

Economic and Social Science

This glossary is a summary of commonly used economic and social science terms. Social science is the broad, transdisciplinary study of interrelations between humans and their environment. It includes the fields of anthropology, communication studies, economics, geography, history, political science, psychology, and sociology; and also in the interdisciplinary fields of environmental studies, human ecology and political ecology, among others. Social scientists help organisations design policies and programmes with human behaviour in mind, to ensure objectives are relevant and achievable. It is used widely in private and public industry including the natural environment, agriculture, taxation, health, education, government and the police service.

Environmental social science is focused on socio-environmental interactions, bridging the gap between science and action on the ground. It takes people to make sustainable change. We study the social factors that cause environmental problems, the social impacts of those problems, and efforts to solve the problems.

Economics Glossary

Discounting

Discounting enables comparison of values from different time periods. Future values are converted into current terms using a 'discount rate'. The higher the discount rate that is used in the calculation, the smaller the present value of a future amount will be. Hence, actions that have high 'up-front' costs with benefits that occur into the far future will be less (more) favoured by a high (low) discount rate. There is no single correct discount rate, and the choice of rate is often critical in determining whether the flow of benefits over time is greater or less than the flow of costs.

Economic instruments

Economic instruments, also known as market-based instruments, are a range of policy tools that affect behaviour by creating economic incentives. They work by affecting prices, constraining resource use and/or creating markets where there were none. Examples of economic instruments include pollution taxes, subsidies, tradable permits, and offsets. They are often used to support regulations or standards, by introducing flexibility and speed in compliance.

Economic value

Economic value is a measure of a benefit gained from something. The concept of money is often used to value things only because it is a concept that people can easily understand and relate to. An economic value and a market price are not the same thing – price does not necessarily fully measure economic value.

Economic rent

Economic rent is the excess payment for a factor of production (eg labour or capital) that is paid above what could be expected, given alternative uses. Economic rent occurs because of scarcity of resources, and is a measure of market power.

Ecosystem services

Ecosystem services are the benefits that humans receive from the environment. Ecosystem services are often categorised into several types:

- Supporting services – functions that underpin the functioning of ecosystems and the supply of other ecosystem services (for example, nutrient dispersal and cycling, seed dispersal, and soil formation);
- Provisioning services – products that are obtained from ecosystems (including agricultural production, forest products, minerals and energy);
- Regulating services – benefits obtained from the regulation of ecosystem processes (for example waste decomposition, water purification, pollination, buffering from flooding);
- Cultural services – benefits people obtain through spiritual enrichment, cognitive development, recreation, and aesthetic experience.

Effectiveness and cost-effectiveness

Effectiveness, in relation to a policy, is the extent to which the policy's objectives are met; does the policy achieve what it set out to achieve? On its own it does not refer to cost.

Cost-effectiveness compares the relative costs and outcomes of different options. An action is cost-effective if it is the cheapest way of achieving a given outcome; or if it achieves the best outcome for a given cost. It does not necessarily imply that the outcome is worth more than the cost.

Efficiency

Economic efficiency maximises the collective wellbeing of society. If there is no other use of resources that would give a greater benefit, then it is economically efficient. Economic efficiency includes productive, allocative and dynamic efficiency.

- Productive efficiency is when output is produced at least cost (this is akin to *cost-effectiveness*);
- Allocative efficiency is when resources are allocated so that they contribute most to society's wellbeing i.e. where they are valued the most;
- Dynamic efficiency refers to the best allocation of resources over time.

Environmental Kuznets Curve

The Environmental Kuznets Curve is intended to illustrate a positive relationship between wealth and environmental quality. While there is some empirical evidence to support such a relationship in some circumstances (for example, air quality in some western cities), there are a number of reservations about inferring a general rule in environmental policy-making. Non-linear and irreversible effects are examples of issues that may invalidate an Environmental Kuznets Curve-type relationship.

Externalities

When someone undertakes an activity that creates costs or benefits that affect someone else, this is known as an 'external' effect, or simply as an 'externality'. The prices people face do not necessarily reflect the true cost of their actions, because other people incur costs that they are not compensated for.

The costs to society will be the sum of private costs and external costs. Because the person that causes the externality does not experience such costs and benefits, they may not take them into account when making decisions about the activity. This means that, productive activities that create negative externalities will be over-supplied, while activities that create positive externalities will be under-supplied.

Examples of positive externalities include: where someone maintains a garden that provides pleasure (ie benefits) to people passing by and enjoying the view; or the pollination services provided (but not charged for) by a beekeeper to local gardens. Examples of negative externalities include: an activity that pollutes a waterway and reduces or prevents recreational uses; or a store selling psychoactive substances that drives customers away from neighbouring businesses.

Gross domestic product (GDP)

GDP is the total value of production of an economy in a given period. It does not measure changes in capital stocks, nor non-market aspects of the economy (such as unpaid work, or the environment). Consequently, care is needed when interpreting gross domestic product statistics, or when using it as a policy target.

Growth

The term 'growth' is often used to refer to 'economic growth', or even more narrowly, growth in *gross domestic product*. Growth can be reported in nominal terms (which includes inflation) or real terms (which adjusts for inflation) and can be reported on a per capita basis.

Marginal analysis

Marginal analysis refers to the difference made by one extra unit of something. Economic analysis typically considers effects at the margin, such as the extra costs or benefits experienced from an incremental increase in something. Marginal costs and benefits can be quite different to average costs and benefits.

Market failure

Where market mechanisms fail to achieve an efficient allocation of resources, this is known as market failure. There are a variety of reasons why markets may fail, including the presence of *externalities*, *public goods*, imperfect or asymmetric information, or a degree of market power possessed by some.

The correction of market failure is one of the fundamental rationales for government intervention or regulation. It is also noted, however, that poorly devised regulation can be more costly than the market failure it is intended to address (this is known as 'regulatory failure').

Multiplier

A multiplier illustrates the broader effects of a policy on the economy. For example, a policy that increases spending on farm inputs will have a variety of effects beyond the immediate increase in spending. Suppliers' and customers' income and expenditure will also be affected, and these can be estimated by applying a multiplier to the original change.

Natural capital

Natural capital refers to the assets provided by the environment from which *ecosystem services* may be derived. While some types of natural capital re-new themselves, they can also be 'used up' or degraded to the point where they are no longer capable of providing the desired services. In some cases, the services provided by natural capital may be able to be provided by artificial capital, but this expenditure may not be justifiable.

Opportunity costs

The opportunity cost of something is what you give up to get it. This includes not only the money spent in buying (or doing) the something, but also the benefits that you did without because you bought (or did) it. For example, the opportunity cost of getting a degree includes not only tuition costs, but the wages foregone due to time spent studying.

Property rights

Property rights represent the right to use or control a resource. The property rights spectrum ranges from open access resources that anyone can use, to collectively held, or common property rights, through to private property rights that are defined, enforceable, and able to be sold. Resource management decisions will have different effects on different parties, depending on the status of property rights.

Public goods

A public good is one that is available to everyone in society. Public goods have two important characteristics:

- they are non-excludable, meaning no-one can effectively be prevented from using it; and
- they are non-rivalrous, meaning that one person using it doesn't prevent others from using it.

These characteristics mean that it is essentially impossible to make a profit from supplying public goods, and they will not be privately supplied. While pure public goods are relatively uncommon, many goods have a degree of non-excludability and/or non-rivalry. In these cases, they may be supplied by the market, but in lower than optimal amounts.

Social Science Glossary

Accuracy

Accuracy is a term used in survey research to refer to the match between the target population and the sample.

Aggregate

Aggregate is a total created from smaller units. For instance, the population of a region is an aggregate of the populations of the cities, towns, and other units that comprise the region.

Anonymity

Anonymity is a research condition in which no one, including the researcher, knows the identities of research participants.

Anthropocentric

To be anthropocentric is to regard humans as the central element of the universe. Interpreting reality exclusively in terms of human values and experience.

Beliefs

Ideas, doctrines and tenets that are accepted as true on grounds which are not immediately susceptible to rigorous proof.

Bias

Bias is a loss of balance and accuracy in the use of research methods. It can appear in research via the sampling frame, random sampling, or non-response. It can also occur at other stages in research, such as while interviewing, in the design of questions, or in the way data are analysed and presented. Bias means that the research findings will not be representative of, or generalisable to, a wider population.

Behaviour change

Behavior change is a broad range of activities and approaches which focus on the individual, community, and environmental influences on behavior. Community-Based Social Marketing (CBSM) builds on the techniques of social marketing as a systematic way to change the behaviour of communities and foster more sustainable behaviour. This approach focuses on behaviour, bridging the gap between knowledge, attitudes, and action. Although attitudes partly influence behaviour, it is behaviour that needs to change. Central to this approach is exploring the motivations and barriers to behaviour change and proposing ways of overcoming them.

Causal Hypothesis

A causal hypothesis is a statement hypothesising that the independent variable affects the dependent variable in some way.

Causal Relationship

A cause relationship is the relationship established that shows that an independent variable, and nothing else, causes a change in a dependent variable. It also establishes how much of a change is shown in the dependent variable.

Causality

Causality is the relation between cause and effect.

Central Tendency

Central Tendency is any way of describing or characterising typical, average, or common values in some distribution.

Chi-square Analysis

Chi square analysis is a common non-parametric statistical test which compares an expected proportion or ratio to an actual proportion or ratio.

Claim

Similar to a hypothesis, a statement which is made in response to the research question and that is affirmed with evidence based on research.

Classification

The ordering of related phenomena into categories, groups, or systems according to characteristics or attributes.

Cluster Analysis

A method of statistical analysis where data that share a common trait are grouped together. The data is collected in a way that allows the grouping of data according to certain characteristics.

Cognitive dissonance

Cognitive dissonance is a theory concerning our human need for consistency. We unconsciously see consistency in our beliefs and mental frameworks and selectively perceive information, filtering out that which contradicts or undermines our most cherished beliefs.

Cognitive processes

There are two relevant cognitive processes – schemas and framing. *Schemas*, described as ‘shortcuts’ are a way to pre-categorise the infinite amount of information people are faced with in order to function. *Framing*, concerns the way information is presented (or appears) which in turn can affect the way people respond.

Confidentiality

A research condition in which no one except the researcher(s) knows the identities of the participants in a study. It refers to the treatment of information that a participant has disclosed to the researcher in a relationship of trust and with the expectation that it will not be revealed to others in ways that violate the original agreement, unless permission is granted by the participant.

Construct

A construct refers to any of the following: something that exists theoretically but is not directly observable; a concept developed [constructed] for describing relations among phenomena or for other research purposes; or, a theoretical definition in which concepts are defined in terms of other concepts. For example, intelligence cannot be directly observed or measured; it is a construct.

Construct Validity

Seeks an agreement between a theoretical concept and a specific measuring device, such as observation.

Constructivism

The idea that reality is socially constructed. It is the view that reality cannot be understood outside of the way humans interact and that the idea that knowledge is constructed, not discovered. Constructivists believe that learning is more active and self-directed than either behaviourism or cognitive theory would postulate.

Context Sensitivity

Awareness by a qualitative researcher of factors such as values and beliefs that influence cultural behaviors

Credibility

A researcher's ability to demonstrate that the object of a study is accurately identified and described based on the way in which the study was conducted.

Critical Theory

An evaluative approach to social science research, associated with Germany's neo-Marxist Frankfurt School, that aims to criticise as well as analyse society, opposing the political orthodoxy of modern communism. Its goal is to promote human emancipatory forces and to expose ideas and systems that impede them.

Deductive

A form of reasoning in which conclusions are formulated about particulars from general or universal premises.

Dependent Variable

A variable that varies due, at least in part, to the impact of the independent variable. In other words, its value *depends* on the value of the independent variable. For example, in the variables 'gender' and 'academic major', academic major is the dependent variable, meaning that your major cannot determine whether you are male or female, but your gender might indirectly lead you to favour one major over another.

Deterrence theory

Based on the assumption that motivation to comply is based on the fear of penalty or punishment. It comes from a rationalist perspective and can be broken down into *specific* and *general* deterrence. Specific deterrence is direct while general or indirect deterrence occurs as a result of people observing the effects of deterrence on others.

Deviation

In statistics, the distance between the mean and a particular data point in a given distribution.

Discrete Variable

A variable that is measured solely in whole units, such as, gender and number of siblings.

Effect Size

The amount of change in a dependent variable that can be attributed to manipulations of the independent variable.

Environmental concern

Incorporates levels of concern including attitudes and behaviours towards the environment.

Epistemology

Epistemology concerns knowledge construction; asks what constitutes knowledge and how knowledge is validated.

Ethnocentric

The belief in the superiority of one's own ethnic group.

External Validity

The extent to which the results of a study are generalisable or transferable.

Evaluation

The aim of evaluation is to evaluate the success of an intervention, project or programme. The purpose is to support the ongoing improvement of interventions, assess the performance of the project against its objectives, and learn from processes to improve future projects. Evaluation is not only done at the completion of a project (summative/outcome evaluation), but should be an ongoing process throughout the project (process evaluation) designed at the planning stage (formative evaluation).

Factor Analysis

A statistical test that explores relationships among data. The test explores which variables in a data set are most related to each other. In a carefully constructed survey, for example, factor analysis can yield information on patterns of responses, not simply data on a single response. Larger tendencies may then be interpreted, indicating behaviour trends rather than simply responses to specific questions.

Generalisability

The extent to which research findings and conclusions conducted on a specific study to groups or situations can be applied to the population at large.

Grounded Theory

The practice of developing other theories that emerge from observing a group. Theories are grounded in the group's observable experiences, but researchers add their own insight into why those experiences exist.

Group Behaviour

Behaviors of a group as a whole, as well as the behaviour of an individual as influenced by his or her membership in a group.

Human Exemptionalism Paradigm (HEP)

The HEP viewpoint claims that human-environmental relationships were unimportant sociologically because humans are 'exempt' from environmental forces via cultural change. This view was shaped by the leading Western worldview of the time. As humans were not conceived of as governed by natural conditions, they were felt to have complete control of their own destiny. Any potential limitation posed by the natural world was felt to be surpassed using human ingenuity. See also New Environmental Paradigm (NEP) for critique.

Hypothesis

A tentative explanation based on theory to predict a causal relationship between variables.

Independent Variable

The conditions of an experiment that are systematically manipulated by the researcher. A variable that is not impacted by the dependent variable, and that itself impacts the dependent variable. In the earlier example of gender and academic major, (see Dependent Variable) gender is the independent variable.

Individualism

A theory or policy having primary regard for the liberty, rights, or independent actions of individuals.

Inductive

A form of reasoning in which a generalised conclusion is formulated from particular instances.

Inductive Analysis

A form of analysis based on inductive reasoning; a researcher using inductive analysis starts with answers, but formulates questions throughout the research process.

Internal Consistency

The extent to which all questions or items assess the same characteristic, skill, or quality.

Internal Validity

The rigor with which the study was conducted, for example, the study's design, the care taken to conduct measurements, and decisions concerning what was and was not measured]. It is also the extent to which the designers of a study have taken into account alternative explanations for any causal relationships they explore. In studies that do not explore causal relationships, only the first of these definitions should be considered when assessing internal validity.

Kaupapa Māori methodology

The presumptions of Kaupapa Māori methodology are that research (evaluation) must:

- Take for granted the validity and legitimacy of Māori, including the importance of Māori language and culture;
- Be connected to Māori philosophy and principles;
- Recognise the unique journey of each individual, whānau, iwi and hapū, and;
- Be concerned with the struggle for Māori autonomy over Māori cultural wellbeing

Margin of Error

The permissible or acceptable deviation from the target or a specific value. The allowance for slight error or miscalculation or changing circumstances in a study.

Measurement

The process of obtaining a numerical description of the extent to which persons, organisations, or things possess specified characteristics.

Meta-Analysis

An analysis combining the results of several studies that address a set of related hypotheses.

Methodology

A theory or analysis of how research does and should proceed.

Methods

Methods are systematic approaches to the conduct of an operation or process. It includes steps of procedure, application of techniques, systems of reasoning or analysis, and the modes of inquiry employed by a science or discipline.

Mixed-Methods

A research approach that uses two or more methods from both the quantitative and qualitative research categories are used. It is also referred to as blended methods, combined methods, or methodological triangulation.

Models

Representations of objects, principles, processes, or ideas often used for imitation or emulation.

Naturalistic observation

Observation of behaviors and events in natural settings without experimental manipulation or other interference.

New Ecological Paradigm (NEP)

The NEP conception critiqued the Human Exemptionalism Paradigm (HEP), and claimed a lack of human-environmental focus. The NEP recognises the innovative capacity of humans, but says that humans are still ecologically interdependent as with other species. The NEP notes the power of social and cultural forces but does not profess social determinism. Instead, humans are impacted by the cause, effect, and feedback loops of ecosystems. The earth has a finite level of natural resources and waste repositories.

Nudge

A 'nudge' is a term coined by Thaler and Sunstein, 2008. Nudges are interventions that alter people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a nudge, the intervention must be easy and cheap to avoid. For example, in promoting behaviour change towards healthy eating, putting the fruit at eye level in the supermarket would count as a nudge. However, banning junk food does not, as it is not voluntary, but a forced change.

Ontology

Ontology is a discipline of philosophy that explores the science of reality, what is, the kinds and structures of objects, properties, events, processes, and relations in every area of reality.

Outrage management

An integral part of public engagement is Outrage Management. Upset and controversy is termed public outrage when the actual hazard is low but the perception of risk is high. There are twelve identified sources of outrage factors, and six strategies for managing outrage.

Participant

Individuals whose physiological and/or behavioural characteristics and responses are the object of study in a research project. Also called respondents.

Peer-Review

The process in which the author of a book, article, or other type of publication submits his or her work to experts in the field for critical evaluation, usually prior to publication.

Phenomenology

A qualitative research approach concerned with understanding certain group behaviors from that group's point of view.

Philosophy

The critical examination of the grounds for fundamental beliefs and analysis of the basic concepts, doctrines, or practices that express such beliefs.

Population

The target group under investigation. The population is the entire set under consideration. Samples are drawn from populations.

Positivism

A doctrine in the philosophy of science, positivism argues that science can only deal with observable entities known directly to experience. The positivist aims to construct general laws, or theories, which express relationships between phenomena. Observation and experiment is used to show whether the phenomena fit the theory.

Public participation/consultation and community engagement

The terms public participation/consultation and community engagement are used simultaneously depending on the context. In this context public consultation is about encouraging a participatory approach between the council and members of the community, to ensure that decision-making processes are of the highest quality and are shown to have taken the views of the community into consideration.

Probability

The chance that a phenomenon will occur randomly. As a statistical measure, it is shown as p or the 'p factor'.

Questionnaire

Structured sets of questions on specified subjects that are used to gather information, attitudes, or opinions.

Random Sampling

A process used in research to draw a sample of a population strictly by chance, yielding no discernible pattern beyond chance.

Reliability

The degree to which a measure yields consistent results. If the measuring instrument, such as a survey, is reliable, then administering it to similar groups would yield similar results. Reliability is a prerequisite for validity.

Representative Sample

Sample in which the participants closely match the characteristics of the population, and thus, all segments of the population are represented in the sample. A representative sample allows results to be generalised from the sample to the population.

Rigor

The degree to which research methods are scrupulously and meticulously carried out in order to recognize important influences occurring in an experimental study.

Sample

The sample is the population researched in a particular study. Usually, attempts are made to select a 'sample population' that is considered representative of groups of people to whom results will be generalised or transferred.

Sampling Error

The degree to which the results from the sample deviate from those that would be obtained from the entire population, because of random error in the selection of respondent and the corresponding reduction in reliability.

Saturation

A situation in which data analysis begins to reveal repetition and redundancy and when new data tend to confirm existing findings rather than expand upon them.

Semantics

The relationship between symbols and meaning in a linguistic system.

Social indicators

The Organisation for Economic Co-operation and Development (OECD) defines social indicators as direct and valid statistical measures which monitor levels and changes over time in a fundamental social concern. The key feature is that change can be measured as progress towards, or how close we are to, desired social outcomes.

Social norms

Personal and social norms are shared beliefs concerning how people should behave and are motivated by a desire to please family and friends or peers. They are a powerful driver and predictor of behaviour.

Social Theories - theories about the structure, organisation, and functioning of human societies.

Standard Deviation

A measure of variation that indicates the typical distance between the scores of a distribution and the mean. It can be used to indicate the proportion of data within certain ranges of scale values when the distribution conforms closely to the normal curve.

Statistical Analysis

The application of statistical processes and theory to the compilation, presentation, discussion, and interpretation of numerical data.

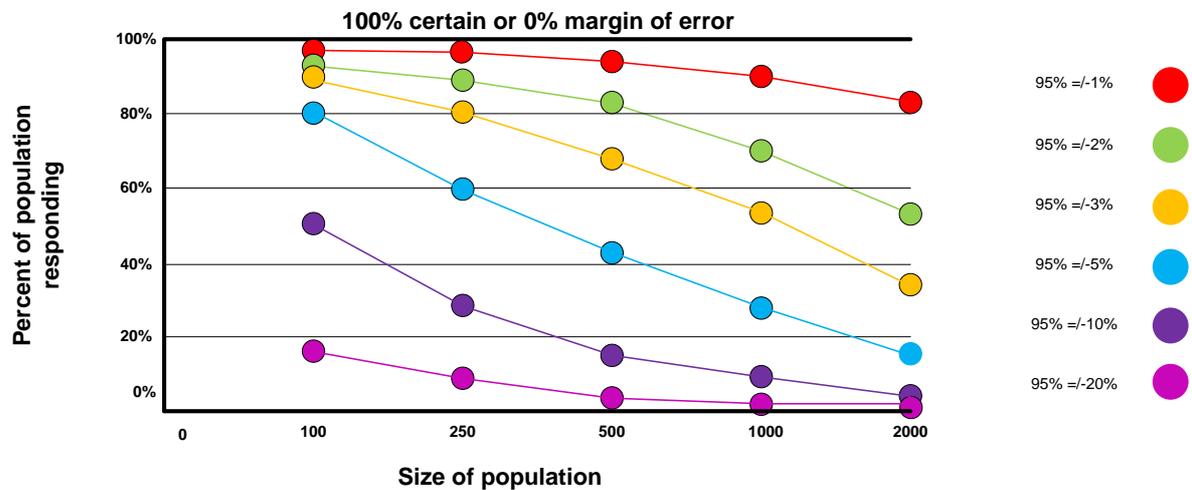
Statistical Bias

Characteristics of an experimental or sampling design, or the mathematical treatment of data, that systematically affects the results of a study so as to produce incorrect, unjustified, or inappropriate inferences or conclusions.

Statistical Significance

Statistical significance is the probability that the difference between the outcomes of the control and experimental group are great enough that it is unlikely due solely to chance. Significance is important if we want to state that our findings based on our sample will be true for the population. If a finding is classed as 'significant' it means we can assume the finding will apply to the whole population. Convention has it that significance should be .05

meaning there is only a 5% change of being wrong and a 95% chance of being right. This is also called a 95% confidence level. The diagram below is indicative of the level of significance depending on the size of the population and the percentage of population responding.



Theory

A general explanation about a specific behaviour or set of events that is based on known principles and serves to organise related events in a meaningful way. A theory is not as specific as a hypothesis.

Triangulation

A multi-method or pluralistic approach, using different methods in order to focus on the research topic from different viewpoints and to produce a multi-faceted set of data. Also used to check the validity of findings from any one method.

Validity

The degree to which a study accurately reflects or assesses the specific concept that the researcher is attempting to measure. A method can be reliable, consistently measuring the same thing, but not valid.

Variable

Any characteristic or trait that can vary from one person to another [race, gender, academic major] or for one person over time [age, political beliefs].

Values

A principle, standard, or quality considered worthwhile or desirable. Understanding environmental values is important because they can be predictive of a range of environmental attitudes and behaviours. Related types of values in the social sciences are:

- Ecospheric values focus on the innate value of nature
- Anthropocentric values is where importance is placed on the natural world in relation to its worth to humans. It is thought that more materialistic values may be negatively related to environmental outcomes.
- Extrinsic values are centred on external approval or rewards
- Intrinsic values are centred on more inherently rewarding pursuits, such as enjoyment of nature.

Weighted Scores - scores in which the components are modified by different multipliers to reflect their relative importance.