Module 2:
Syllabus:

Literature Review and Technical Reading: New and Existing Knowledge, Analysis and Synthesis of Prior Art Bibliographic Databases, Web of Science, Google and Google Scholar, Effective Search: The Way Forward Introduction to Technical Reading, Conceptualizing Research, Critical and Creative Reading, Taking Notes While Reading, Reading Mathematics and Algorithms, Reading a Datasheet.

Attributions and Citations: Giving Credit Wherever Due, Citations: Functions and Attributes, Impact of Title and Keywords on Citations, Knowledge Flow through Citation, Citing Datasets, Styles for Citations, Acknowledgments and Attributions, What Should Be Acknowledged, Acknowledgments in, Books Dissertations, Dedication or Acknowledgments

LITERATURE REVIEW AND TECHNICAL READING:

Need for Literature review:

- It must explain how a research item builds on another one.
- It provides a convincing under to that question.
- It ensures a firm foundation for advancing knowledge, facilitates theoretical growth,eliminates as areas that might be of interest, and opens new avenues of possible work.
- It is centered around concepts and not authors.
- It is the first expectation of a supervisor from the research student, and when done well cancreate a good impression that the state of art in the chosen field is well understood.

A good literature survey is typically a two-step process as enumerated below:
- **Step 1:** Identify the major topics or subtopics or concepts relevant to the subject under consideration.
- **Step 2:** Place the citation of the relevant source (article/patent/website/data, etc.) in the correctcategory of the concept/topic/subtopic (with the help of a _, for example).

- Finally conducting a comprehensive literature survey is a crucial step in the research process. It involves not only identifying and categorizing relevant sources but also actively engaging with the material, synthesizing information, and critically analyzing it to build a strong foundation for your research. This process ensures that your work aligns with existing knowledge and has the potential to make a meaningful contribution to the field.

The primary goals of conducting a literature review in academic research are to:
- ➢ **Identify** unsolved issues and determine problems in existing models or experimental designs.
- ➢ **Present a novel idea** and recommendations.
- ➢ **Bring out something new to work** on through the identification of unsolved issues.
- ➢ **Analyze** available materials to determine suitability for the intended research.
- ➢ **Assess Existing Problems:** Identify flaws or limitations in current models and experimental designs.
- ➢ **Authority:** Check the author's qualifications and affiliations. Determine the source's Credibility
- ➢ **Accuracy:** Compare the information with what you already know or other reputable sources. Look for citations to support claims.
- ➢ **Scope:** Assess whether the source is suitable for your comprehension level and research

needs.

➢ **Save time** by relying on refered articles published in scholarly journals or granted patents.
➢ **Summarize** the relevant and important work done.
➢ **Identif**y missing links and challenges in the open problems in the area under study.
➢ **Develop** one's own ideas based on the literature read.
➢ **Continuously stay updated** with new literature and evolving problems related to the research area.

The **quality of a literature review can be evaluated based on the following criteria:**

➢ **Breadth and depth of coverage.** The literature review should cover a wide range of relevant sources, and provide a deep understanding of the research problem.

➢ **Clarity and rigor**(accurate). The literature review should be written in a clear and concise style, and should use rigorous analytical methods.

➢ **Consistency**. The literature review should be consistent with the research problem, approach, and methods.

➢ **Effective analysis**. The literature review should provide a critical analysis of the existing research, and should identify the key findings and gaps in knowledge.

A thorough literature review is crucial to demonstrate how a research piece builds upon existing work. It provides a strong foundation for advancing knowledge, identifying gaps, and suggesting new research directions. A good literature survey is concept-focused rather than author-focused.

 Components of a Comprehensive Literature Review:

 1. Summarize existing knowledge from the state of the art.

2. Detail key concepts, factors, parameters, and relationships.

3. Discuss complementary approaches to the topic.

 4. Highlight inconsistencies, shortcomings, and contradictory results.

5. Justify the need for further research in the field.

Steps to Conduct an Effective Literature Survey:

1. Identify major topics or concepts relevant to the research subject.

2. Categorize relevant sources (articles, patents, websites, data, etc.) under respective concepts

How does the new and existing knowledge can contribute to the research process? Explain with relevant points.

 New and Existing Knowledge

► **New Knowledge:**
- New knowledge in research can only be **interpreted within the context of what is already known, and cannot exist without the foundation of existing knowledge.**
- The new knowledge can have vastly different interpretations depends on what the researcher's background, and one's perception of that new knowledge can change from indifference to excitement (or vice versa), depending on what else one knows.
- The **significance of new knowledge** is often established by identifying existing problems in the field and demonstrating the gaps in the current understanding.

Existing Knowledge:

Existing knowledge provides the context and evidence needed to establish the existence and importance of a problem. By identifying gaps in this knowledge, you can highlight the need for original research or insights to address the missing pieces and contribute meaningfully to the field. The existing knowledge can be:

- Context
- Significance
- Originality
- Tools.

Where does this existing knowledge come from?

- By reading
- By surveying the literature in the field that was established long ago

Textbooks offer foundational knowledge and start from the basics, making them accessible for learners. Research papers present new, specialized information and assume prior knowledge in the field, often requiring additional references for clarity. Both sources are valuable for buildingexpertise.

Analysis And Synthesis of Prior Art Bibliographic Databases

A researcher should analyze the relevant information find out in Table 2.1 by undertaking the following steps:

- **Understand Hypotheses:** Identify the main research questions in each article.
- **Grasp Methodologies:** Explore research methods and experimental conditions used.
- **Make Connections:** Find common themes and relationships between articles.
- **Compare and Contrast:** Highlight similarities, differences, and conflicting findings.
- **Evaluate Strengths and Weaknesses:** Assess the quality and limitations of each article.

Table 2.1 The literature survey grid

	Source 1	Source 2	…	Source M
Topic 1		✓		
Topic 2	✓			✓
⋮				
⋮				
Topic N	✓	✓		

It is important to maintain a critical mindset when reviewing sources, especially those making bold claims. Blindly accepting literature without uncertainty can limit your ability to advance your own work and critically analyze your own results.

BIBLIOGRAPHIC DATABASES

- **Bibliographic databases:** These are valuable resources that provide citation-related informationand often abstracts of research articles from scholarly literature.
- These databases are essential for researchers to access and search for relevant literature.
- Some bibliographic databases available are:
  a) Web of science
  b) Google scholar

- The choice of databases depends on the research field, and researchers should explore a varietyof resources to ensure they gather comprehensive and relevant literature for their work.

What are the key features of the bibliographic database of the Web of Science (WoS), and how is it commonly used in research?

a) **Web of Science:**

Web of Science is a comprehensive tool for scholarly research, offering access to multiple databases and specialized features. It is particularly valuable for researchers with institutional licenses.

Features:
- **Topic-Based Search:** Researchers can search for specific topics of interest by selecting various fields such as title, topic, author, address, and more from the drop-down menu.
- **Sorting Options:** Web of Science allows sorting search results by the number of citations (highest to lowest) and publication date.
- **Search Refinement:** Use quotation marks for phrases, add more keywords, and utilize the "Refine Results" panel on the left to narrow down the search based on criteria like material type (peer-reviewed journal articles), date, language, and more.
- **Expanding Search Results:** Explore alternate word endings, break down search concepts into related terms, use "OR" to connect search terms, and leverage the database's features to find additional references.
- **Cited Reference Search:** This feature lets researchers trace articles that have cited a previously published paper. It helps understand how an idea has evolved or been applied over time.

A structured search approach like this helps ensure that search results are relevant, saving researcherstime and ensuring the sources they study are well-utilized. Web of Science provides detailed information about each search result, including the paper's title, authors, journal type, volume, issue number, publication year, abstract, and keywords. This information helps researchers decide whether it's worth acquiring the full version of the paper.

b) **Google and Google Scholar**

Google:
Google is a great place to start one's search when one is starting out on a topic. It can be helpful in finding freely available information, such as reports from governments, organizations, companies, and so on.
Limitations:
- It's a "black box" of information. It searches everything on the Internet, with no quality control—one does not know where results are coming from.
- There are limited search functionality and refinement options.

Google Scholar:
Google Scholar limits one's search to scholarly literature.
Limitations:
- Some of the results are not actually scholarly. An article may look scholarly at first glance,but is not a good source upon further inspection.
- It is not comprehensive. Some publishers do not make their content available to GoogleScholar.
- There is limited search functionality and refinement options.

There are search operators that can be used to help narrow down the results. Operators can becombined within searches.

Basic Operators:

- **OR** : Broadens search by capturing synonyms or variant spellings of a concept. Ex: Synchronous OR asynchronous will find results that have either term present.
- **Brackets/Parentheses** ( ): Gather OR'd synonyms of a concept together, while combining them with another concept. Example: RAM (synchronous OR asynchronous).
- **Quotation marks " "**: Narrow the search by finding words together as a phrase, instead of separately. Example: RAM (synchronous OR asynchronous) "Texas Instruments".
- **Site**: limits the search to results from a specific domain or website. This operator is helpfulwhen searching specific websites such as the BC government, which is Example: RAM(synchronous OR asynchronous) "Texas Instruments" site:
- **Filetype**: limits the search to results with a specific file extension one could look for pdf's, PowerPoint presentations, Excel spreadsheets, and so on. Example: RAM (synchronous OR asynchronous) "Texas Instruments", filetype: pdf.
- **Others:** limiting the results by date

Google is but one search tool a researcher can use—it is not the only one! To find the best resources on a topic, one should search in academic databases, in addition to Google.

EFFECTIVE SEARCH: THE WAY FORWARD

It tells us about importance of conducting comprehensive literature surveys in academic research, particularly in engineering and related fields.

- **Scholarly vs. Popular Publications:** Scholarly publications are authored by experts in a specific field, undergo peer review for accuracy and validity, and are primarily aimed at fellow experts and students. They are known for their rigor and citation of sources. In contrast, popular publications are more informal and aim to reach a broader audience, including experts and amateurs. They oftenfocus on news and trends rather than original research.
- **Search Tools and Strategies:** Researchers are advised to use a variety of search tools and strategies to conduct comprehensive searches.
- **Print vs. Online Information:** Not all information is available online. Some valuable information can only be found in print sources, such as books or archived journals. Researchers must consider both digital and physical resources in their literature survey.
- **Iterative Process:** Conducting a literature survey is an iterative process. Researchers may need to modify their search queries and assess results multiple times. The process involves refining search parameters, using filters to narrow down results, and examining citations and references in relevantarticles to uncover additional sources.
- **Critical Reading:** This involves extracting key information, summarizing findings, and making observations about salient points. A detailed comparison and contrast of findings from different sources may also be necessary.
- **Continuous and Cyclical Process:** The literature survey is not a one-time task but a continuous and cyclical process. This ongoing process is crucial for staying up-to-date and refining research ideas.
- **Ph.D. Research Stage:** Doctoral scholars are required to undertake extensive literature surveys when preparing their research proposals and synopses. This phase involves reviewing archived journals and bibliographies, which can lead to further sources of information.

INTRODUCTION TO TECHNICAL READING

Detailed plan of how researchers to efficiently select, read, and assess research papers for their relevance and importance are given below:

- **Fragmented Nature of Research Literature:** The research knowledge is often scattered and fragmented across various sources. The is challenge for finding comprehensive information in one place and notes that the number of relevant papers for a specific researcher is relatively small compared to the vast number of available research papers.
- **Reliability of Sources:** The importance of relying on reputable sources, such as refereed journals and books published by respected publishers, rather than depending on random articlesfound on the web. This underscores the need for quality control in selecting sources forresearch.
- **Purposeful Reading:** Reading research papers should be focused and efficient. Researchers should adopt a systematic approach to identify and read articles that are relevant to their research objectives.
- **Initial Speed-reading:** Before diving into a detailed reading of a paper, researchers are advised to do initial reading the title, keywords, and abstract. If these elements do not pique the researcher's interest or relevance to their field of study, it may be best to move on to other papers.
- **Focus on Key Sections:** For papers that pass the initial speed-reading stage, researchers are encouraged to focus on key sections. After the abstract, attention should turn to the conclusions, figures, tables, and captions. It provides a quick understanding of the paper's content and contribution.
- **Delving into the Paper:** If the paper remains of interest, researchers can delve deeper by reading the Introduction section to understand the background and purpose of the study. The Results and Discussion sections are highlighted as the heart of the paper, where the research findings are presented and discussed.
- **Selective Reading:** Sections like Experimental Setup/Modeling should be read only if the researcher is particularly interested in understanding the methodology or technical details that support the paper's results.
- **Considering Reputation:** Researchers are encouraged not only to consider the knowledge presented in a paper but also to take into account the reputation of the authors or researchgroup. This helps in assessing the credibility of the information.
- **Staying Updated:** Whether it's a small project or a larger one, researchers must continually seekrelevant literature and develop a strategy for managing the overwhelming volume of available research.
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CONCEPTUALIZING RESEARCH

Conceptualizing a research objective and highlights the importance of originality, significance, andfeasibility in research endeavour's.

- **Characteristics of a Research Objective:** There are two fundamental characteristics of aresearch objective:
  - ➢ New Knowledge
  - ➢ Acceptance and Significance
- **Solvability and Achievability:** A good research problem should also be solvable or achievable. This consideration leads researchers to think about the methods and tools that can be employedto obtain new knowledge. It introduces the practical aspect of research planning.
- **Dependence on Existing Literature:** The theoretical background, tools, and methods required for research are drawn from existing literature and knowledge in the field.
- **Challenges in Conceptualizing Research:** A research objective that meets all these requirements can be challenging. It implies that researchers must already have a deep understanding of the existing literature and knowledge in the field.
- **Ph.D. Level Research:** For researchers engaged in Ph.D. level research or higher, conceptualizing the research is often a solitary endeavor. They must immerse themselves in the literature to combine three essential components: a significant problem, the relevant knowledge, and a viable approach to generating new knowledge.
- **Master's Thesis and Smaller Projects:** They may lack the time and expertise to become experts in the field. In such cases, they often seek guidance from a knowledgeable supervisorwho can suggest a suitable research objective and point to relevant literature.
- **Building vs. Making Knowledge:** The fundamental goal of research, which is to create new knowledge. It cautions that even if researchers are building something novel, it's essential to ensure that the research contributes to the generation of new insights. Research should not lackin novelty.

Explain the various steps involved in the critical and creative reading process.

CRITICAL AND CREATIVE READING

Reading a research paper is a critical process. The reader should not be under the assumption that reported results or arguments are correct. Rather, being suspicious and asking appropriate questions is in fact a good thing.

- Have the authors attempted to solve the right problem?
- Are there simpler solutions that have not been considered?
- What are the limitations (both stated and ignored) of the solution and are there any missinglinks? Are the assumptions that were made reasonable?
- Is there a logical flow to the paper or is there a flaw in the reasoning?

Things to remember in critical reading:

- Use of judgemental approach and boldness to make judgments is needed while reading.
- Flexibility to discard previous erroneous judgments is also critical.

It is important to ascertain whether the data presented in the paper is right data to substantiate the argument that was made in the paper and whether the data was gathered and interpreted in a correct manner.

Critical Reading	Creative Reading
Easy	Harder
Apprehensive	Judgemental approach
Critical reading involves identifying mistakes and weaknesses in a paper	It involves other applications, interesting generalizations, or extended work, important practical challenges.

Table 2.1: Shows comparison between critical reading and creative reading methods

List and explain the Importance of Note-taking while reading research papers.

TAKING NOTES WHILE READING:

The importance of reading skills for researchers and the essential role of note-taking in bridging the gap between reading and writing research papers.

- **Reading Skills for Research:** Good reading skills are fundamental for researchers. The ability to read and comprehend research materials effectively is a prerequisite for successful research and writing.
- **Note-Taking as a Bridge:** Notes on key points, definitions, explanations, concepts, questions, and criticisms while engaging with research papers. This helps in retaining and organizing important information for future reference.
- **Summary of Contributions:** summary should have paper contributions, key findings or insights in the paper.
- **Comparative Perspective:** This involves considering how the paper relates to existing works inthe same field.
- **Understanding Contribution Type:** A comprehensive understanding of the type of contribution a paper makes is best achieved by reading other papers in the same research area. By examining a paper's context within the existing body of literature, researchers can better discern its unique value and significance.

READING MATHEMATICS AND ALGORITHMS:
- Mathematics serves as the foundation for new advances and the evolution of engineering research and practice. It plays a pivotal role in the development of technical knowledge and solutions.
- Mathematical derivations and proofs are considered the heart of any technical paper. They are essential for establishing the validity and rigor of research findings. As a result, researchers are advised not to skim over these sections but to read them meticulously.

- While it is important to delve into mathematical proofs, there are circumstances in which it may be appropriate to skim certain technical sections. These include:
  - ➢ When the section explains something already known to the researcher.
  - ➢ When the content is too advanced for the current research stage and requires additional background reading to be understood.
  - ➢ When the section is highly specialized and may not be immediately relevant to the ongoing research program. In such cases, it can be revisited later if needed.
- The process of implementing intricate algorithms in programming languages such as C, C++, orJava. If researchers have confidence in the paper's content, there is a possibility of errors when translating the algorithm into code. Therefore, it is advisable to code and test the algorithm quickly to verify its functionality.

What are datasheets and write their contents?

Reading a Datasheet

- Different fields of engineering require researchers to read specific types of documents tailored to their areas of expertise. For instance, mechanical and civil engineers may need to read drawings related to mechanical parts and buildings, while electronics researchers rely heavily on   datasheets.
- **Datasheets** are highlighted as essential documents for electronic components. They serve as **instruction manuals that detail the functionality and usage of electronic parts.** Researchers and professionals **use datasheets to design circuits and troubleshoot existing circuits with these components**.
- **Content of Datasheets:** The typical content found in datasheets are:
  - ➤ Summary of Function and Features
  - ➤ Pinout
  - ➤ Performance Graphs
  - ➤ Truth Tables
  - ➤ Timing Diagrams
  - ➤ Package Dimensions
- Reading a component's datasheet is crucial when working with new parts or selecting components for research work. Careful examination of the datasheet can provide valuableshortcuts and save time in the research and design process.

  The engineering researchers must be proficient in reading a variety of technical documents beyond published papers or books. Datasheets serve as an example of the diverse range of documents that researchers may encounter and need to master.

ATTRIBUTIONS AND CITATIONS: GIVING CREDIT WHEREVER DUE

Rules to be followed in academic writing:
- ➤ Citing
- ➤ Referencing
- ➤ Attributing
- ➤ Acknowledging

Define the term Citation. Describe the three functions of Citation.

a) **Citations: Functions and Attributes**

- Citing is the practice of quoting from, referring to other authors' works and ideas in the text of our work in such a way that the context is clear to the reader.
- It is a way to tell readers that certain material in the researcher's present work has come from another source and as an ethical responsibility, appropriate credit has been given to the original author or writer.
- Any portion of someone else's work or ideas in papers, patents, or presentations must be used in any new document only by clearly citing the source (texts, images, sounds, etc.) and failure to do may be considered *plagiarism*.
- Citations help the readers to verify the quality and importance of the new work and justification of the findings.
- Materials that can be cited include journal papers, conference proceeding, books, theses, newspaper articles, websites, or other online resources and personal communication.
- Citations should be given at the end of a sentence or the end of a paragraph
- Citation must contain enough details so that readers can easily find the referenced material

- The citation elements differ and so what is to be recorded can differ from one source toanother.
- Relevant citations help authors develop an easily understandable argument and prevent theneed to navigate through work irrelevant to the reader's interest areas.
- A researcher needs to cite each source twice:
  - ➢ In-text citation
  - ➢ In the references
- **LaTeX**, a document preparation system often used by engineering researchers to automatically format documents that comply with standard formatting needs, is very effective to track and update citations.

There are three main functions of citation:

  - ➢ **Verification function:** The verification function in research uses citations toensure accuracy, detect distortions, and maintain scholarly integrity. It enhances transparency and trust in academic writing
  - ➢ **Acknowledgment function:** Researchers primarily receive credit for their work through citations. Citations play crucial role in promotion of individualresearchers and their continued employment.
  - ➢ **Documentation function:** Citations are also used to document scientific conceptsand historical progress of any particular technology over the years.

There are certain cases when references do not fulfil the actual goal of citations and acknowledgments, and thus do not benefit the reader.

1. **Spurious citations:** Spurious citations involve adding unnecessary or inappropriate referencesin research papers, leading to confusion and wasting readers' time. Proper citation practices are crucial to maintain the credibility of research and publications, avoiding carelessness in giving undue credit.
2. **Biased citations:** When authors cite the work of their friends or colleagues despite there being no significant connection between the two works, or when they do not cite work of genuine significance because they do not wish to give credit in the form of citation to certain individuals, then such actions can be classified as biased citations. Neglecting to reference contradictory prior work also constitutes biased citing.
3. **Self-citations:** There is nothing wrong in citing one's prior work if the citation is really relevant. Self-citation of prior papers is natural because the latest paper is often a part of alarger research project which is ongoing. However, it is helpful and ethical only if all the papersare really relevant to the present work. There can also be negative impact on the journal as wellas individual researchers due to inappropriate and irrelevant self-citations.
4. **Coercive citations:** Coercive citations involve editors pushing authors to cite their journal's articles, potentially compromising research integrity. This practice can harm academic publishing's credibility, but efforts are underway to curb it.

b) Impact of Title and Keywords on Citations

The citation rate of any research paper depends on:
- Significance and availability of the journal
- Publication types
- Research area
- Importance of the published research work.
- Other factors: length of the title, type of the title, and selected keywords also

impact thecitation count.

Title:

- Title is the main indication of the research area or subject and is used by researcher as a source of information during literature survey.
- Title plays important role in marketing and makes research papers traceable.
- A good title is informative, represents a paper effectively to readers, and gains their attention. Some titles are informative but do not capture attention of readers, some titles are attractive but not informative or related to the readers' research area.
- There are three different aspects which provide a particular behaviour to the title:
  - ➤ Types of the title
  - ➤ Length of the title
  - ➤ Presence of specific markers
- Titles containing a question mark, colon, and reference to a specific geographical region are associated with lower citation rates, also result-describing titles usually get citations thanmethod-describing titles. Additionally, review articles and original articles usually receive morecitations than short communication articles.
- At least two keywords in the title can increase the chance of finding and reading the article wellas get more citations.

Keywords:

- Keywords represent essential information as well as main content of the article, which are relevantto the area of research.
- Search engines, journal, digital libraries, and indexing services use keywords for categorization ofthe research topic and to direct the work to the relevant audience.
- If maximum number of allowable keywords are used, then the chance of the article being foundincreases and so does the probability of citation count of the article.
- Usage of new keywords should be minimal as such keywords may not be well known to theresearch community and so may lead to low visibility of the article.

Explain how knowledge flows through a citation network using a flow Diagram

Knowledge Flow Through Citation:

- In engineering research, knowledge flow is primarily in the form of books, thesis, articles, patents,and reports.
- Citing a source is important for transmission of knowledge from previous work to an innovation. Knowledge flow happens between co-authors during research collaboration, among other researchers through their paper citation network, and also between institutions, departments,research fields or topics, and elements of research.
- Figure 2.1 shows the relationship between citations, knowledge flow, and elements such as researchers, papers, journal publications or conferences, and institutions.
- If paper A is cited by paper B, then knowledge flows through citation networks across institutions. The complex interdisciplinary nature of research encourages scholars to cooperate with each other to grab more advantages through collaboration, thereby improving quality of the research.
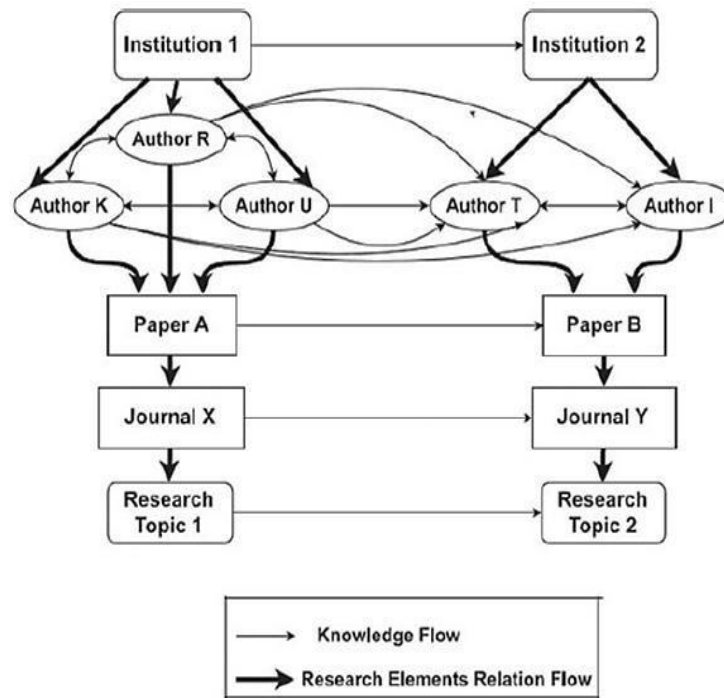
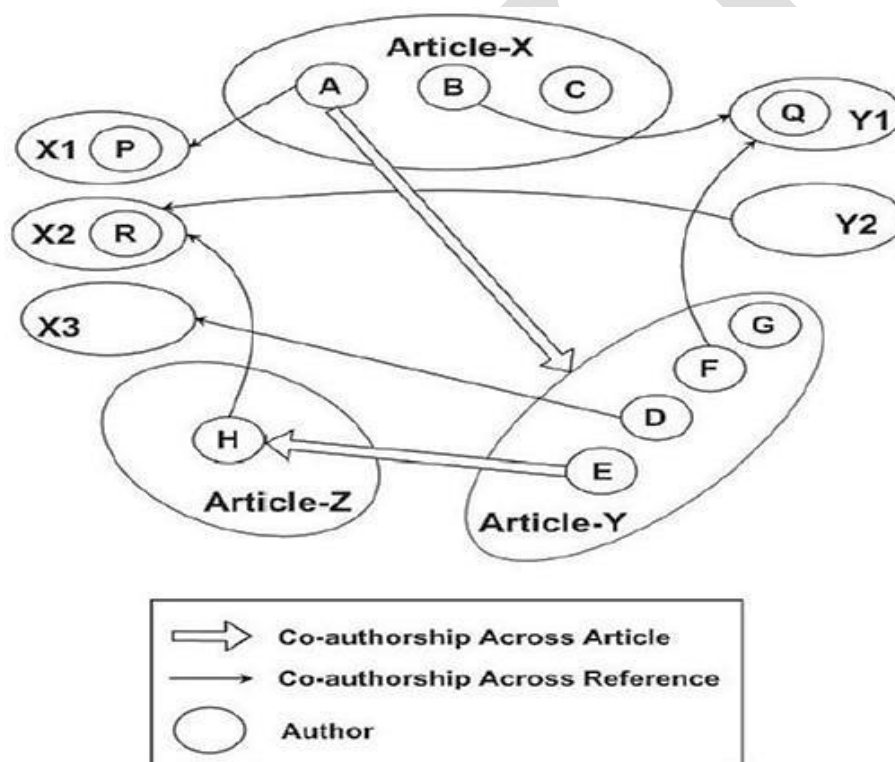**Fig 2.1 shows citation-based knowledge flow**

Fig 2.2 shows Co-authorship network

Figure 3.2 shows a relationship between co-authorship and different types of citations. Three articles (X, Y, and Z) and five references (X1, X2, X3, Y1, and Y2) of article X and Y, respectively, are considered. A, B, and C are authors of article X, and D, E, F, G, and also A are authors of article Y. Article Z has two authors H and E. References X1, X2, X3, Y1, and Y2 have authors (A, P), (H, R), (D), (Q, B, F), and (R), respectively.

a) Citing Datasets

- In engineering research, data plays a crucial role in supporting claims and conclusions.
- Data citations are important and should provide credit to dataset creators, offer legalattribution to all contributors, and enable easy identification and access to the data.
- Ownership of data can be complex, and researchers should obtain necessary permissions touse data.

Citations should include enough information to locate the dataset in the future, even if theoriginal link no longer works, by including a mix of general and specific details.

Examples:

1. Historical Data, Sotavento (Wind Farm), Corunna, Spain (July 2016): [Accessed: 4 Oct, 2016] Retrieved from http://www.sotaventogalicia.com/en/real-time-data/historical

2. Deb, D (2016). [Personnel survey]. Unpublished raw data.

b)Styles for Citations

Some of the most common styles for citation (as well as other aspects of technical writing) used byengineers are as follows:

ASCE style (American Society of Civil Engineers):

(a) Reference list: This part is to be placed in the bibliography or references at the end of the articleor report. A template with example for the same is given below:

Template for books:

Author Surname, Author Initial. (Year Published). Title. Publisher, City, Pages Used.

Example:

Wearstler, K., and Bogart, J. (2004). Modern glamour. Regan Books, NY.

Template for websites:

Author Credentials / Company Name (Year Published). 'Title'. http://Website URL (Oct. 10, 2013).

Example:

Blade cleaning services (2015): http://www.bladecleaning.com/problematica (29 Oct, 2016).

Template for journal publications:

Author Surname, Author Initial. (Year Published). 'Title'. Publication Title, Volume number(Issue number), Pages Used.

Example:

Johnston, L. (2014). "How an Inconvenient Truth Expanded The Climate Change Dialogue abd Reignited An Ethical Purpose in The United States". 1–160.

(a) In-text citation for journals or books: The following part is to be placed right after thereference to the source of the citation assignment:

Template
(Author Surname/Website URL Year Published)

Examples:
i. Citation is a very important part of technical writing. (Deb 2016)
ii. Engineers create devices to monitor mountains so that nearby inhab-
   itants can be warned of impending eruptions. (Teachengineering.org
   2014)

2. IEEE style (Institute of Electrical and Electronics Engineers): IEEE style is standard for all IEEE journals and magazines, and is frequently used for papers and articles in the fields ofelectrical engineering and computer science. The IEEE style requires endnotes and that references be cited numerically in the text.

Chapter in an edited book
[1] A. Rezi and M. Allam, "Techniques in array processing by means of transformations,"
in Control and Dynamic Systems, Vol. 69, Multidimensional Systems, C. T. Leondes,
Ed. San Diego: Academic Press, 1995, pp. 133–180.

ACKNOWLEDGMENTS AND ATTRIBUTIONS

- Acknowledgment section is a place to provide a brief appreciation of the contribution ofsomeone or an organization or funding body to the present work.
- Acknowledgment is a common practice to recognize persons or agencies for being responsiblein some form or other for completion of a publishable research outcome.
- In some case, certain individuals may help in the research work but may not deserve to be included as authors. As a sign of gratitude, such contributions should be acknowledged.
- Classification of acknowledgment into six different categories
  - ➢ Like moral
  - ➢ Financial
  - ➢ Editorial
  - ➢ Institutional or technical
  - ➢ Conceptual support.
- Giving proper credit wherever it is due is very important and even if the contribution is minor,it should not be neglected.
- Whenever possible, author shall give name of persons who may be responsible, even if nominally work (for designs, inventions, writings, or other accomplishments).
- In engineering research, acknowledgments are meant for participating technicians, students, funding agency, grant number, institution, or anyone who provide scientific inputs, shared unpublished results, provided equipment, or participated in discussions.

a) What Should Be Acknowledged?

- Authors should acknowledge people who give appropriate contribution in their research work.
- Non-research work contributions are acknowledged in a thesis.
- Persons must be acknowledged by authors, who gave a scientific or technical guidance, take part in some discussions, or shared information to author.
- Authors should acknowledge assistants, students, or technicians, who helped experimentally and theoretically during the research work.
- If the researcher received grant from a funding agency and if those funds were used in the workreported in the publication, then such support should always be acknowledged by providing fulldetails of the funding program and grant number in the acknowledgment section.
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- If the results were presented as an abstract in a journal, then there should be a suitablecitation.
- If the results were presented as part of scientific meeting, symposium, or other gathering,then some relevant information should be provided.
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- **Acknowledgments in Books/Dissertations**

  - A page of acknowledgments is usually included at the beginning of a thesis/ dissertation immediately following the table of contents.
  - These detailed acknowledgments enable the researcher to thank all those who have contributed in completion of the research work.

The following are often acknowledged in these types of acknowledgments: main supervisor, second supervisor, peers in the lab, other academic staff in the department, technical or support staff in the department, colleagues from other departments, other institutions, or organizations, former students, family, and friends

Example:

> **Sample Acknowledgement in Thesis:**
> I wish to express my sincere appreciation to my supervisor Prof. Gang Tao for the useful comments, remarks and encouragement throughout this thesis work. Furthermore, I wish to express my thanks to Prof. Jacob Hammer for introducing me to the topic and for the support along the way. Also, I like to thank my peers in the Adaptive Control Lab such as Yu Liu and Shanshan Li, who have shared their precious time during many lively technical discussions. I would like to thank my family members who have supported me throughout this journey in many different ways.

b) Dedication or Acknowledgments

- Dedication it is used exclusively in larger documents like books, thesis, or dissertations.
- While acknowledgments are reserved for those who helped out with the book in

some wayor another (editing, moral support, etc), a dedication is to whomever the author would like it to be dedicated to, whether it is the author's mother, the best friend, the pet dog, orAlmighty God.

- For example, one may dedicate a book to one's spouse, but acknowledge them for being the moral support and putting up with when one got very stressed.
- The acknowledgments in technical books can be sometimes as brief as the ones in journal articles. The acknowledgment section of a technical report may be a paragraph that is longerthan a journal paper but shorter than dissertations.

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