buy something after business hours. Customer may want to buy something from another city; the transportation may be the problem. For the business, running a brick-and-mortar shop may cost a tremendous amount of money. An online shopping site can solve these problems. Customers just sit at home shopping via internet. Vendors just pay a cheaper cost for running the online shop.

The Web has provided a unique opportunity for retail businesses. Customers may do window shopping over a wide range of products without limitation on business hours and transportation. Vendors save huge expense by not running a brick-and-mortar shop and can provide services for both large and niche markets. Online shopping sites like Taobao, Amazon and eBay are some successful examples.

This project XXX online CD shopping mall provides an online shopping experience with high quality CD to customers. The vendor displays their products in a manner that is easy for potential customers to select and make purchases. In addition, the Mall integrates closely with a logistics service and a payment gateway that allows fund transfer between customers and vendors for any purchases.

In your opinion, which overview is better?

- What are they selling?
- What are the general functions?
- What problems are being solved?

ISI Report – Introduction

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ISI Report – Introduction

Section 1.2 Objectives – Examples

The main objective of the project is to create an online shop that allows the vendors to display their products that is easy for customers to select and make purchases. It provides a shopping cart to save the products that the customers need. Customers can check the state of the orders. Vendor can manage the orders and it allows fund transfer between customers and vendors for any purchases.

This report aims at specifying the works of developing the XXX online CD shopping mall and the resources required and allocated to the project development properly.

XXX is maintained to provide an efficient, fast, secure and user friendly CD online shopping platform. This is a business to customer business model website. Therefore, people can register to be a customer in the website and make their exchange transactions with CD.

This report is geared to the audiences which include website administrators, website developers, and website maintainers.

In your opinion, which objective is better?

- List the functional requirements attempted to implement

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ISI Report – Introduction

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Summary – Organization of the report

An example of summary is given below:

This report is organized as follows: Chapter/Section 2 introduces the background of our work. Chapter/Section 3 presents our design approach. Chapter/Section 4 shows the implementation details....

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Purpose of Introductions

- ▶ An introduction is typically the first paragraph of your paper.
- ▶ The goal of your introduction is to let your reader know what to expect from your paper.

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Purpose of Introductions

- ▶ While there is no one formula for writing a good introduction, in general, an introduction should do the following:
 - Attract the Reader's Attention
 - State Your Focused Topic
 - State your Thesis

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Introduction: Attract the Reader's Attention

- ▶ Begin your introduction with a "hook" that grabs your reader's attention and introduces the general topic.
- ▶ Here are some suggestions on how to create a "hook": State an interesting fact or statistic about your topic
 - Ask a rhetorical question
 - Rhetorical is a question you ask but you don't have to answer. The effect is to leave your readers in thought. E.g In a speech you might ask, *"Do you all have a role model?"*
 - Reveal a common misconception about your topic
 - Set the scene of your story: who, when, where, what, why, how?
 - Share an anecdote (a humorous short story) that captures your topic

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Introduction: State Your Focused Topic

- ▶ After your "hook", write a sentence or two about the specific focus of your paper.
 - What is your paper about?
 - Why is this topic important?
- ▶ This part of the introduction can include background information on your topic that helps to establish its context.

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Introduction: State Your Thesis

- ▶ Finally, include your thesis statement.
- ▶ The kind of thesis you include depends on the type of paper you are writing, but, in general, your thesis should include:
 - your specific topic
 - your main point about that topic
 - the points of discussion you will include in your paper

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An Example

Hook: Do you use social media, apps, or YouTube?

Focused topic & context: Modern American youth are flooded with opportunities to access information and entertainment, often at the touch of a fingertip. Although many of these technological outlets have a negative connotation of "wasted brain space," not all technology and screen time should be considered of little worth, or purely for mindless entertainment. In fact, because of technology's widespread appeal and accessibility, it can be easily used to incorporate academic or educational purpose into a daily routine. Technology's ability to captivate and engage a targeted audience can be harnessed and redirected from mindless entertainment into powerful tools which are not limited to amusement alone. Games, television, and apps can be used to appeal to a child's intellect while developing technical skills; this creates a wealth of opportunities to enhance the behavioral and scholastic development of an adolescent.

Thesis statement: The use of technology and screen time can be positive for children as it allows children to excel academically by experiencing the expanding definitions of classrooms and literacy as a whole, improves low-performing developmental skills, and can supplement in-class education for more academically advanced students.

<https://writingcenter.uagc.edu/introductions-conclusions>

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Another Example

Fair Trade negatively impacts producers and workers in developing countries. To what extent do you agree?

International trade has been predominately controlled by developed countries for centuries and developing countries have struggled to access this market. Fair Trade is a worldwide initiative aimed at improving the livelihood of producers and empowering workers in developing countries by generating better terms and sufficient wages (Fair Trade International, 2017). Overall, Fair Trade develops increased economic stability, higher salaries compared to conventional producers and educates community diversification. Thus, to a large extent the claim that Fair Trade negatively impacts producers and workers in developing countries is invalid. This essay will focus on the main arguments connected to stability, salaries and diversification and conclude with suggestions on how Fair Trade could be improved.

First sentence

A general statement that does not include the main focus but introduces the issue / controversy for the argument

Definition

A paraphrased definition (don't copy/reference source)

Thesis –include question

words and show your sections / key arguments of the essay (stability, salaries, diversification)

Outline – MUST explain what the essay structure will do and the outcome / conclusion

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Abstract for FYP

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Year 4 – Final Year Report

▶ Opening

- Cover Page
- Declaration of Originality
- **Table of Contents**
- Acknowledgement
- **Abstract**

▶ Main Body

- Main Text
 - **Introduction**
 - Background and related work
 - Design Approach
 - Implementation
 - Results and Discussion

▶ Closing

- Conclusion and further work
- References
- Appendix
- Project Management

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Purpose of Abstract

- ▶ What would my readers really need to know if they had only a minute or two to read?
- ▶ The majority of academic journals place a limit of 250 words on the length of the abstract in papers submitted to them.
- ▶ They do this to ensure you give a quick overview of only the most important information from your study, helping the reader decide if they want to read the whole paper too.
- ▶ Make sure you double check the specific requirements of your target journal before you start writing.

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Importance of Abstract

- ▶ A summary of the most important points in a report.
 - Provides readers with a preview of the full contents
 - Covers a report's *main points, conclusions, recommendations*
- ▶ An abstract could be the only text that the readers rely on.

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Why is it necessary to write an abstract?

- ▶ Abstracts are important for both selection and indexing purposes.
- ▶ **Selection**: Abstracts allow readers who may be interested in the paper to quickly decide whether it is relevant to their purposes and whether they need to read the whole paper.
- ▶ **Indexing**: Most academic journal databases accessed through the library enable you to search abstracts. This allows for quick retrieval by users. Abstracts must incorporate the key terms that a potential researcher would use to search.

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Essential Elements in an Abstract

- ▶ **Accuracy:** Readers will be frustrated if your abstract is not an accurate preview of your paper. Do not include information in your abstract that does not appear in the body of your text.
- ▶ **Conciseness:** In an abstract, every word counts. Make judicious use of active and passive voice, and scrutinize adjectives, adverbs, and prepositional phrases. scan, inspect, examine
- ▶ **Clarity:** Your abstract should function as a stand-alone document. Avoid unexplained acronyms and jargon that may be unfamiliar to your audience.
- ▶ **Keywords:** When thinking about which keywords to include in and along with your abstract, ask yourself, "What sort of search would return my abstract as a result?" Consider the sort of search terms you use in your own research.

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What is NOT necessary?

The Abstract SHOULD NOT contain:

- ▶ lengthy background information,
- ▶ references to other literature,
- ▶ abbreviations or terms that may be confusing to readers,
- ▶ any sort of illustration, figure, or table, or references to them.

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Class Exercise

- ▶ How to write an abstract?
 - <https://m.youtube.com/watch?v=qYkXA6gDRlg>
 - <https://m.youtube.com/watch?v=sxixLYBtBH0>
 - <https://m.youtube.com/watch?v=JMEEnRBss6V4>
- ▶ The video is around 6 to 7 minutes.
- ▶ Each group is given 15 minutes time to watch the video and come up with 3 most important highlights of the video after discussion.

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Abstract – Content

The main purpose of an abstract is to give the reader

- ▶ an overview of why the study was needed,
- ▶ what the purpose of the project was,
- ▶ the research question,
- ▶ the key materials and methods that were used,
- ▶ the main results and what conclusions were drawn from this.

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Abstract Writing Strategy

- ▶ **Put the Abstract on One Page**
 - An Easy-To-Read Overview
 - For Easy Distribution
- ▶ **Avoid Technical Jargon**
 - Include only entry level of technical language that normal readers will comprehend
- ▶ **Include Only Important Conclusions and Recommendations**
 - Mentions only major points of the report
 - If you are the reader. What information is most important for you?

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Abstract Format

A 3-Paragraph Abstract

- ▶ **1st Paragraph**
 - Background and purpose of report
- ▶ **2nd Paragraph**
 - Major findings/Simple description of process
- ▶ **3rd Paragraph**
 - Conclusion/Recommendation

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Abstract

Example – Software Load Balancer To Leverage A High-Demand Dynamic Content-Based Web Portal Software

- 1st Paragraph – Background and purpose of report

In today's high-tech world, the Internet has become a favorite and large resource pool for information gathering and entertainment. The most critical problem faced by the Internet web service provider is to resolve the traffic problem caused by the huge number of clients' requests at a short time interval.

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Abstract

Example

- 2nd Paragraph – Major findings/Simple description of process

This project introduces a way to build up a Global Load Balancing (GSLB) system in HTTP service. Then, the HTTP SLB scheme (IP Virtual Server (IPVS), Apache Tomcat and Apache Camel structure) were evaluated for the performance of HTTP Global Load Balancing, files synchronizations, database synchronizations and session management in the website with dynamic content.

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Abstract

Example

◦ 3rd Paragraph – Conclusion/Recommendation

A GSLB system can distribute the network traffic among a collection of servers deployed in multiple geographic locations. By serving content from many different points in the Internet, GSLB alleviates the impact of network bandwidth bottlenecks and provides robustness in case of local server or network failures at a particular server site.

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Abstract – IPM M-Guide with QR code for indoor positioning

Though GPS is a popular positioning technology, it is not suitable for indoor positioning. Other existing indoor positioning systems typically are expensive to install and not high in precision. On the other hand, people are getting used to bring into play all kinds of mobile application to better their life.

Thus an Android prototype called IPM M-Guide was developed mainly to help freshmen and visitors to navigate to the right location in Macao Polytechnic Institute (MPI) campus and to acquire some basic information about MPI. The focal point of this project is the Quick Response (QR) code based indoor positioning system (IPS). The Dijkstra's algorithm is implemented to help users' to find the shortest path between two points in MPI Chi Un Building, which is the coverage of this IPS in this trial version.

This project illustrated that the QR code can be a cost-effective way to implement IPS that is capable of offline operation.

- Background?
- Description of process:
 - What was developed?
 - Purpose?
 - Technology and Algorithm used?
- Conclusion?

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Abstract Worksheet

Purpose/Problem

What is the problem? _____

What is your purpose? _____

Methods

What are the three most important details about your methodology? Do these relate to your purpose?

1. _____

2. _____

3. _____

Results

What are your three most important findings?

1. _____

2. _____

3. _____

Conclusion/Implications

How do your results connect to your purpose? _____

So what? Why is this important? _____

<https://www.umaryland.edu/media/umb/oaa/campus-life/writing-center/documents/Abstracts.pdf>

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Tips for writing an abstract

1. It takes lots of revision to write a good abstract!
2. Find the main point of your paper or research and phrase it in a way that can be understood by an educated non-expert.
3. You may repeat sentences from your paper in your abstract. In some cases, your paper's introductory paragraphs may be suitable for the abstract, but they will have to be condensed and rewritten to fit the purposes of the abstract.
4. Remember to use keywords important to your field of research or to use words that indicate your field.
5. Your abstract should not be so detailed that it requires quotations, citations, or footnotes. Remember, it's a summary!

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Abstract – Example

15th European Signal Processing Conference (EUSIPCO 2007), Poznan, Poland, September 3-7, 2007, copyright by EURASIP

INTRODUCTION TO SINGLE CARRIER FDMA

Hyung G. Myung

Qualcomm Flarion Technologies
500 Somerset Corporate Blvd., Bridgewater, NJ 08807, USA
phone: +1-908-443-8085, fax: +1-908-947-7090, email: hmyung@qualcomm.com
web: <http://hmyung.googlepages.com/home>

ABSTRACT

Single carrier frequency division multiple access (SC-FDMA) which utilizes single carrier modulation at the transmitter and frequency domain equalization at the receiver is a technique that has similar performance and essentially the same overall structure as those of an OFDMA system. One prominent advantage over OFDMA is that the SC-FDMA signal has lower peak-to-average power ratio (PAPR). SC-FDMA has drawn great attention as an attractive alternative to OFDMA, especially in the uplink communications where lower PAPR greatly benefits the mobile terminal in terms of transmit power efficiency. SC-FDMA is currently a working assumption for the uplink multiple access scheme in 3GPP Long Term Evolution (LTE).

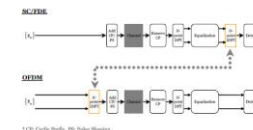


Figure 1 – SC-FDE and OFDM.

<https://ieeexplore.ieee.org/document/7099187>

https://www.researchgate.net/publication/228583513_Introduction_to_single_carrier_FDMA

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Abstract vs Introduction

- ▶ It is common for a research paper to have the abstract, followed by the introduction.
- ▶ You will notice that the **abstract is much shorter** in length, typically a quarter or third of a page of A4.
- ▶ The introduction on the other hand is longer, taking up at least an entire page of writing.
- ▶ Beyond the length, what are the differences in the content of the two sections?

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Abstract vs Introduction

- ▶ In short, the abstract is a summary of the entire study, describing the context, research aim, methods, results and key conclusions.
- ▶ The introduction section is the first main written work presented after the abstract in your paper.
- ▶ The introduction gives more detail on the background of the subject area, the motivation for the study and states the aims and objectives.

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Some more words on Introduction

- ▶ It should include a brief description of the key current knowledge that exists based on the work presented in previous literature and where the gaps in knowledge are.
- ▶ The introduction should convey why your research was needed in order to add new understanding to your subject area. Make sure that you reference all the publications that you refer to.
- ▶ When writing an introduction for a scientific paper you should also include the aim of your study and the research objectives/questions.