

Research Approaches

Which paradigm? i.e. which ontology, which epistemology

We identified two main ones of use to IT researchers

Scientific(S) and Social Scientific (SS)

Always need to identify what kind of information we are trying to uncover and whether the paradigm we are coming from is likely to be useful.

In other words -

- what are we trying to do,
- what data we want to collect
- how we will collect the data
- how we will use the data.

There are other ways of thinking about (and categorising) the approach:

Quantitative (numeric data)

Qualitative (language-based data)

and

Deductive (deducing from theory - theory testing)

Inductive (theory building)

and

Primary - Collecting new data and creating new knowledge from it

Secondary - Collecting existing data and systematising it (sometimes creating new knowledge)

Heaps of overlap between them - but they are useful ways of trying to categorise the approach.

So in very broad summary

Scientific ---> Quantitative ---> Deductive

taking a theory, trying to disprove it by collecting numeric data (if we can't disprove it, the theory is stronger)

Social Scientific --->Qualitative ---> Inductive

making observations, trying to create a theory by finding patterns and general themes

both approaches will use **secondary research** to establish the current position of knowledge (i.e. literature review) and **primary research** to collect their data.

Some disciplines will adhere strictly to only one paradigm and only one 'correct' research method

but

We can also take the **Pragmatic** approach -

Not committed to any one system or paradigm

Ontology - "truth" is what works at the time, don't see the world in only one way, i.e. some things may be 'true' others may be constructed....

Epistemology - mixed methods, free to choose what seems most appropriate for the questions

Much IT/IS research is pragmatic.

Research Methods

Different methods are more suited to collecting different kinds of data - some are useful for a variety of approaches, some are not!

What methods are there?

Identify in the table below with

Codes

S=Scientific SS Social Scientific

N=Numbers (quantitative) W=Words (qualitative)

D=Deductive (theory testing) I=Inductive (theory building)

Method - Brief Description - link to more info?	Paradigm ? (S or SS)	Data type? (N or W)	Role of Theory? (D or I)
Action Research - • Involves ‘the carefully documented (and monitored) study of an attempt by you ... to actively solve a problem and/or change a situation’ (Herbert, 1990:29, cited in Dawson, 2009: 26) • sometimes referred to as <i>participant observation</i>, it involves working on a specific problem or project with a subject or, more usually, an organisation and evaluating the results. • With action research you must ensure that you do not become too obsessed with completing the action itself and neglect the real reason for doing it - i.e. evaluating it as part of your academic project • Action research can also be undertaken by larger organizations or institutions, assisted or guided by professional researchers, with the aim of improving their strategies, practices, and knowledge of the environments within which they practice.(lily2007wx, 2008:08)_ (Dawson, 2009:26)	SS	W	I

or group of companies. This investigation can be performed directly, for example, by interviews, observation, etc, or indirectly by studying company reports or company documentation • case studies usually generate a large amount of subjective data - data that you must sift, analyse and interpret in order to produce meaningful, accurate and fair conclusions • you should also be aware of your own influence on the case study if it is performed directly, e.g. when you interviewed staff within a local company, did they tell you what they felt you wanted to hear rather than the facts of the situation? • Is there any means of 'triangulating' your data, i.e. obtaining the data from two or three different sources to confirm the truth in what you are told (and thus eliminating the possible influence you might be having on the data capture)? (Dawson, 2009:26)			
Design Research Any research focused on clarifying the context for a new design that may influence its outcome. This might encompass user research, market research or trend research.	S & SS	N & W	I
Field Work <link> The collection of raw data in the natural and social sciences. The type of fieldwork undertaken ultimately depends on the purpose of the research. Scientific: Collecting samples, measurements etc from the actual field. Social Science: Survey research, face to face or telephone interviewing.	S & SS	Science: N Social Science: W	Science: D Social Science: I
Empirical Research Systematic study of observable, recurring behavior yielding measurable results.	S	N	D

Mass observation It is aim to record mass data of everyday life through observation.	SS	N	D&I
Naturalistic observation Involves observing subjects in their natural habitats by looking at a behavior as it occurs in its natural setting with no attempts at intervention. It is one of the oldest data collection methods and is used widely. In the social sciences this usually involves observing humans or animals as they go about their activities in real life settings. In the natural sciences this may involve observing an animal or groups of animals or some physical phenomena, such as the eruption of a volcano. http://psychology.about.com/od/nindex/g/naturalistic.htm	SS	N &W	I
Experimental reseach experiment is a type of testing method.It is a type of systematic and scientific approach of research. In which a researchear maipulate one or more variables and control and manage any change in other variables. http://www.experiment-resources.com/experimental-research.html	S	N	D&I
Discourse Analysis (Discourse Analysis Link) Discourse analysis (DA), or discourse studies , is a general term for a number of approaches to analyzing written, spoken or signed language use. The objects of discourse analysis—discourse, writing, talk, conversation, communicative event, etc.—are variously defined in terms of coherent sequences of sentences, propositions, speech acts or turns-at-talk. Contrary to much of traditional linguistics, discourse analysts not only study language use 'beyond the sentence boundary', but also prefer to analyze 'naturally occurring' language use, and not invented examples. This is known as corpus linguistics; text linguistics is related.	SS	W	I

Comparison of Research Methodologies

Research Characteristic	Quantitative Surveys	Qualitative In-Depth Interviews	Qualitative Focus Groups	Qsq Methodology
Target Population Type	Many types, but professionals and executives difficult to recruit	Technical professionals and executives	Many types, but professionals and executives difficult to recruit	Technical professionals and executives
Target Population Size	Large numbers of decision makers required	Small to moderate number of decision makers	Small to moderate number of decision makers	Small to moderate number of decision makers
Instrument Design Flexibility	Low	High	Moderate	High
Ability to Address Worldwide Markets	Very Good to Excellent	Poor to Excellent (depending on telephone or face-to-face)	Poor to Very Good	Very Good to Excellent
Ability to Reach Outside of Major Urban Areas	Excellent	Poor to Excellent (depending on telephone or face-to-face)	Poor	Very Good to Excellent
Validity of Findings	Excellent (w/ random sampling hypothesis testing)	Poor to Good	Poor to Good	Good (w/ sample; directional trends identified)
Cost Effectiveness	Poor to Excellent (depending on telephone or online and other factors)	Poor to Good (depending on telephone or face-to-face)	Poor to Good	Good to Excellent

Besides Qsq Methodology being a product which [the source](#) of this table wants to sell, could this possibly provide some use (if we were to use it strictly as a comparison between the first four)?