

Recap

- Source of Law – differ according to the legal system
- List of Maltese sources of law
- Research process:-
 1. Discovering
 2. Verifying/testing/analyzing
 3. Find relationships
 4. Develop new concepts/ suggestions
- Developing of research plan - Know what you want to search for, Familiarise yourself with the terminology, Methodology and Sources location
- How will you conduct the research? Most common types of legal methodology:-
Doctrinal Legal Research Methodology – a.k.a Black letter methodology,
Comparative or Empirical



Recap

- Black letter law – the actual law
- Comparative – compare & contrast two legal systems(macro)/ principles/ laws (micro)
- Stages of conducting research – Preliminary stage



Legal Research and Interpretation Methodology

**Lecture Title: Research Plan, Sampling, Data
Collection and Interpretation Methodologies**



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Diploma in Law (Malta)

Preliminary stage - Drawing up a draft Methodology - Empirical

- Collins dictionary definition of the term “empirical” -->
- Keyword: practical experience

Definition of 'empirical'

empirical

Collins COBUILD

Word Frequency 



(ɪmˈpɪrɪkəl )

ADJECTIVE [usually ADJECTIVE noun]

Empirical evidence or study relies on practical experience rather than theories.

There is no empirical evidence to support his thesis. 

Synonyms: first-hand, direct, observed, practical [More Synonyms of empirical](#)

empirically  **ADVERB** [usually ADVERB adjective/-ed, ADVERB after verb]

...empirically based research. 

They approached this part of their task empirically. 

Difference between Empirical vs Conceptual Research

- Conceptual research is also used in social sciences e.g. anthropology, sociology, psychology etc

CONCEPTUAL RESEARCH VERSUS EMPIRICAL RESEARCH	
CONCEPTUAL RESEARCH	EMPIRICAL RESEARCH
Conceptual research is a type of research that is generally related to abstract ideas or concepts	Any research study where conclusions of the study are drawn from evidence verifiable by observation or experience rather than theory or pure logic
Involves abstract idea and concepts; however, it doesn't involve any practical experiments	Involves phenomena that are observable and measurable
Philosophical research studies are an example	Includes both quantitative and qualitative studies
	Visit www.PEDIAA.com

Stages in **conceptual** research:-

1. **Choose** research topic
2. **Collect** relevant literature

Conceptual research is based primarily on information obtained from previous research. Gathering of info is key in this type of research



Stages in **Empirical** Legal Research and Methodology

Stages of Legal Research :-

1. (**Hypothesis**) – Not always considered as a stage and when considered as a stage it may not be the first one
2. **Research Design/ planning** - Problem identification, Fact analysis and collection, legal analysis, generation of keywords, identification of research sources and avenues
3. **Collection of Data** - Identification of research sources and avenues, case law, collection and analysis of data
4. **Writing** research report/ presentation and application of findings



Why should one follow the stages of Legal Research?

- Makes it easier for researcher to complete each step
- Avoids poor time management
- Target focused
- Makes it easier to find the starting point for the research



Stages in Legal Research and Methodology pattern

- Stages are subjective and pattern may differ and stages may overlap
- 9 step model →



The Legal Research Process

6 step model

What does the legal research process involve?

- [Legal Research Strategy - YouTube](#)



Stages in Legal Research and Methodology - 7 step pattern



Example of application of the Research Pattern in the legal field – The European Civil Code

1. Topic: The European Civil Code (ECC is a proposed harmonisation of private law across EU member states covering law of obligations i.e. contracts, tort law (wrong done to a person e.g. traffic accident, accident whilst at work), property law etc)
2. Identification and formulation of research problem – The application of the European Civil Code
3. Literature – Primary Sources (Draft Code if available), secondary sources (articles and commentaries to go through the history behind the proposal)
4. Re/formulation of hypothesis – The feasibility of the European Civil Code (narrowed down)
5. Research Design / Collection of Data – descriptive/ critical/ then Qualitative/Quantitative - Questionnaires, Interviews/ Survey etc
6. Analysis and Interpretation of data collected
7. Drafting

1. Identification and formulation of the problem/ hypothesis

- Hypothesis can be defined as a thought based on some assumption which is yet to be validated
- It is a presumptive statement
- Very first step in conducting research
- Should be of interest to the researcher



- Success of research depends on the selection of the problem
- Needs proper formulation – brainstorming – cannot be formulated within a few minutes but requires thinking and sometimes reformulation as you go along the process
- It sets the parameters of the research – what is relevant and not
- Ill-defined or lacking identification and formulation of the problem makes the research lose interest and creates difficulties in later stages
- Research has to be goal directed, simple, specific, important and useful
- Not easy to identify and formulate a problem. One needs to already know the field or have personal experience or ask others who have experience in the area selected/ experts or consult with a group who are facing issues
- Identification tip: Choose general area/subject/interest and then identify the special interest area e.g. Property Law -> emphyteusis, Criminal Law -> Theft, Constitution -> Human Rights Chapter -> Particular Article -> (Particular aspect of the article)

HYPOTHESIS VERSUS RESEARCH QUESTION	
Hypothesis is predictive in nature	Research Question is inquisitive in nature
A tentative prediction about the relationship between two or more variables	The question a research study sets to answer
Can be used if there is significant knowledge or previous research on this subject	Can be used if there is little previous research on the subject
Mainly used in experimental quantitative studies	Can be used in both quantitative and qualitative studies
Doesn't allow a wide range of outcomes	Allows a wide range of outcomes
	Pediac.com

1. Identification and formulation of the problem/ hypothesis – Research Problem vs Hypothesis

- Hypothesis – an educated guess, based on existing knowledge
- Research question – seeks to answer open ended question

1. Identification and formulation of the problem/ hypothesis – Research Problem vs Hypothesis Examples

Research question	Hypothesis
What are the health benefits of eating an apple a day?	Increasing apple consumption in over-60s will result in decreasing frequency of doctor's visits.
Which airlines have the most delays?	Low-cost airlines are more likely to have delays than premium airlines.
Can flexible work arrangements improve job satisfaction?	Employees who have flexible working hours will report greater job satisfaction than employees who work fixed hours.

1. Identification and formulation of the problem/ hypothesis – Variables

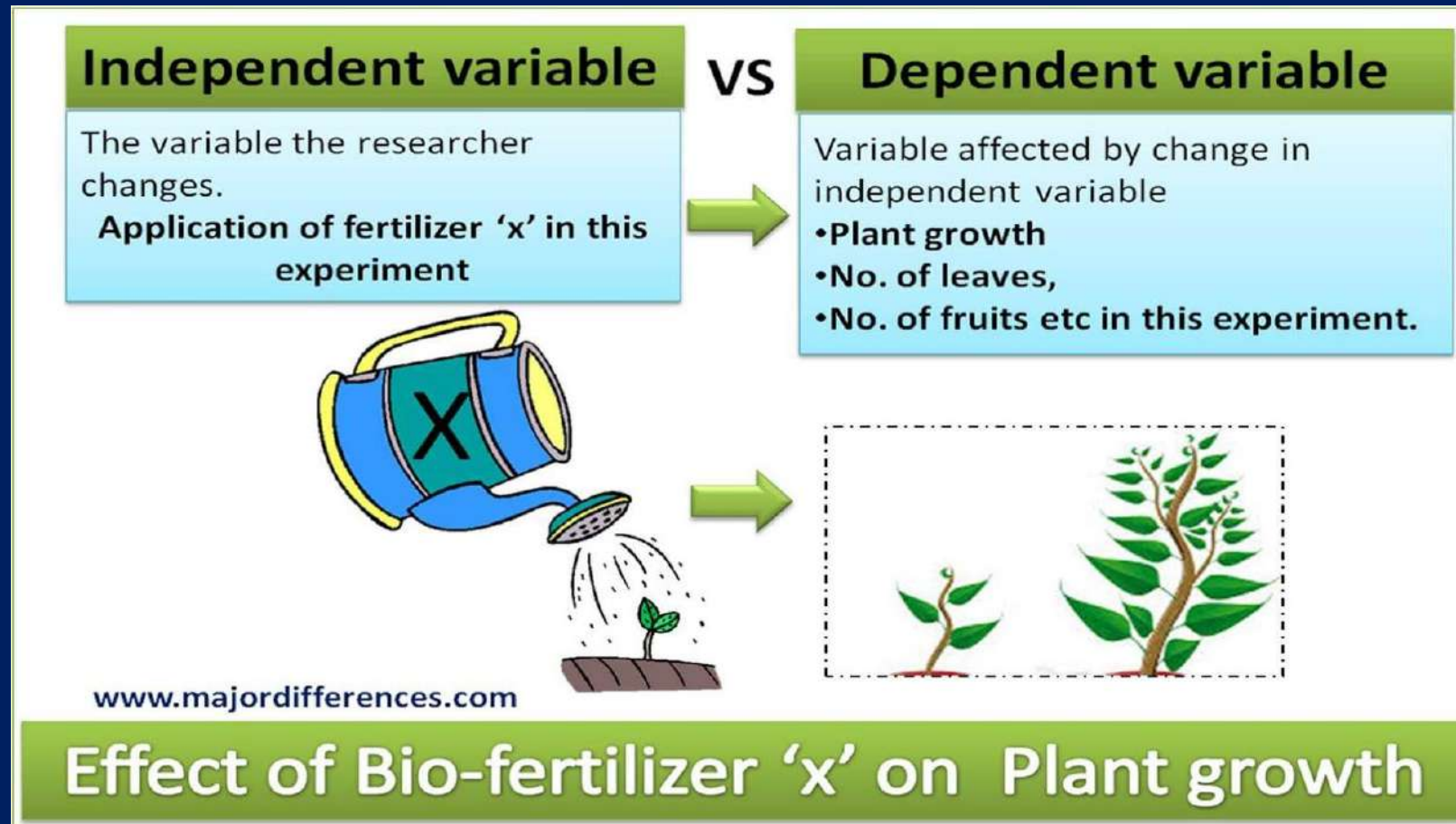
- Hypothesis is a tentative statement. The answer is uncertain until you conduct your research
- To understand the types of hypothesis, we need to understand what are variables and their effects
- Variable is anything that can vary and is not constant e.g. age, country etc i.e. measurable characteristics, qualities, traits
- Various kinds of variables (more than 10 types) – most common are Dependent vs Independent variables
- Dependent variables - It is something that depends on other factors. For example, a test score could be a dependent variable because it could change depending on several factors such as how much you studied, how much sleep you got the night before you took the test, or even how hungry you were when you took it. Usually when you are looking for a relationship between two things you are trying to find out what makes the dependent variable change the way it does.
- Independent variables – a.k.a manipulated variables. It is called independent because variable is isolated from any other factor. In research, we try to determine whether there is a cause and effect relationship. In fact, when you are looking for some kind of relationship between variables you are trying to see if the independent variable causes some kind of change in the other variables, or dependent variables.

1. Identification and formulation of the problem/ hypothesis – Types of Variables

- Variables can have three types of relationships among them:-
 1. A **positive** relationship is one where an increase in one would lead to increase in the other
 2. A **negative** relationship is one where an increase in one variable lead to decrease in the other
 3. A **zero relationship** is one which shows no significant relationship between the two variables



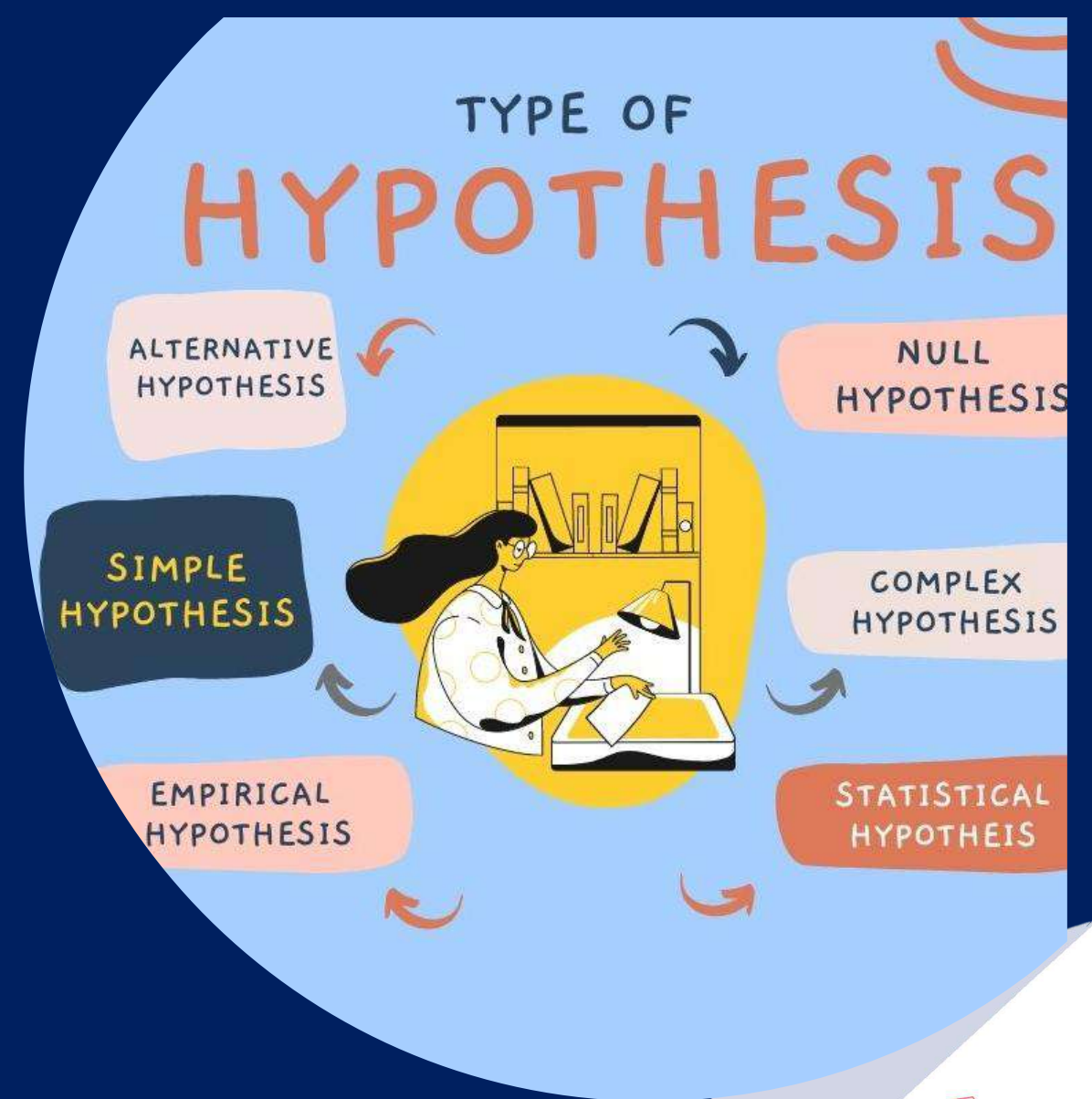
1. Identification and formulation of the problem/ hypothesis – Variables



1. Identification and formulation of the problem/ hypothesis – Types of hypotheses

- Characteristics of a hypothesis
- Most common six types
- Video: Types, Formulating and writing Hypothesis

<https://www.youtube.com/watch?v=c14loAMUuzM>



1. Identification and formulation of the problem/ hypothesis – Types of hypotheses – Simple vs Complex

1. Simple/ basic hypothesis – shows a relationship between two variables. One of the variables is called the independent variable or cause. The other variable is called the dependant variable or effect.

E.g. Global warming causes icebergs to melt (cause: global warming. Effect If melting of icebergs)

2. Complex hypothesis – A hypothesis where there are multiple dependent and independent variables i.e. relationship exists between multiple variables

E.g. Global warming causes icebergs to melt which in turn causes major changes in weather patterns



1. Identification and formulation of the problem/ hypothesis – Types of hypothesis – Statistical vs Empirical Hypothesis

- Statistical hypothesis - A hypothesis that is able to be verified through statistics.

It can be either logical or illogical, but if you can use statistics to verify it, it is called a statistical hypothesis

- Empirical hypothesis – a.k.a working hypothesis. It is only an assumption during the formulation phase, but when it is tested it is no longer just an idea or notion.



1. Identification and formulation of the problem/ hypothesis – Types of hypothesis – Null vs Alternative Hypothesis

- Null Hypothesis: These are used when the researcher believes there is no relationship between two variables or when there is inadequate theoretical or empirical information to state a research hypothesis
- Null hypothesis represents a theory that has been put forward, either because it is believed to be true or because it is to be used as a basis for argument, but has not been proved
- Ex: There is no difference in the salary of factory workers based on gender.
- Null hypothesis can be simple, complex associative or causal
- Alternative hypothesis: is a statement of what a hypothesis test is set up to establish. It is opposite of Null Hypothesis. Frequently “alternative” is actual desired conclusion of the researcher
- Ex: Male factory workers have a higher salary than female factory workers.



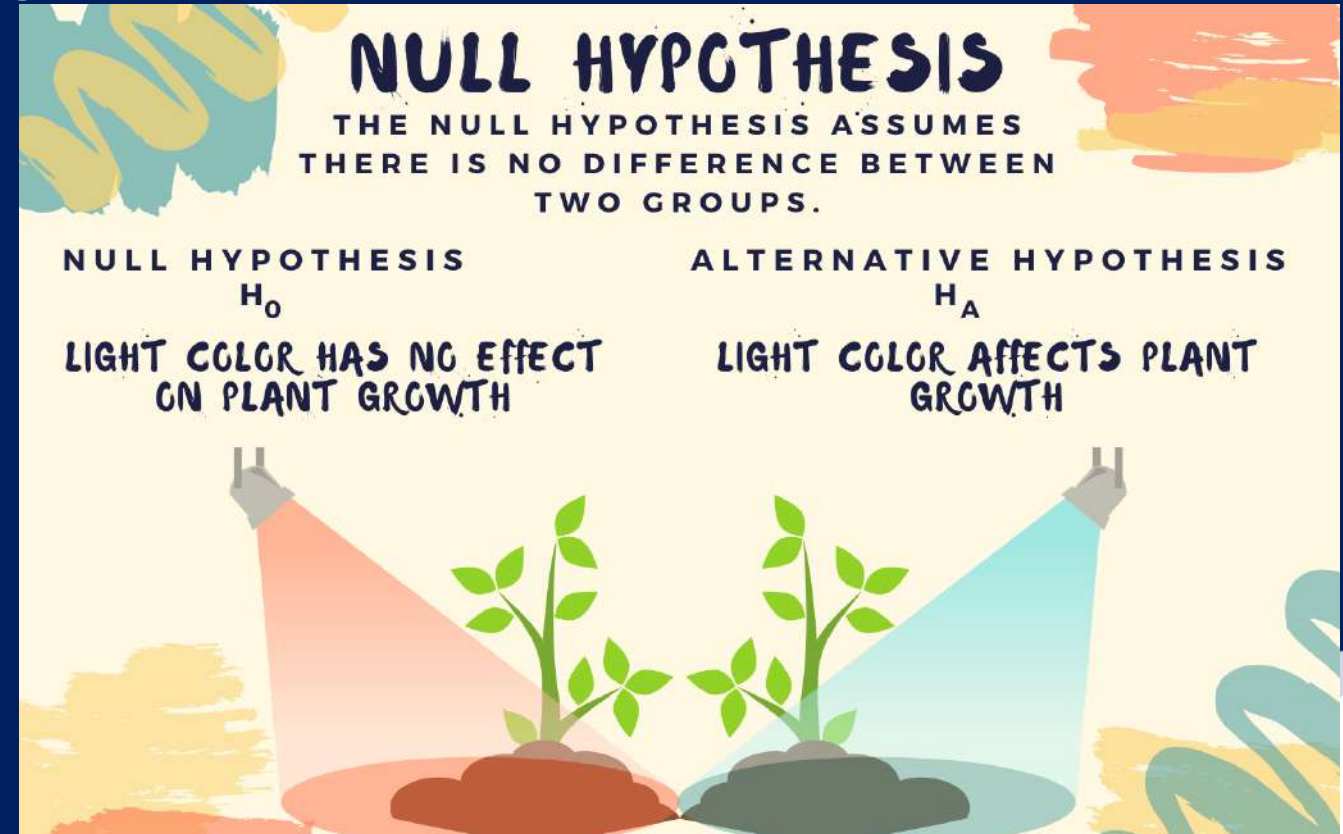
NULL HYPOTHESIS EXAMPLES

THE NULL HYPOTHESIS ASSUMES THERE IS NO RELATIONSHIP BETWEEN TWO VARIABLES AND THAT CONTROLLING ONE VARIABLE HAS NO EFFECT ON THE OTHER.



1. Identification and formulation of the problem/ hypothesis – Types of hypothesis – Null vs Alternative Hypothesis

- Alternative hypothesis: is a statement of what a hypothesis test is set up to establish. It is opposite of Null Hypothesis. Frequently “alternative” is actual desired conclusion of the researcher



1. Identification and formulation of the problem/ hypothesis – Types of hypotheses – Directional vs Non-Directional

- A **directional hypothesis** specifies the direction or nature of the relationship between two or more independent variables and two or more dependent variables. They are developed from research questions and use statistical methods for validation.
- They are based on aspects such as accepted theory and past research
- These hypotheses imply that the researcher is intellectually committed to a particular outcome.
- They specify the expected direction of the relationship between variables i.e. the researcher predicts the existence and nature of a relationship
- Direction of end result is presumed

1. Identification and formulation of the problem/ hypothesis – Types of hypothesis – Directional vs Non-Directional

- **Non Directional hypothesis** - This hypothesis states that there is a relationship between two variables but it does not predict the exact nature or direction of the relationship.
- Used when there is limited or no theory or when previous findings are contradictory, so you cannot include the end directions/ result in your hypothesis
- E.g. A researcher might hypothesize that college students will perform differently from elementary school students on a memory task without predicting which group of students will perform better.



1. Identification and formulation of the problem/ hypothesis – Types of hypothesis – Directional vs Non-Directional Example

- Directional

A baseball coach believes a certain 4-week program will increase the mean hitting percentage of his players, which is currently 0.285. To test this, he measures the hitting percentage of each of his players before and after participating in the program. The coach believes that the program will influence the mean hitting percentage of his players in a positive direction.

- Non-directional

A professor believes that a certain studying technique will influence the mean score that her students receive on a certain exam, but she's unsure if it will increase or decrease the mean score, which is currently 82. To test this, she lets each student use the studying technique for one month leading up to the exam and then administers the same exam to each of the students. The professor believes that the studying technique will influence the mean exam score, but doesn't specify whether it will cause the mean score to increase or decrease.



1. Identification and formulation of the problem/ hypothesis – Types of hypothesis – Associative vs Casual Hypothesis

- **Associative Hypothesis** - Proposes relationships between variables - when one variable changes, the other changes. Does not indicate cause and effect. Looks at how specific events co-occur
- **Causal Hypothesis**- Proposes a cause and effect interaction between two or more variables. The independent variable is manipulated to cause effect on the dependent variable. The dependent variable is measured to examine the effect created by the independent variable. Looks at how manipulation affects events in the future

1. Identification and formulation of the problem/ hypothesis – Formulation

- No precise rules for formulating hypothesis. However, the following are certain necessary conditions that are conducive to their formulation:-
 1. Richness of background knowledge - In the absence of knowledge concerning a subject matter, one can make no well-founded judgment of relevant hypothesis. Background knowledge is essential for perceiving relationships among the variables and to determine what findings other researchers have reported on the problem under study
 2. Logical and scientific approach - Formulation of proper hypothesis depends on one's experience and logical insight. Hypothesis does not have a clear cut and definite theoretical background



1. Identification and formulation of the problem/ hypothesis – Characteristics of a good hypothesis

- A hypothesis could be called as a good hypothesis if it possesses the following characteristics:-
 - i) Hypothesis should be **simple** so that it is easily understood by everyone.
 - ii) Hypothesis should be **clear, specific and precise**. If the hypothesis is not clear and precise, the inferences drawn on its basis cannot be taken as reliable.
 - iii) Hypothesis should be **capable of being tested**.
 - iv) Hypothesis should be consistent with most known facts. i.e. it must be **consistent** with a substantial body of established facts.
 - v) The hypothesis must explain the facts that gave rise to the need for explanation. It must actually explain what it claims to explain.



1. Identification and formulation of the problem/ hypothesis – Hypothesis testing

- Hypothesis testing is a formal procedure for investigating our ideas about the world using statistics. It is used by scientists to test specific predictions by calculating how likely it is that a pattern or relationship between variables could have arisen by chance.
- Errors may be encountered



1. Identification and formulation of the problem/ hypothesis – Errors in Testing Hypotheses

- 2 types of errors in the context of testing of hypotheses (mostly in statistical research):
 1. Type 1 errors – false positive – a true null hypothesis is rejected mistakenly. Usually the error is determined in advance
 2. Type 2 errors – false negative – accept a null hypothesis when it is not true
- Hypothesis and errors may be encountered in court proceedings – Bank Robbery
- Example Video: Hypothesis Testing and Errors: Going to Court Analogy
<https://www.youtube.com/watch?v=Z5gPXoRkic>
- Principle in criminal law:- Innocent until proven guilty is also applicable in the Maltese criminal legal system

Type I Error (false-positive)



Type II Error (false-negative)





2. Identification of Literature

- Once research problem is formulated, extensive survey of literature is required
- Locate and select literature – online, textbooks, journals, periodicals, caselaw, online search
- IMPORTANT: keep references
- Look also for earlier studies done on the problem
- Check date of when material was published and amendments in law
- Do not search for the law on search engines but go directly to the source
- Check existing interpretations



2. Literature Review

- Research will provide info. if the problem identified and formulated has been already explored or not and to what extent. Does it overlap?
- Provides dimension to the problem and related issues
- Research problem/hypothesis is already able to raise generic theoretical and conceptual issues
- Identification of central concepts/ arguments
- Literature review enables researcher to see past limitations/ error of other researchers and formulate a smoother technique/ operation



3. If necessary reformulate hypothesis

- Following literature survey, in view of information found, research may need to rephrase/reformulate/ refine the problem
- The new hypothesis will be precise, specific and clear with more detailed insight about the research being proposed. At this stage hypothesis needs to be precise, specific and clear

Examples of dissertation/ research titles:

- The Family Reunification Directive 2003/86/EC: The Way Forward
- Prison Management and Human Rights
- The Position of the Promise of Sale Agreement in Malta - A Jurisprudential Analysis and Possible Reform
- Regulating a Promise of Sale Agreement of an Immovable Property Yet to be Built
- A New Approach to the Disembarkation of Rescued Migrants? An Examination of Relocation Agreements between EU Member States
- The Private Residential Leases Act: Ambiguities and Possible Improvements
- The Role of the Judicial Assistant in Civil Proceedings
- Asylum Seekers and the Right to Freedom of Movement
- Drug Trafficking Offences in the Criminal Court - An Analysis of the Judgments of the Criminal Court in Relation to Drug Trafficking Offences
- The Conflict Between Money Laundering and Data Protection Legislations; At What Point Does the Lawyer Start Incurring Liability



4. Research Design (RD)

- Why is RD?
- Why is it important?
- What considerations should be taken into account for RD?



4. Research Design (RD)

- RD is the structure how the research is conducted
- It is the process of planning and carrying out the research study
- Referred to as the “*blue print*” of the proposed research
- More than 1 type of RD depending on the type of research to be conducted
- RD is subjective
- RD will depend on the nature of the research problem, objectives of the research, purposes of research and limitations of research



4. Research Design (RD) – Importance

1. Blueprint of research - Research faces several problems:-
 - i. What sample is to be taken?
 - ii. What method of data collection is to be used?
 - iii. why is study being made?
2. RD minimizes problems because all the decisions are taken beforehand
3. RD dictates the boundary of research e.g. pre-1990
4. RD provides a systematic approach i.e. all steps are executed in the right sequence
5. Reduces time and cost
6. Resources are used more effeciently
7. Helps to organize your ideas



4. Research Design (RD) - Considerations

- What is the study about?
- Why is the study being made?
- What type of data is required?
- Where can the required data be found?
- What periods of your time can the study include?
- How will the data be analysed?
- What will be the sample design?
- How will the data be sifted?
- In what way can the report be prepared?



4. Research Design (RD) – 2 stages of RD

- 1. Substantive Research Design - The initial level of designing is influenced by the nature of problem, objectives and purposes of research. The researcher has no interference since he has to proceed in a particular way in view of the objective of the research. Research has no alternative techniques.
- 2. Procedural design – RD will be adapted according to the purposes of the research, resources and limitations of research. Researcher has freedom to choose procedure most suitable and convenient to him but should also be tested in the light of object and purpose of research study. This stage involves questions/issues such as how to deal with the facts, selection of research method, method of data collection, which statistical test to be used, how to select sample size, selection of tools and technology of data collection

4. Research Design (RD) – Types

- The function of a research design is to ensure that the evidence obtained enables us to answer the initial question as unambiguously i.e. with certainty, as possible. Obtaining relevant evidence entails specifying the type of evidence needed to answer the research question, to test a theory, to evaluate a programme or to accurately describe some phenomenon
- When designing research we need to ask: given this research question (or theory), what type of evidence is needed to answer the question (or test the theory) in a convincing way?
- On the basis of the nature of data required in legal research its design can be classified on the basis of nature of inquiry and nature of data as:
 - i. Qualitative & Quantitative Research
 - ii. Doctrinal & Empirical Research

4. Research Design (RD) – Qualitative

- E.g. case studies
- Involves an interpretative approach of the data collected
- The aim is to gather an in-depth understanding of human behaviour and the reasons that govern such behaviour
- The qualitative method investigates the why and how of decision making, not just what, where, when. Hence, smaller but focused samples are more often used than large samples
- Qualitative methods produce information only on the particular cases studied, and any more general conclusions are only propositions (informed assertions)
- Implies an emphasis on the qualities of entities and on processes not experimentally measured (if measured at all) in terms of quantity, amount, intensity or frequency
- Seek to answer questions that stress how social experience is created and given meaning
- Answers to qualitative questions are in narrative form
- Most commonly used method by legal practitioners on regular basis when going through an analysis of judgments



4. Research Design (RD) – Quantitative

- Deals with numbers, statistics or hard data
- Quantitative methods may be defined as the techniques associated with the gathering, analysis, interpretation and presentation of numerical information
- Quantitative method is opted where the research questions guide investigations and are concerned with unknown aspects of a phenomenon of interest
- Answer to quantitative research questions are presented in numerical form
- allows the study of a large number of
- Cases for certain aspects in a relatively short time and its results have a high degree of generalizability



4. Research Design (RD) – Doctrinal

- Aims to systematize, rectify and clarify the question or problem on any particular topic relating to law by a distinctive mode of analysis to authoritative texts that consists of primary and secondary sources
- A.k.a library based research focusing on a reading and analysis of the primary data (such as the legislation and case law) and secondary data (such as legal glossaries, text books, journals, articles, case digests and legal encyclopaedias)
- The main assumption of using data from 'authoritative text' is that the character of legal scholarship is derived from law itself



4. Research Design (RD) – Empirical

- A.k.a non-doctrinal research/ socio-legal research
- Involves the researching of the law with an interdisciplinary approach
- Understanding of social facts
- In empirical research sources of data can come from a wide range of sources including surveys, observation method, questionnaires case studies i.e. primary sources



4. Research Design (RD) – Conclusion

- RD connects the research questions to data
- The RD is the basic plan for a piece of research; it includes four main ideas:
 - 1. Strategy
 - 2. Conceptual framework i.e. a representation of the relationship you expect to see between your variables, or the characteristics or properties that you want to study.
 - 3. Question of what and how will be studied
 - 4. Tools and techniques used for collecting and analysing materials



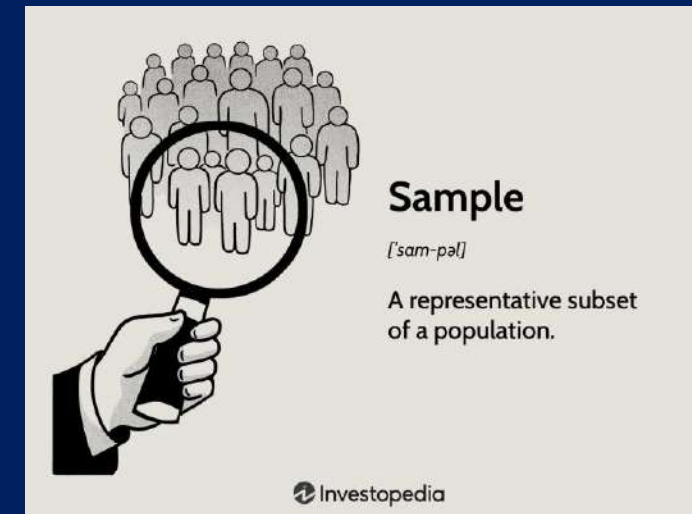
5. Collection of Data

- Collection of data is at the very core of the research
- Incorrect/missed data leads to a faulty research
- Collection of data may take different forms – interviews, observations, document analysis etc
- Not easy to choose the more appropriate form. The form will determine the quality of data and the fate of the research
- Sometimes more than one form is used depending on the objectives, nature and scope of the research
- Data collection involves sampling i.e. selecting the group that you will actually collect data from in your research

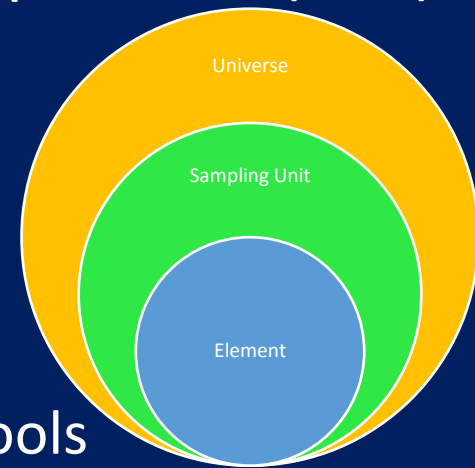


5. Collection of Data – Sampling

- Sampling is a specimen that will reflect the qualities possessed by the population/research area
- It is the stage after hypothesis and objectives of research
- Sampling must be appropriate in size and features to have a good representation
- Sampling comes into picture at RD stage as it streamlines and narrows the research
- E.g. The level of awareness of consumer rights among people with tertiary education in Malta. Divide Malta into districts, determine the number of people in the area using e.g. census or electoral register, decide on the number to be approached within the area



5. Collection of Data – Sampling Terms



- Population to be studied – “Universe” e.g. Teenagers who attend private schools
- Universe can be finite i.e. Have a fixed population number e.g. Teenagers attending private schools
- Heterogenous vs homogenous Universe
- Heterogenous is where the population carries varying features e.g. Judgments (all types) given between 1950 – 1970
- Homogenous is where the population carries the same features e.g. Judgments given by Rent Regulation Board in respect of Art. 4A of Cap. 69 by Magistrate X
- Sampling trait/frame – the characteristic/ attribute. May be qualitative or quantitative
- Sampling element – the entity/ person/ thing which forms part of the universe e.g. Each judgment or teenager
- Sampling unit – the unit the element forms part e.g. Teenagers from school X

5. Collection of Data – Advantages of sampling



Advantages

- Universe might be very large, sampling narrows it down
- Time and Cost effective
- More convenient to study a sample
- Results are obtained more quickly
- May lead to a more accurate study

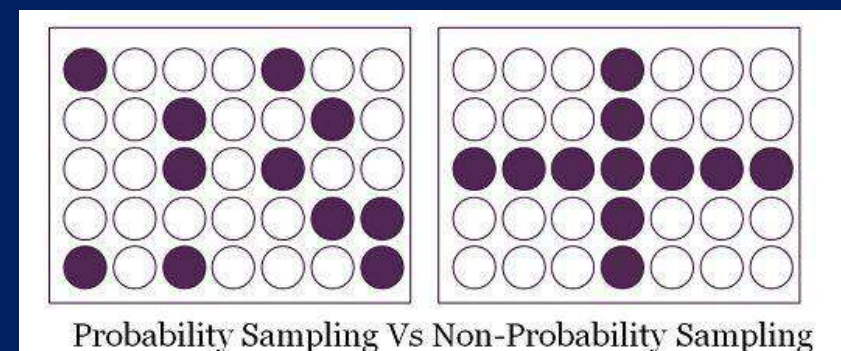
Disadvantages

- Sampling errors may be present
- Sampling may create a feeling of discrimination within the population
- Sample size might be inadequate and not representative

5. Collection of Data – Sampling classes

Probability Sampling	Non-Probability Sampling
Every member of the population has a chance of being selected	Selection is based on a non-random criteria. Not every member has a chance of being selected
Mainly used in quantitative research	Mainly used in qualitative research
Produces results that are representative	High risk of sampling bias
4 types: simple/random, systematic, stratified, cluster	4 types: convenience, purposive, snowball, quota
Aim is to test hypothesis	Aim is to develop an understanding

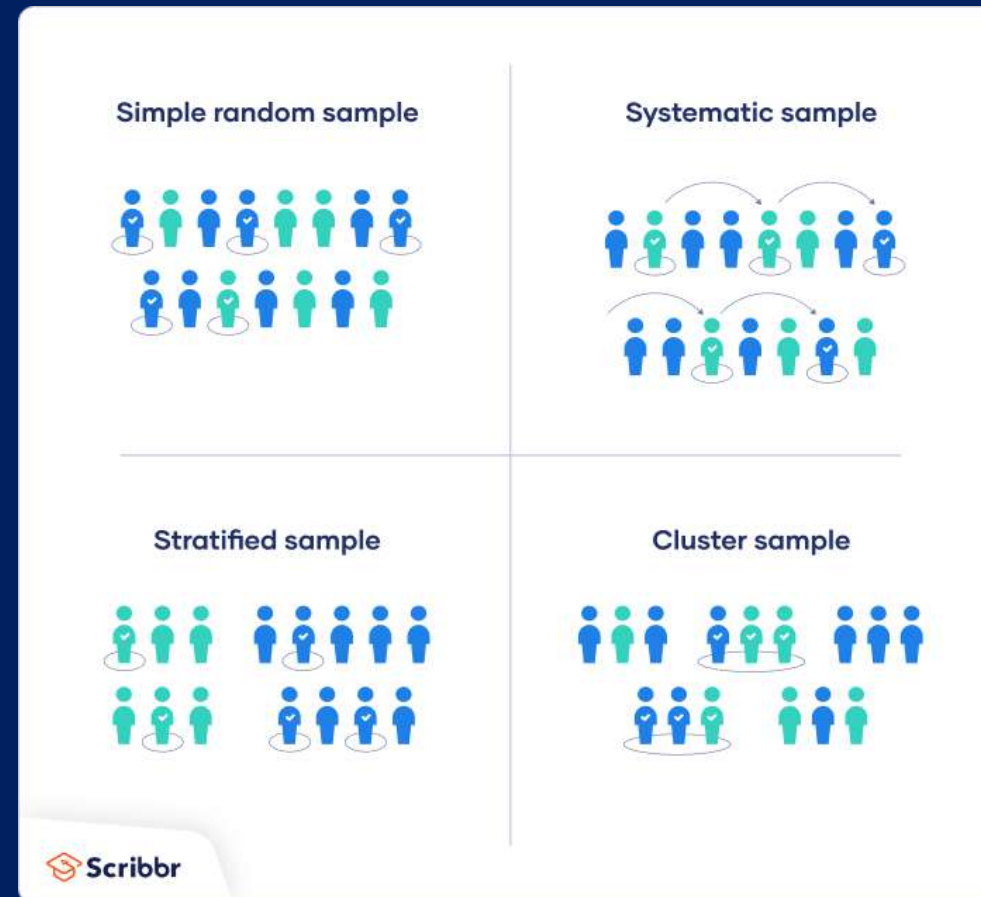
Video: Probability & Non probability sampling types:
<https://www.youtube.com/watch?v=Cl2uZGGL-U>



5. Collection of Data – Probability sampling methods

Most common are:

1. Simple/random – little preparation, simpler, may be highly representative, expensive since all population is included, no bias. e.g. Lottery method – no prerequisites
2. Systematic – sample units easy to select, gives a good indication of the population if used correctly, efficient, cheaper, more biased especially if confounded by a trend /cycle e.g. every tenth house in street X
3. Cluster – less travel/ resources required, cost effective useful when population is large, tends to have homogenous units - <https://www.youtube.com/watch?v=pV3FAVr086s>
4. Stratified – acquire info. about whole population and individual strata, - dividing the population into smaller groups may not be representative <https://www.youtube.com/watch?v=rsNCCQhkKN8>



5. Collection of Data – Non-Probability sampling methods

Most common are:

1. Convenience – easy, time and cost effective, highly biased. Ideal to gather initial data
2. Purposive – Aka judgment sampling. Researcher uses his expertise to select a sample that is most useful to the purposes of the research. Used to gain detailed knowledge about a specific phenomenon rather than make statistical inferences, or where the population is very small and specific. Must have clear criteria and rationale for inclusion.
3. Snowball – Used when population is hard to access. Involve participants through other participants. The number of units snowballs.
4. Quota – elements from the population are chosen on a non-random basis. Used to study particular traits/subgroups. Used for large groups. Researcher must have knowledge of the proportions

Video w. examples:

<https://www.youtube.com/watch?v=TtcCvy-CKLc>

