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# Practical Guide to Write a PhD Thesis

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بسم الله الرحمن الرحیم

# *Practical Guide to Write a PhD Thesis*

# *Practical Guide to Write a PhD Thesis*

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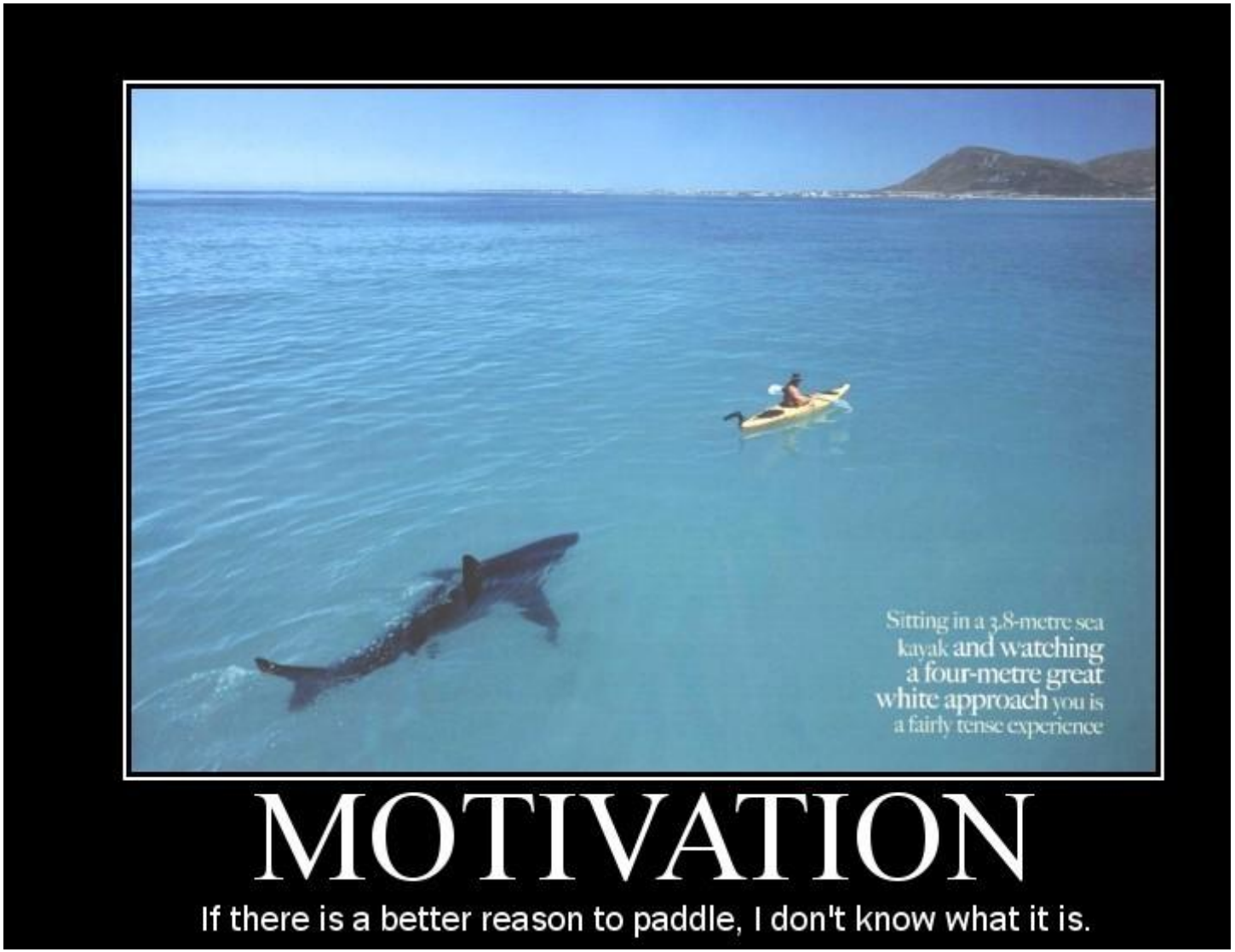
# Abstract

This presentation is a practical guide on how to write a PhD thesis based on personal experiences and existing literature . It is aimed at all PhD students. A thesis writing may be falling into six rules:

- Identifying the research problem
- Start thesis writing from a day after registration
- Writing a Thesis Plan
- Ask your supervisors: What are their expectations? and maintain regular contact with your supervisors directly/indirectly
- Expand networking
- Continuously write/revise and Publish

Besides of the six rules, the thesis structure, logical coherence and style are also important. This presentation lead how to consider reader's expectations during the writing procedure. In order to assist the researchers to reduce the writing procedure, the relevant "Research Tools" will be introduced.


Sitting in a 3.8-metre sea kayak and watching a four-metre great white approach you is a fairly tense experience
MOTIVATION
If there is a better reason to paddle, I don't know what it is.

# Questions? What is your thesis:

- Research background
- **Problem statement**
- **Research objectives**
- Research scope
- Research methodology
- Data collection
- Analysis
- **Results and discussions**

# What is a Thesis?

"A thesis is a formal and lengthy research paper, especially a work of original research, written in partial fulfillment of the requirements for a higher degree in a university"

Source: http://www.awc.metu.edu.tr/handouts/Thesis_Writing.pdf

# What's in the thesis?

- **Addresses a problem or series of problems**
- **Describes what was known about the problem(s)**
- **What you did to solve the problems**
- **What you think the results means**
- **How further progress can be made**

Source: http://www.slideshare.net/akarim717/how-to-write-a-thesis

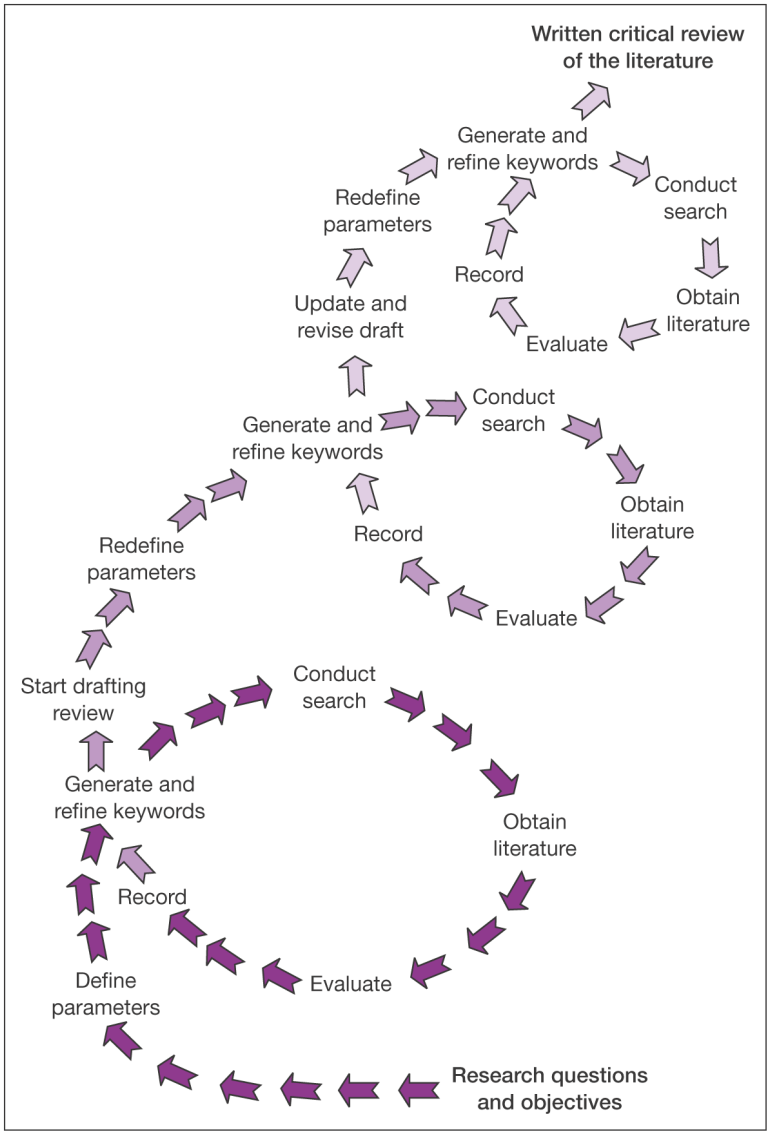
# Six Rules of Thesis Writing

1. Identifying the research problem
2. Start thesis writing from a day after registration
3. Writing a Thesis Plan
4. Ask your supervisors: What are their expectations? and maintain regular contact with your supervisors directly/indirectly
5. Expand networking
6. Continuously write/revise and Publish

# 1- Identifying the Research Problem

*Researchers begin a study by identifying a research problem that they need to address. They write about this "problem" in the opening passages of their study and, in effect, give you as a reader the rationale for why the study is important and why you need to read their study.*

Reference: Creswell, J. W. (2012). *Educational research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research (4th ed. ed.). Boston: Pearson Education, Inc.*




# The literature review process

*Source*: © Mark Saunders, Philip Lewis, Adrian Thornhill and Martin Jenkins 2003
Research methods for business students / Mark Saunders, Philip Lewis, Adrian Thornhill. —5th ed.

# 2- Start Thesis Writing From a Day After Registration

- Write down a tentative thesis title, even if your thesis is murky in your mind.
- Write down a first cut at your thesis abstract, even if you have not done the work yet!
- ……

Source: Priya Narasimhan, (2006), How To Write a Good (no, Great) PhD Dissertation

Example

- Write a journal/conference paper while you are writing the thesis.

# 3- Writing a Thesis Plan

- **Write down the road-map of your thesis today**
  - What is the ideal thesis that *you would wish for?*
  - What results would it contain?
  - How would you evolve the story from start to finish?

Source: Priya Narasimhan, (2006), How To Write a Good (no, Great) PhD Dissertation

- Write each Chapter of the thesis deliverable items
- Write a checklist for each Chapter

Example 1

Example 2 (Thesis Checklist)

# 4- Ask your supervisors: What are their expectations?

## Ask your supervisors for continuous feedback

- Your advisor is your biggest champion, your biggest promoter
- This person *wants to see you succeed and will rave about you and your work* enthusiastically to everyone
- Discuss your thesis layout, problem definition, goals of the month, etc.
- For sticky issues, your advisor will find you the right “connections” to fill in the gaps in your thesis

Source: Priya Narasimhan, (2006), How To Write a Good (no, Great) PhD Dissertation

## Keep good relationship with your advisor (even after you graduate).

Source: Useful Things to Know About Ph. D. Thesis Research, by: H.T. Kung , Harvard University

## Find a proper Table Of Content (TOC) according to your supervisor expectation. If you could not find it, follow the following slide structure:

# Thesis structure

**Materials preceding the text**

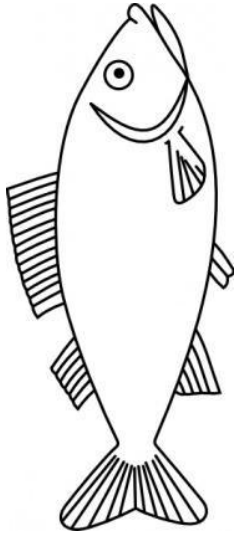
- Title Page
- Original Literary Work Declaration
- Abstract
- Acknowledgements
- Table of Contents
- List of Figures , List of Tables, List of Symbols and Abbreviations, List of Appendices

**The main text**

- Chapter 1: Introduction
- Chapter 2: Literature Review
- Chapter 3: Methodology (or Materials and Methods)
- Chapter 4: Results (or Experimental Results)
- Chapter 5: Discussion
- Chapter 6: Conclusion

**References and**

**Appendices**





Source: GUIDE TO THE PREPARATION OF RESEARCH REPORTS, DISSERTATIONS & THESES

# WRITING YOUR THESIS OUTLINE

NOTHING SAYS "I'M ALMOST DONE" TO YOUR ADVISOR/ SPOUSE/PARENTS LIKE PRETENDING YOU HAVE A PLAN

**STEP 1** Aim for a respectable number of chapters:

THESIS OUTLINE

1.
2.
3.
4.
5.
6.
7.

chapter #'s

5 = "That's IT??"
6-7 = "Not bad"
8+ = "Are you crazy??"

**STEP 2** Fill in the "freebies":

THESIS OUTLINE

1. INTRODUCTION
2. LIT REVIEW
3. METHODOLOGY
4.
5.
6.
7. CONCLUSIONS

You're half way done!

**STEP 3** Make up titles for the "meat" chapters:

3. METHODOLOGY
4. (THAT STUFF YOU DID YOUR FIRST YEAR)
5. (STUFF YOU'RE SUPPOSED TO BE DOING NOW)
6. (MAKE STUFF UP)
7. CONCLUSIONS

(It'll be years before you actually have to work on that later chapter, and by then your thesis topic will have changed anyway)

**STEP 4** Voilá! You just bought yourself another two years


JORGE CHAM © 2006

www.phdcomics.com

# 4- (Con.) Present your activity indirectly

- Dear Nader Ale Ebrahim:

  Your paper, "Virtual R&D Teams in Small and Medium Enterprises: A Literature Review", was recently listed on SSRN's Top Ten download list for ORG: Contemporary Organizational Structures (Topic) and Structural Dimensions & Organizational Behavior eJournal. As of 06/16/2010, your paper has been downloaded 107 times. You may view the abstract and download statistics at http://papers.ssrn.com/abstract=1530904.

  Top Ten Lists are updated on a daily basis. Click on the following link to view the Top Ten list for the journal ORG: Contemporary Organizational Structures (Topic) Top Ten and Structural Dimensions & Organizational Behavior eJournal Top Ten.

  Click on the following link to view all the papers in the journal ORG: Contemporary Organizational Structures (Topic) All Papers and Structural Dimensions & Organizational Behavior eJournal All Papers.

  To view any of the Top Ten lists, click the TOP button on any network, sub network, journal or topic in the Browse list reachable through the following link: http://www.ssrn.com/Browse

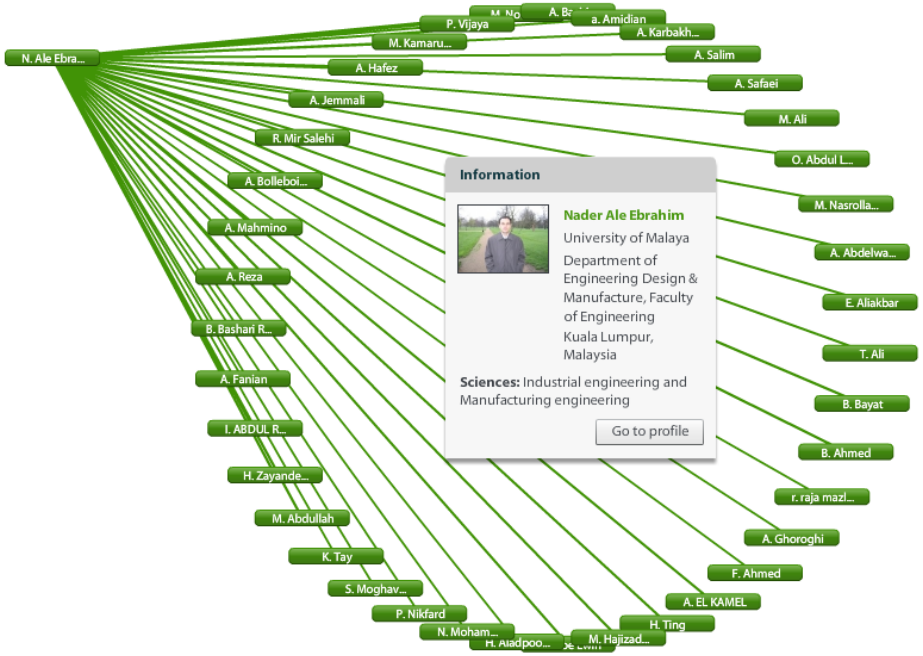
  Your paper may be listed in the Top Ten for other networks or journals and, if so, you will receive additional notices at that time.

  If you have any questions regarding this notification or any other matter, please email AuthorSupport@SSRN.com or call 877-SSRNHelp (877.777.6435 toll free). Outside of the United States, call 00+1+585+4428170.

- Sincerely,

  Michael C. Jensen
  Chairman
  Social Science Research Network

# 5- Expand networking




1. **Attending conferences for networking and making contacts**
2. **Build an academic network around yourself outside your university**
3. **People should get to know you, not just your advisor**

# 6- Continuously write/revise and Publish

- your published papers, as a permanent record of your research, are your passport to your community
- Publishing is one of the necessary steps embedded in the scientific research process. It is also necessary for graduation and career progression.
- You need a STRONG manuscript to present your contributions to the scientific community

Source: How to Write Great Papers, 2012,By: Anthony Newman Publisher, Elsevier, Amsterdam

# Lindsay's laws

1. Research is finished only after it is written up. What you write must communicate and persuade.
2. The hallmarks of scientific writing are precision, clarity and brevity, in that order.
3. Try to write as if you were speaking to someone: "see a face". This way you get to say it directly and clearly.
4. Write (your chapters) in four drafts:
   (a) First: putting the facts together
   (b) Second: checking for coherence and fluency of ideas
   (c) Third: readability
   (d) Fourth: editing

Source: D. Lindsay, A Guide to Scientific Writing. Melbourne, Australia: Addison Wesley Longman Australia, 2nd ed., 1997.

# Writing Literature Review

# Writing your literature review

Writing your literature review takes time. You may need to complete several drafts before your final copy. It is important to have a good introduction that clearly tells the reader what the literature will be about.

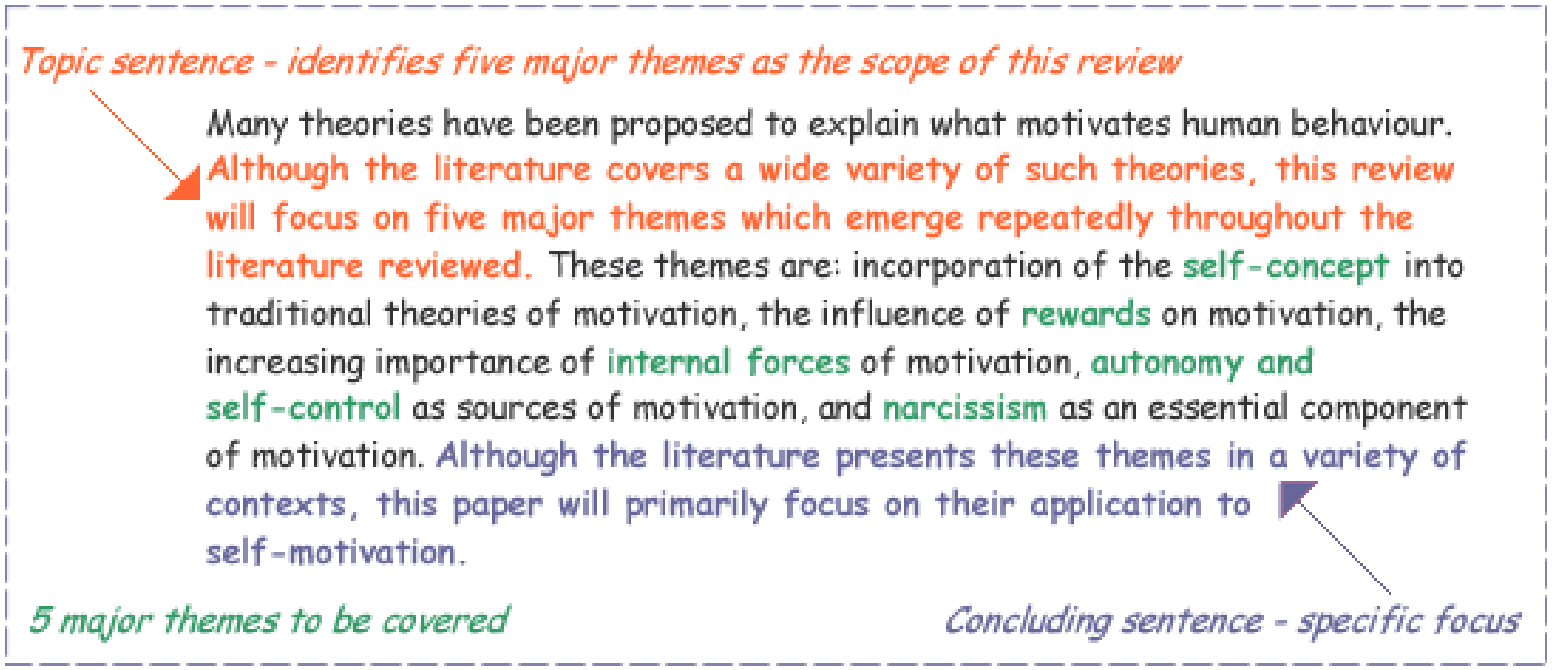
An introduction must tell the reader the following:

- **what you are going to cover in the review**
- **the scope of your research**
- **how the review ties in with your own research topic.**

Source: https://www.dlsweb.rmit.edu.au/lsu/content/2_AssessmentTasks/assess_tuts/lit_review_LL/writing.html

# Introduction

This is a good example of an introduction because it has a topic sentence which indicates what will be covered and also tells the reader the specific focus of the literature review in the concluding sentence.



# Paragraphs

A paragraph is a group of connected sentences that develop a single point, argument or idea. Paragraphs need to link to other paragraphs so that the themes, arguments or ideas developed are part of a coherent whole rather than separate bits.

A paragraph should include:

- **a main statement / idea that you are putting forward, ie topic sentence**
- **evidence from research to support / argue your idea, showing where the writers agree and / or disagree**
- **student analysis of the research literature where appropriate**
- **summing up and linking to the next idea (paragraph).**

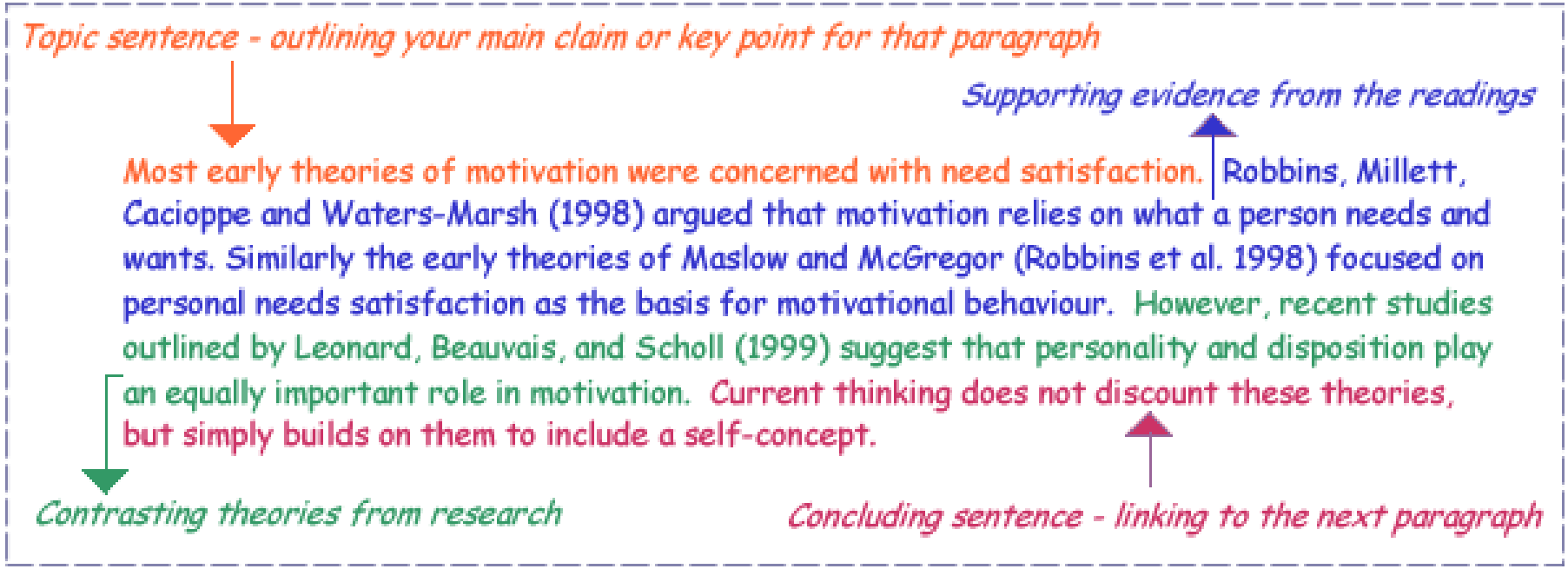
In the literature review, you will need to show evidence of integrating your readings into each paragraph and analysis of the readings where necessary.

Source: https://www.dlsweb.rmit.edu.au/lsu/content/2_AssessmentTasks/assess_tuts/lit_review_LL/writing.html

# Integrating arguments in paragraphs

**Integration of multiple sources**

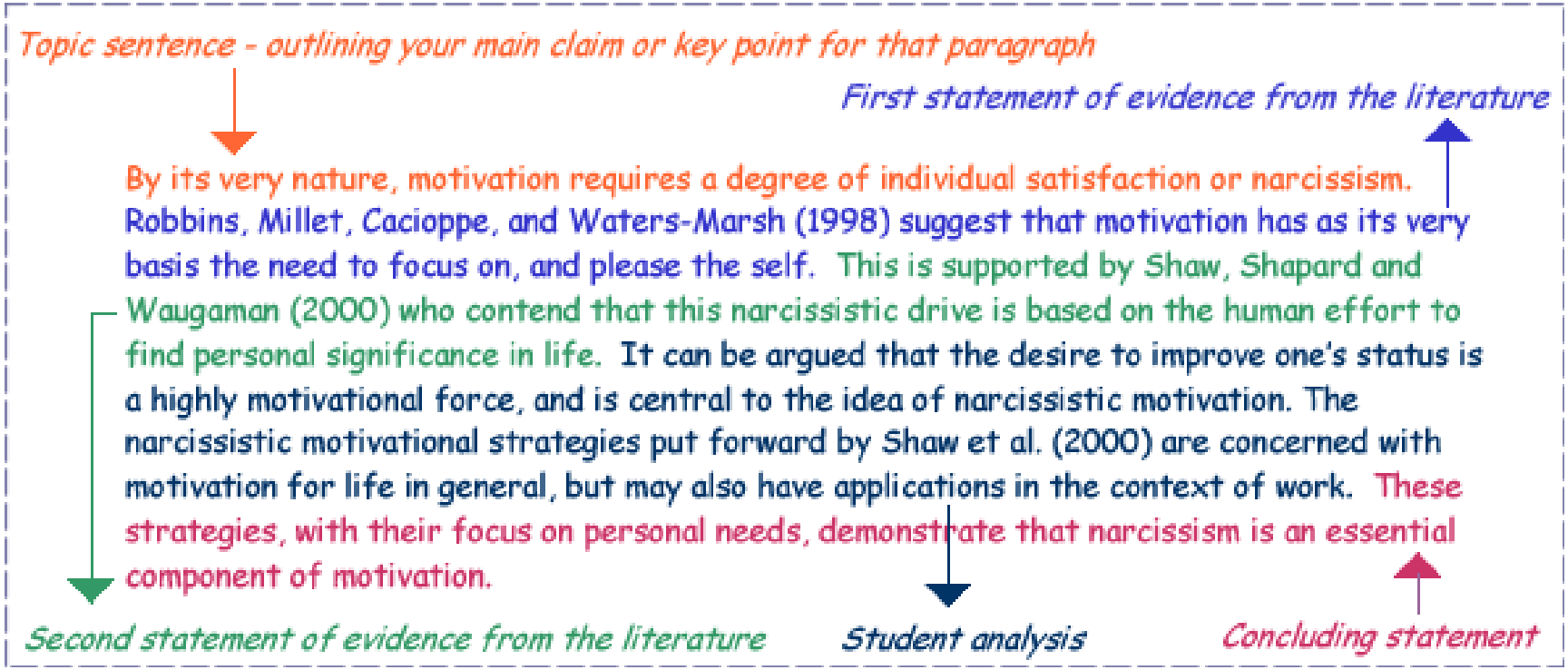
To develop an integrated argument from multiple sources, you need to link your arguments together. The model below is a guide.



# Integrating arguments in paragraphs

**Integration of student analysis**

It is important to integrate your analysis and interpretation of the literature in your literature review. Read the following paragraph and see how the arguments have been integrated into the paragraph along with student analysis. Analysis is not just student opinion, it needs to be supported by the literature.




Source: https://www.dlsweb.rmit.edu.au/lsu/content/2_AssessmentTasks/assess_tuts/lit_review_LL/integration.html

## Appendix B: Data Tables

| Source Information | | | Search Results | | Analysis Results | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Subjects | | | | Performance Effects | | | | | Research Methodologies | | | | | | | | | |
| No | Author(s) | Year | Modularity | Commonality | Product | Process | Organization | Innovation | Quality | Variety | Cost | Time | Other | Theory-Building | Framework | Process Model | Math. Modeling | Simulation | Experiment | Empirical (large n) | Case Study (small n) | Review | Notes: Product / Industry / Application |
| 1 | Akcay and Xu | 2004 | | 1 | 1 | | | | | | 1 | | | | | | 1 | | | | | | Non-product specific assemble-to-order systems |
| 2 | Alfaro and Corbett | 2003 | | 1 | 1 | | | | | | 1 | | | | | | 1 | | | | 1 | | Chemical films for the automotive industry |
| 3 | Anderson and Parker | 2002 | 1 | | 1 | | | | | | 1 | | 1 | | | | 1 | | | | | | Automobiles as examples |
| 4 | Baker et al. | 1986 | | 1 | 1 | | | | | | 1 | | | | | | 1 | | | | | | Non-product-specific inventory model |
| 5 | Balakrishnan and Brown | 1996 | | 1 | 1 | 1 | | | | | 1 | | | | | | 1 | | | | 1 | | Aluminum tube manufacturing |
| 6 | Balakrishnan et al. | 1996 | | 1 | 1 | | | | | | 1 | | | | | | 1 | | | | | | Non-product-specific assemble-to-forecast systems |
| 7 | Baldwin and Clark | 1997 | 1 | | 1 | 1 | | | | 1 | 1 | | | | 1 | | | | | | | | Examples from computer and auto industries |
| 8 | Baldwin and Clark | 2000 | 1 | | 1 | | 1 | 1 | | | | | 1 | 1 | | | 1 | | | | 1 | | Computer |
| 9 | Bartezzaghi and Verganti | 1995 | | 1 | 1 | 1 | | | | | | | 1 | | | | 1 | | | | | | Telecommunication equipment |
| 10 | Bi and Zhang | 2001 | 1 | | 1 | 1 | | | | 1 | 1 | 1 | | | 1 | | | | | | | 1 | Several conceptual products as descriptions |
| 11 | Blackburn et al. | 1996 | 1 | | 1 | | | | 1 | | 1 | 1 | | | 1 | | | | | | | | Software |
| 12 | Browning | 2001 | 1 | | 1 | 1 | 1 | | | | 1 | 1 | 1 | | 1 | | | | | | | 1 | Automobile climate control |
| 13 | Cetin and Saitou | 2004 | 1 | 1 | 1 | | | | 1 | 1 | 1 | | | | | 1 | 1 | | | | 1 | | Bicycle frame example |
| 14 | Cetin and Saitou | 2004 | 1 | | 1 | | | | 1 | 1 | 1 | | | | | 1 | 1 | | | | 1 | | Automotive space frame |
| 15 | Cetin and Saitou | 2005 | 1 | | 1 | | | | 1 | 1 | 1 | | | | | 1 | 1 | | | | 1 | | Automotive space frame |
| 16 | Cheung | 2002 | | 1 | 1 | | | | | | 1 | | | | | | 1 | | | | | | Non-product-specific inventory model |
| 17 | Cheung and Hausman | 1995 | | 1 | 1 | | | | | | 1 | | | | | | 1 | | | | | | Aircraft engine repair |
| 18 | Choobineh and Mohebbi | 2004 | | 1 | 1 | | | | | | 1 | 1 | 1 | | | | | 1 | | | | | Non-product-specific inventory (kit preparation) model |
| 19 | Collier | 1982 | | 1 | 1 | | | | | | 1 | | | | | | 1 | | | | | | Non-product-specific inventory model |
| 20 | Desai et al. | 2001 | | 1 | 1 | | | | 1 | 1 | 1 | | | | | | 1 | | | | | | Model balancing cost savings and revenue decrease; examples from the auto industry |
| 21 | Deshpande et al. | 2003 | | 1 | 1 | | | | | | 1 | | | | | | 1 | | | | | | Non-product-specific inventory model |
| 22 | Djelic and Ainamo | 1999 | 1 | | | | 1 | | | | | | 1 | | | | | | | | 1 | | Luxury fashion industry |
| 23 | Dong and Chen | 2005 | | 1 | 1 | | | | | | 1 | | | | 1 | | | 1 | | | | | Non-product-specific supply chain model |
| 24 | Du et al. | 2001 | 1 | 1 | 1 | | | | | 1 | 1 | | | 1 | | 1 | | | | | 1 | | Power supplies |
| 25 | Duray | 2004 | 1 | | 1 | | | | | | | | 1 | | | | | | | 1 | | | Manufactured products |
| 26 | Duray et al. | 2000 | 1 | | 1 | | | | | | | | 1 | | | | | | | 1 | | | Manufactured products |
| 27 | Ethiraj and Levinthal | 2004 | 1 | | 1 | | 1 | | | | | | 1 | | | | | 1 | | | | | Non-product-specific simulation study |
| 28 | Ethiraj and Levinthal | 2004 | 1 | | 1 | 1 | | | 1 | | | | | | | | | 1 | | | | | Microchip |
| 29 | Evans | 1963 | 1 | | 1 | | | | | 1 | 1 | | | | | | 1 | | | | | | Screw assortment for creating kits |
| 30 | Eynan and Fouque | 2003 | | 1 | 1 | | | | | | 1 | | | | | | 1 | | | | | | Non-product-specific demand reshape model |
| 31 | Eynan and Rosenblatt | 1996 | | 1 | 1 | | | | | | 1 | | | | | | 1 | | | | | | Non-product-specific Inventory Model |
| 32 | Farrell and Simpson | 2003 | | 1 | 1 | | | | | | 1 | 1 | | | | 1 | | | | | | | Yokes used to mount valve actuators |
| 33 | Fellini et al. | 2005 | | 1 | 1 | | | | 1 | | 1 | | | | | | 1 | | | | | | Automotive body side frame |
| 34 | Ferrer and Whybark | 2001 | | 1 | 1 | | | | | | 1 | | 1 | | | | 1 | | | | 1 | | Automobile component remanufacturing |
| 35 | Fine et al. | 2005 | 1 | | 1 | 1 | 1 | | | | 1 | 1 | | | | | 1 | | | | | | High-level example from the auto industry |
| 36 | Fisher et al. | 1999 | | 1 | 1 | | | | | 1 | 1 | | | | | | 1 | | | 1 | | | Automotive Brakes |
| 37 | Fixson | 2005 | 1 | 1 | 1 | | | | | | | | 1 | | 1 | | | | | | 1 | | Automotive Doors |
| 38 | Fleming and Sorenson | 2001 | 1 | | | | | 1 | 1 | | | | | | 1 | | | | | | | | Walkman as illustration |
| 39 | Fleming and Sorenson | 2001 | 1 | | | | | 1 | 1 | | | | | | | | | | | 1 | | | Patents |
| 40 | Fujita and Yoshida | 2004 | | 1 | 1 | | | | 1 | | 1 | | | | | | 1 | 1 | | | | | Family of aircrafts |
| 41 | Galvin | 1999 | 1 | | 1 | | | 1 | | 1 | | | 1 | | 1 | | | | | | 1 | | Bicycles |
| 42 | Garud and Kumaraswamy | 1995 | 1 | | 1 | | 1 | | | | 1 | 1 | | 1 | 1 | | | | | | | | Microcomputers, automobiles as examples |

FIXSON, S. 2007. Modularity and commonality research: past developments and future opportunities. Concurrent Engineering, 15, 85.

# Keeping up-to-date

# Keeping up-to-date

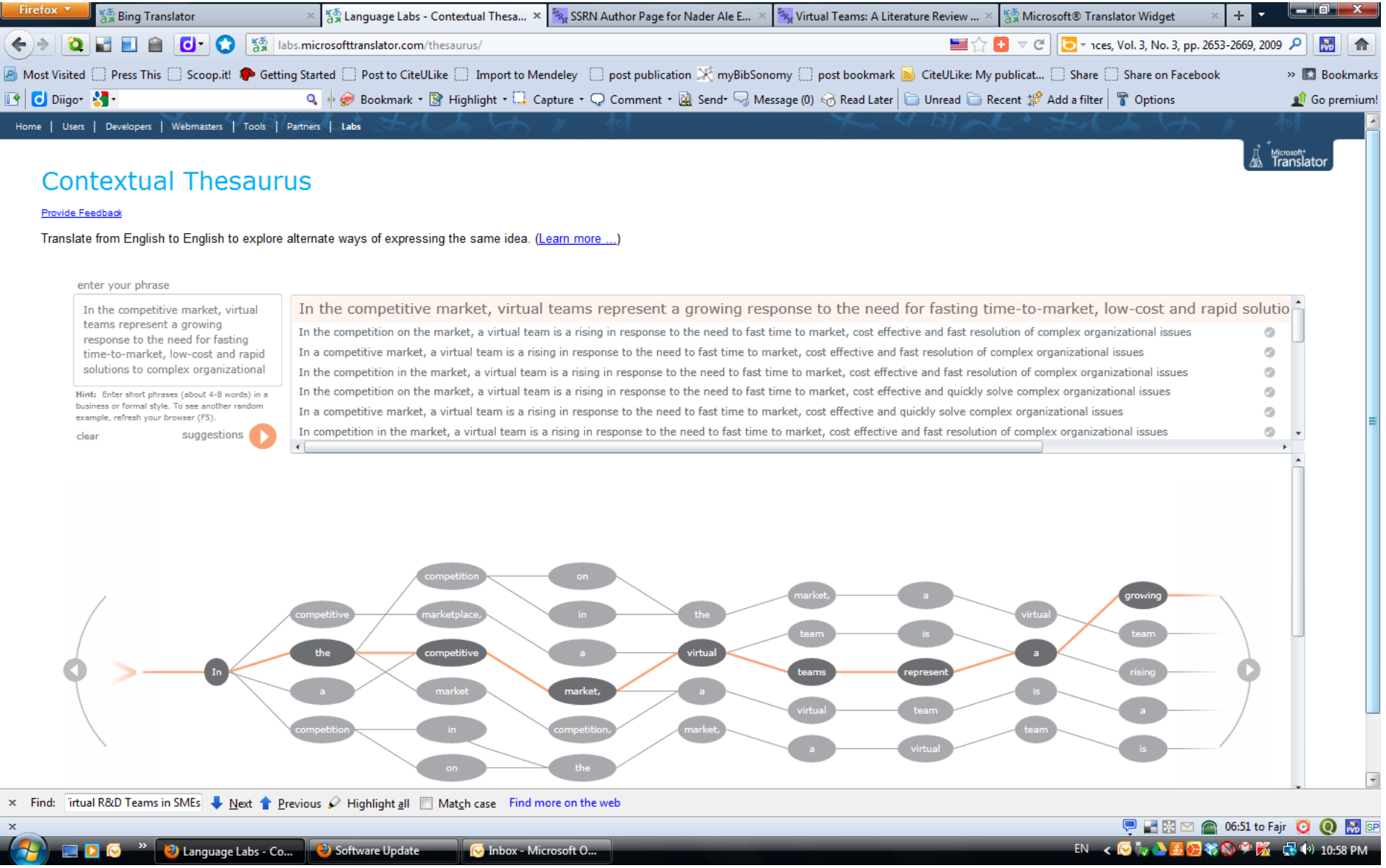








# Paraphrasing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Microsoft® Translator Widget
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Home | Users | Developers | Webmasters | Tools | Partners | Labs
Contextual Thesaurus
Provide Feedback
Translate from English to English to explore alternate ways of expressing the same idea. (Learn more ...)
enter your phrase
In the competitive market, virtual teams represent a growing response to the need for fasting time-to-market, low-cost and rapid solutions to complex organizational
Hint: Enter short phrases (about 4-8 words) in a business or formal style. To see another random example, refresh your browser (F5).
clear
suggestions
In the competitive market, virtual teams represent a growing response to the need for fasting time-to-market, low-cost and rapid solutio
In the competition on the market, a virtual team is a rising in response to the need to fast time to market, cost effective and fast resolution of complex organizational issues
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Previous
Highlight all
Match case
Find more on the web
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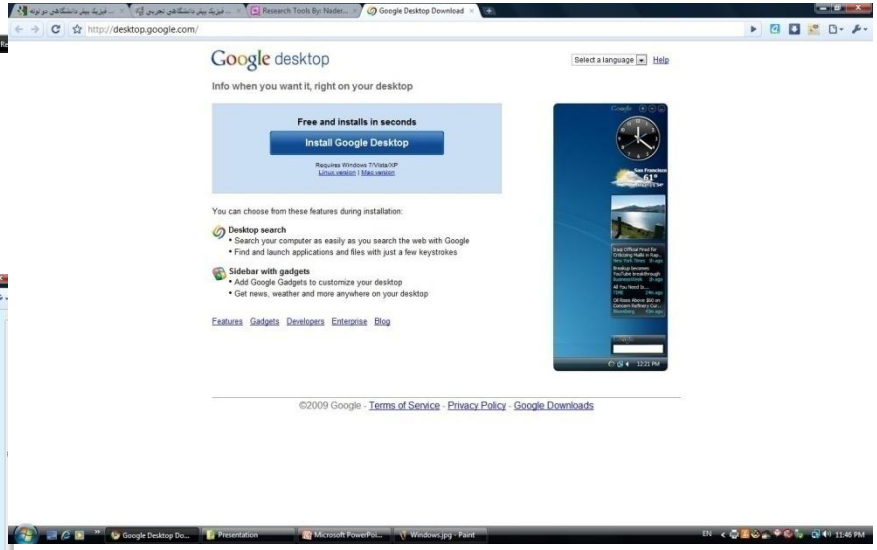
Language Labs - Co...
Software Update
Inbox - Microsoft O...
EN
10:58 PM

# Desktop search

[dtSearch]

[Google Desktop]

[Windows Search]

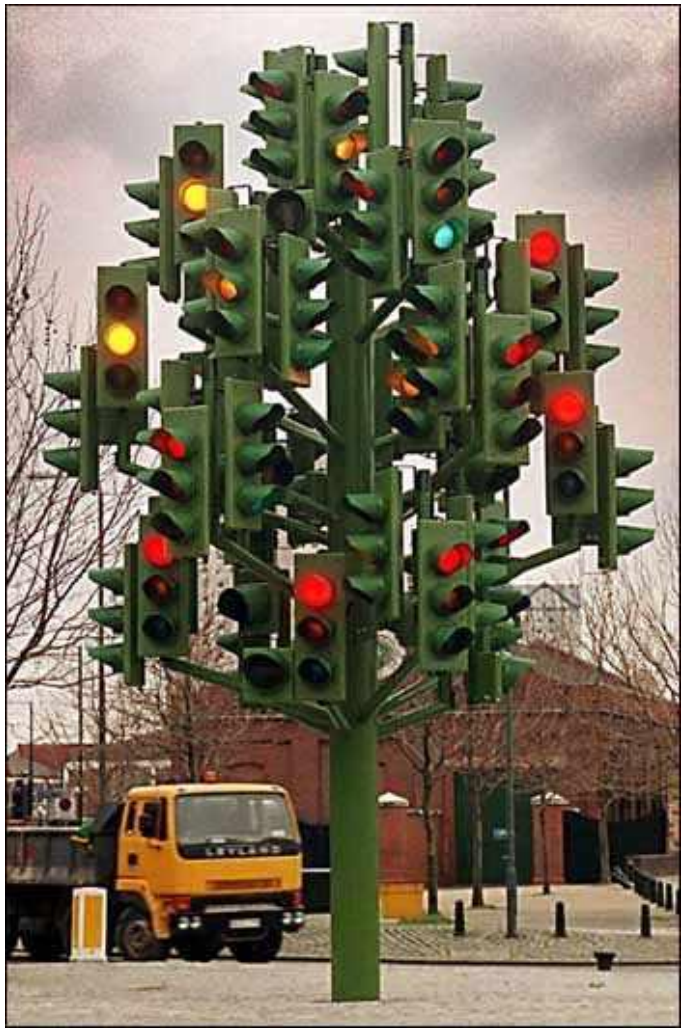




# Reference Management

# *EndNote*

- *EndNote* is an almost indispensible tool for the serious researcher. And best of all, its free to all UM postgraduates!

# Smile - your research almost done!



# Thank you!

**Nader Ale Ebrahim, Ph.D**
**Independent Researcher**
**Technology Management Consultant**
**"Research Tools" Advisor**

**http://aleebrahim.info/**

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