1. Literature review (2): how to make a literature review
2. Hypotheses and Expectation

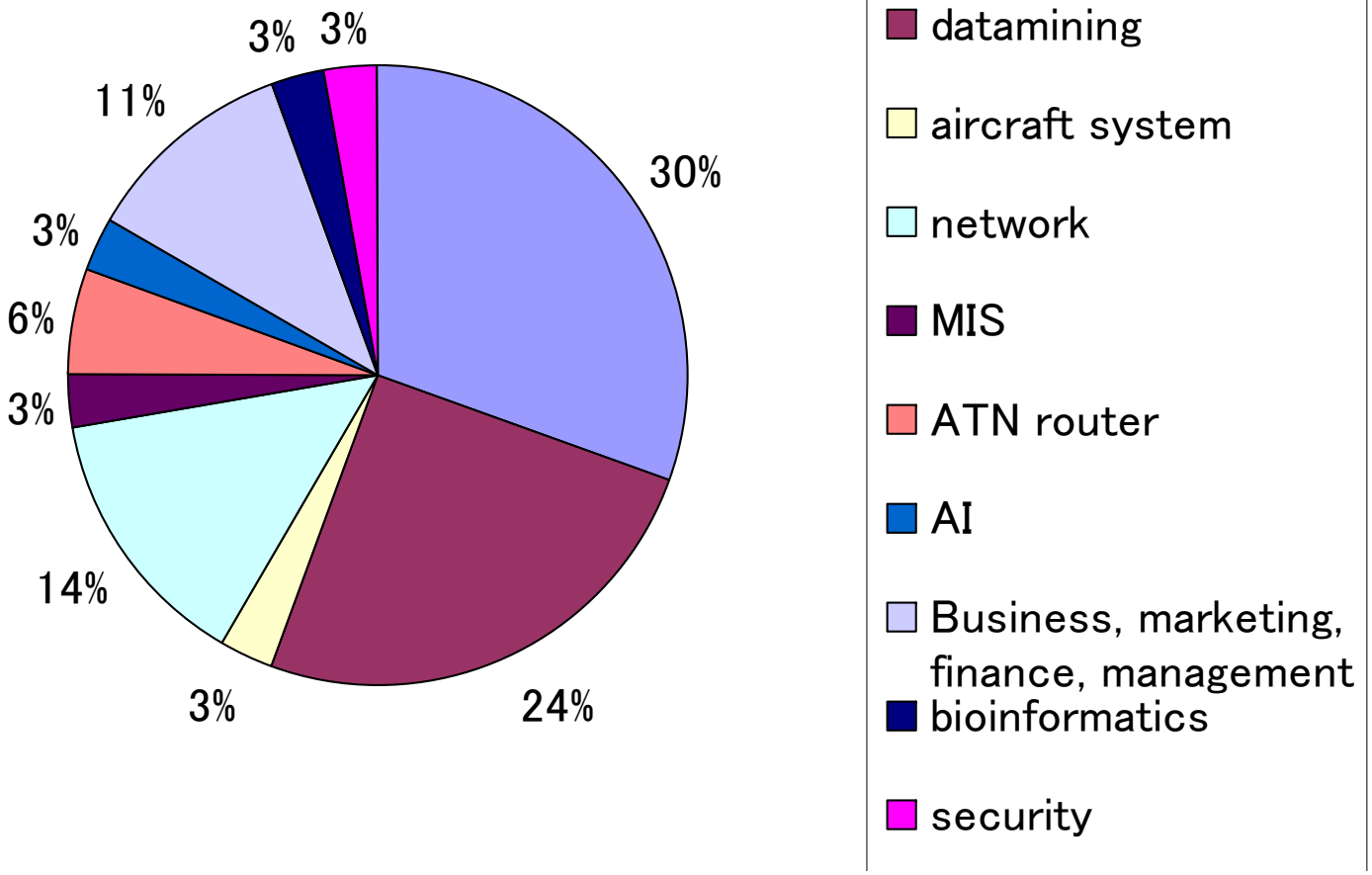
Anto Satriyo Nugroho, Dr.Eng

Email: asnugroho@gmail.com

URL: http://asnugroho.net

Analysis of student interest

- 29 students submit the assignment-01
- Data shown are obtained from the answer of 28 students
- I could not read the answer of 1 student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multimedia
datamining
aircraft system
network
MIS
ATN router
AI
Business, marketing, finance, management
bioinformatics
security

List of 2008's theses

No.	Title	Name	Advisor
1	Digital Image Processing: Study of Printed Individual Arabic Character Recognition for Stored Image Using MATLAB	Jessica Setiabudi	Prof. Dr. Ir. Marsudi W. Kisworo
2	Digital Image Processing: Prototyping Physical Text to Digital Form Converter	Adhi Prasetyo Wibowo	Prof. Dr. Ir. Marsudi W. Kisworo
3	Development of Automatic Number Plate Recognition (ANPR) Using Digital Image Processing and Artificial Neural Network for a Better Parking System	Fakih Satria Rahman	Dr. Lukas ST, MAI
4	Developing a Web Community System for Swiss German University with Semantic Web as The Information Retrieval Method	Ardi Tjandra	James Purnama, M.Sc.

No.	Title	Name	Advisor
5	Implementation of Interactive Whiteboard Solution with Nintendo Wii Remote on Microsoft Windows XP	Ivan Adelwin Sang Maharsiworo	James Purnama, M.Sc.
6	Implementation of Spherical Environment Mapping Algorithm using OpenGL	Felix Oey	Richard Kumaradjaja, PhD
7	Implementation of Cross Industry Standard Process for Data Mining (CRISP-DM) in Finance Industry for Stock Market Performance Analysis and Prediction	Albertus Rendy Buntaran	Richard Kumaradjaja, PhD
8	Design and Implementation of Data Warehouse to Support Decision Making in Supply Chain Management (SCM) at PT. Vico Indonesia	Afiff Rieza Bahalwan	Richard Kumaradjaja, PhD

No.	Title	Name	Advisor
9	Design and Implementation of a Text-to-Speech Engine for Indonesian Text	Teddy Suyanto	Richard Kumaradjaja, PhD
10	Implementing Data Mining for Customer Relationship Management in Retail Banking Industry Using The Cross Industry Standard Process for Data Mining (CRISP-DM) Methodology	Ronald Satriadi Permana	Richard Kumaradjaja, PhD
11	Implementation of Data Mining on Foreign Exchange Monex Investindo Future (MIF) Company	David Ferdian Livianto	Dr. Linus Pasasa
12	Implementing of Data Mining for Decision Support System in Stock Market for Forecasting Stock with Artificial Neural Network (ANN)	Andrianto	Dr. Linus Pasasa

No.	Title	Name	Advisor
13	Development of Electronic Prescribing to Improve Drug Prescribing Accuracy: A Study Case in Indonesia	Timur Pratama Wiradarma	James Purnama, M.Sc.
14	The Implementation of XML (Extensable Mark up Language) for Information Retrieval	Dian Kartikasari Hermawan	Prof. Dr. R. Eko Indrajit
15	Busway Traffic Optimization Model	Suhartono Lolo	Prof. Dr. R. Eko Indrajit
16	Design and Implementation of Short Messaging Service (SMS) Based Time Table On-line System	Ferdhi Adrian	Charles Lim, M.Sc.
17	Design and Implementation of Smart Card System in Swiss German University	Kevin Hendrawan	Charles Lim, M.Sc.

No.	Title	Name	Advisor
18	Developing a Decision Support System for Bandung Adventist Hospital	Gabriel Frederick Julius Taliwongso	James Purnama, M.Sc.
19	Implementation of the CLTP (Connectionless Transport Protocol) Packet Data Unit Reception in ATN (Aeronautical Telecommunication Network)	Agny Dyah Kuswandani	Husni Fahmi, PhD
20	The Design and Implementation of COTP (Connection Oriented Transport Protocol) Packet Data Unit Reception in ATN (Aeronautical Telecommunications Network)	Temmy Njoto Djanggono	Husni Fahmi, PhD
21	Testing of the CLTP (Connectionless-Mode Transport Protocol) in ATN (Aeronautical Telecommunication Network)	Felicia Franshisca	Husni Fahmi, PhD

No.	Title	Name	Advisor
22	Testing of the CLTP (Connectionless-Mode Transport Protocol) in ATN (Aeronautical Telecommunication Network)	Felicia Franshisca	Husni Fahmi, PhD
23	Implementation of the Configuration Information Functions of the EIRP (End-system Intermediate-system Routing Protocol)	Cipindo Tanjaya	Husni Fahmi, PhD
24	Implementation of CLTP (Connectionless Transport Protocol) Packet Data Unit Transmission in ATN (Aeronautical Telecommunication Network)	Naira Primestika Sharity	Husni Fahmi, PhD
25	Testing of COTP (Connection Oriented Transport Protocol) in ATN (Aeronautical Telecommunication Network)	Jonathan Wirawan	Husni Fahmi, PhD

No.	Title	Name	Advisor
26	The Design and Implementation of COTP (Connection OrientedTransport Protocol) Connection Management Functionality for Connection Establishment, Connection Refusal, and Normal Release Functions in ATN (Aeronautical Telecommunication Network)	Arnold Darius	Husni Fahmi, PhD
27	Design and Implementation of COTP (Connection OrientedTransport Protocol) Packet Data Unit Transmission in ATN (AeronauticalTelecommunications Network)	Erick Liemarga	Husni Fahmi, PhD
28	Testing of ES-IS (End System-Intermediate System) Using White Box and Black Box Testing	Novianto Dharma	Husni Fahmi, PhD

No.	Title	Name	Advisor
29	Implementation of AF_ATN Raw Socket for the ATN TP4/CLNP Networking Suite	Tadeus Prastowo	Husni Fahmi, PhD
30	White Box and Black Box Software Testing of CLNP (Connectionless Network Protocol) in ATN (Aeronautical Telecommunication Network)	Tjeuw Alvin Felix	Husni Fahmi, PhD
31	E-Commerce Approach for Online Music Community Portal	Rizky Respati	Prof. Dr. Ir. Marsudi W. Kisworo
32	Development of Multithreaded Server Application for ISO 8583 Financial Transaction Message Processing Using EDC (Electronic Data Capture) Devices as Clients is Sun JavaTM Technology	Reggio Nurtanio	James Purnama, M.Sc.

No.	Title	Name	Advisor
33	Analyzing The Business Process of a Manufacturing Company and Implementing Open Source ERP (Enterprise Resource Planning), Compiere	Rheza Gunawan Budiono	James Purnama, M.Sc.

Advise

1. Find your supervisor based on your research interest
2. Try to discuss the research topic that he/she can supervise your work
3. Paper survey
4. Proposal preparation

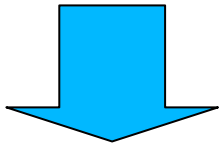
Seminar

Literature Review

1. Why literature review is important ?
2. Sources
3. How to make a review ?

Why literature review is important ?

1. To avoid duplication of research
2. To understand the state of the art of a field
3. To keep you uptodate with the newest progress



The research topic that you obtained after conducting research survey will satisfy the required criteria

- novel
- significant
- etc

How to make a literature review ?

- Never believe that a paper is perfect !
- Read the introduction, and find the following information
  - objective of the research
  - Why the author choose the problem ? Why it is considered to be interesting and significant ?
  - Where is the originality ? (Please refer to the last week slide)
  - What is the problem that the author try to answer ?
- Read the discussion, and find the following information
  - What is the new solution proposed by the author
  - How did the author design the experiments ?
  - Were the experiments successful ?
  - If not, why it happened ? Did the author explain it clearly ?

How to make a literature review ?

- Read the conclusion, and find the following information
  - Did the conclusions answer all the question posed in the introduction part of the paper ?

    many papers did not answer the question properly !
  - What are the biggest contribution of the research ?
  - Did the papers leave some unsolved problems ? (future work of the authors)
- Do you have any idea to solve the problems ?
- Do you find weakpoints in the papers ? What is your opinion ?
- Read the references and find the following information
  - Are the references uptodate ?
  - Make a note of important papers or books listed in the references part

How to make a literature review ?

- Literature review is important phase, not only when you start a research. Even you have become a researcher, you still have to follow the progress of your field through literature review.
- One day : 10 paper (quick review) + 1 paper “full” review
- Make a complete note of the review including bibliography and URL (if you find the paper from internet)

Part of Final Examination

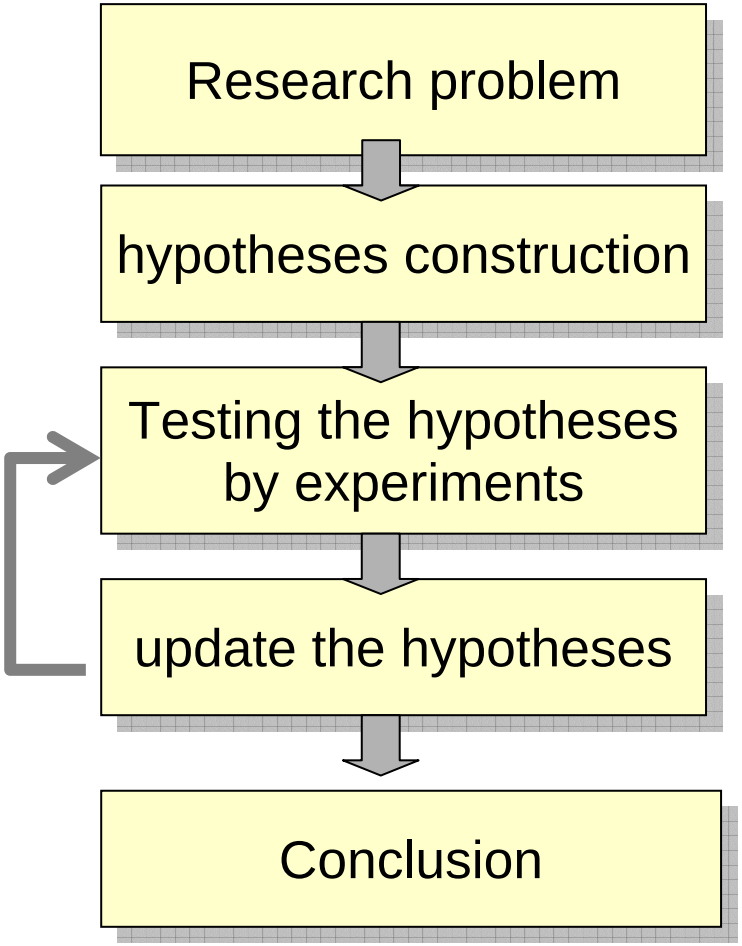
Find 3 (three) papers related to your interest from

http://citeseerx.ist.psu.edu/

(or any resources that provides journal/conference papers)

1) Write the reason, why you chose them. (describe the relationship with your research subject)
2) Make a complete review of the papers

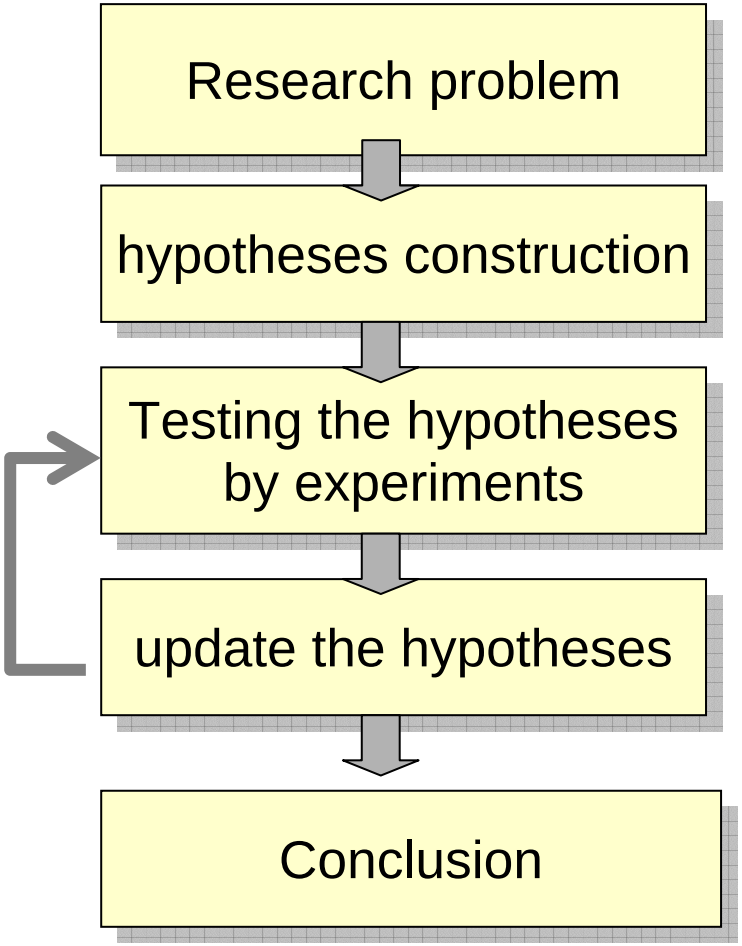
Hypotheses


Research problem
hypotheses construction
Testing the hypotheses by experiments
update the hypotheses
Conclusion

Hypothesis

- The investigator, possessing incomplete-possibly minimal-knowledge of the problem under study, begins by guessing at hypotheses that can be tested to learn more about the problem (Grinnel, 1992)
- Hypothesis is a temporary answer to the research questions
- The validity of hypothesis should be verified through some experiments
- A hypothesis typically formulated in a vague way, and then clarified and confirmed through additional experiments

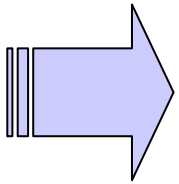
Hypotheses



- A hypothesis is confirmed
- A hypothesis is extended
- A hypothesis is modified or rejected

Development of hypothesis

1. A hypothesis is confirmed →the experiments have repeated what others had previously described
2. A hypothesis is extended → factual content of the scientific domain has been extended. Novel observations have been made
3. A hypothesis is modified or rejected → theoretical content of the scientific domain has been extended. It represents a new way of looking at the experiment system, and may lead to a new line of experimentation that previously unknown

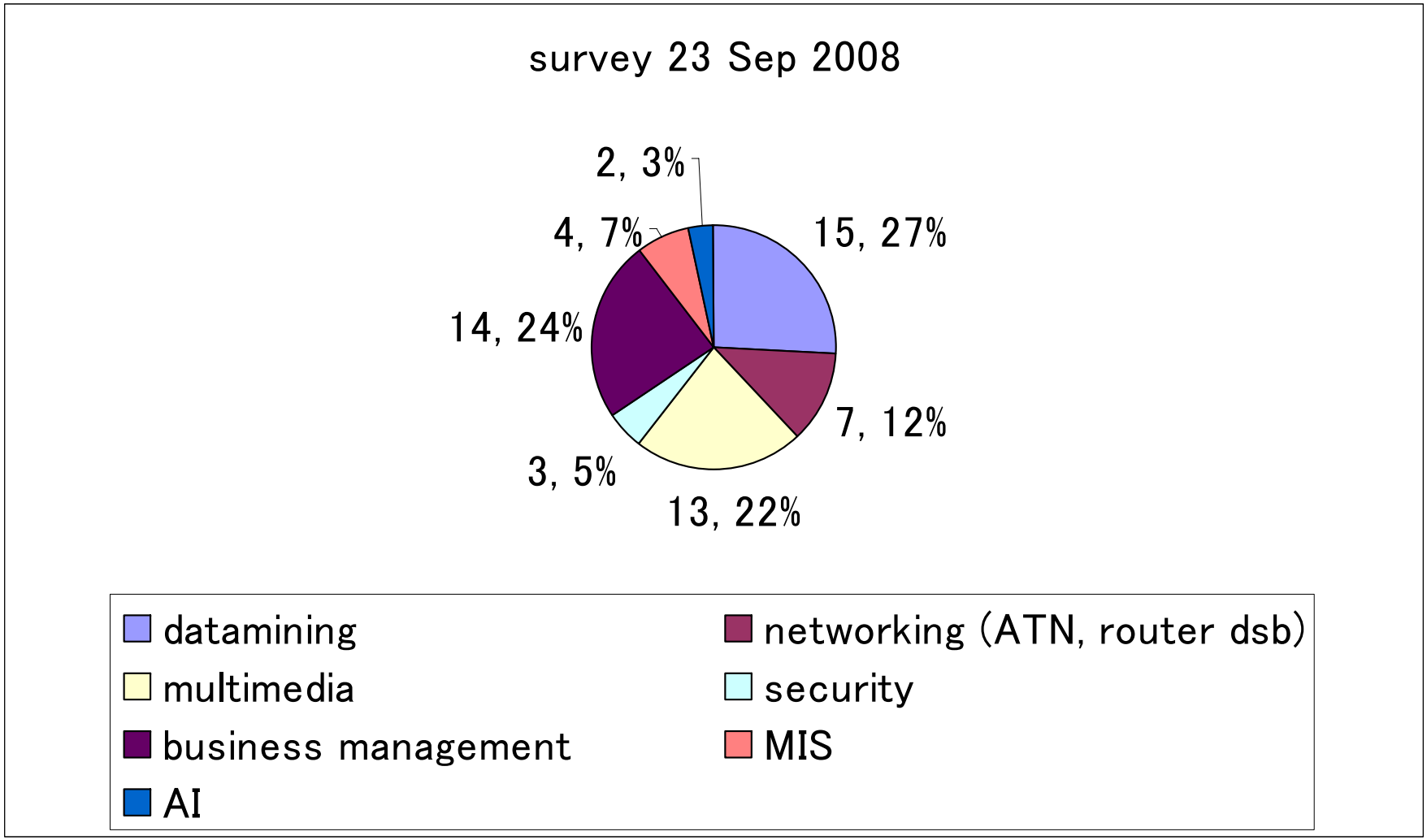
vague  clarified & refined, through Additional experiments

Example

Application of Search Engine Optimization to develop a Content Management System

Problem :	the website is only visited by few people
Hypothesis:	SEO could increase the website traffic
Design a solution:	literature study of SEO and design the appropriate model for the website
Experiment/evaluation:	Implementation of SEO to the website and evaluate the traffic
Conclusion:	SEO could increase the traffic of the website

Romi Satria Wahono, “Tahapan dan tema penelitian”, 2008
http://romisatriawahono.net


survey 23 Sep 2008
2, 3%
4, 7%
15, 27%
14, 24%
7, 12%
3, 5%
13, 22%
datamining
networking (ATN, router dsb)
multimedia
security
business management
MIS
AI