

ABSTRACT

In real estate valuation, counseling, and economics, the quality of information is paramount. Indeed, conducting research is an essential skill set for real estate professionals. The valuation process includes both quantitative economic research and qualitative social research. The process may employ a complete spectrum of established academic research methodologies. Epistemology, or the study of what we know or believe, addresses questions about knowledge and how it is developed. This article uses an epistemology framework to discuss research methods of inquiry in the real estate valuation process. Understanding both the depth and breadth of the available research methods can result in more reliable studies.

Real Estate Research Methods

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Epistemology is the branch of philosophy that investigates the basis of knowledge claims or the grounding of knowledge. The field sets forth numerous approaches to gathering information and knowledge, and thereby providing a basis for “knowing what we know.” With the quality of information being so critical in today’s competitive society, researchers should be more aware of the epistemological grounds on which their inquiries rest.¹

In the real estate professions, there are many prescribed methods for obtaining market data and other critical information. Indeed, there were some early attempts to reconcile the appraisal process in the context of the scientific and other research methods.² In many instances, real estate issues predictably lend themselves to quantifiable data. After all, much of real estate can be described in terms of square footage, acreage, sale prices, interest rates, and other precise or nearly precise measurements. However, properties do not make deals with each other, people do.

Behind every statistic is a person. Real estate market participants have particular backgrounds, motivations, and expectations. Furthermore, there are innumerable perceptions towards a property, a neighborhood, and a region that can influence buyers, sellers, tenants, lenders, and others involved in real estate markets. These perceptions and special motivations, while perhaps having a direct impact on sale prices and other quantifiable data, also affect issues that may be more qualitative in nature. This qualitative information can be an essential part of the overall picture of the real estate markets.⁵

Solid qualitative research keeps good company with the most rigorous quantitative research, and it should not be viewed as an easy substitute for a statistical or quantitative study.⁴ Qualitative and quantitative data together can yield a more complete understanding of the issues and motivations within a market.⁵ Qualitative information can only be established by talking directly with people and allowing them to tell the stories unencumbered by what we expect to find or what we have read in the literature.⁶

1. Valerie Malhotra Bentz and Jeremy J. Shapiro, *Mindful Inquiry in Social Research* (Sage Publications, 1998).
2. Bill Mundy, “The Scientific Method and the Appraisal Process,” *The Appraisal Journal* 60, no. 3 (July 1992): 493.
3. Appraisal Institute, *The Appraisal of Real Estate*, 14th ed. (Chicago: Appraisal Institute, 2013), 125.
4. John W. Creswell, *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (Sage Publications, 2012).
5. Appraisal Institute, *The Appraisal of Real Estate*, 14th ed., 125.
6. Creswell, *Qualitative Inquiry and Research Design*.

A real estate appraiser must perform competently when completing an assignment.⁷ While there are numerous methods of inquiry available to appraisers, some of the most prominent research methods are discussed here within the perspectives of both rigorous academic research and real estate valuation. Table 1 presents a summary of the epistemology of methods of inquiry that are addressed.

Empirical Research

Empirical research is research that is analytical, objective, controlled, precise, tangible, and measurable. Its origins are found in the movement in natural sciences to generate studies backed by facts, data, and logic. The word *empirical* comes from the Greek word for experience, and it simply means “experiential” or “based on experience.”⁸ Empirical research can take the form of the scientific method, positivism, or analytics and is designed to answer the researcher’s question, what are the facts?

A key benefit of empirical research methods is that tests can be replicated and the measurements can be tested and validated or invalidated by others. A negative aspect of empirical studies is that they can lack the story behind the data and are only as good as the data relied upon. Applications of empirical research in real estate include the collection of transactional market data, such as sales or lease comparables, vacancy rates, expenses, and capitalization rates.

Empirical evidence is inherently objective. In the usual sense of the term, this means observations are free from emotion, conjecture, or personal bias. This can be difficult for some.⁹ Researcher bias can be an issue in any type of research. The investigator needs to set aside, as much as possible, theoretical ideas or notions so that the analytic, substantive understandings can emerge.¹⁰

In real estate valuation, empirical data is essential for use in the sales comparison, income capitalization, and cost approaches. This data is also

required for both simple and multiple regressions. Case studies can also be empirical and a valid means of research.¹¹ These are all staples of valuation methodology. Nevertheless, it is important to note that there are other methods of research that go beyond this empirical realm.

Hermeneutics

The term *hermeneutics* simply means “the art and science of interpretation.”¹² Applications of hermeneutic methods can be found in such areas as scripture, texts, law, and constitutions. Some benchmark applications of hermeneutics can be found in sentinel real estate texts and documents, such as *The Appraisal of Real Estate*, Appraisal Institute Standards of Valuation Practice, the Uniform Standards of Professional Appraisal Practice (USPAP), and international standards. These and other prominent sources provide written standards and directives for the valuation of real estate. Researchers have ethical obligations to their profession to conduct their research with honesty and integrity, and to the general public to promote the beneficial application of research findings.¹³ Fortunately, the real estate appraisal profession has accumulated a large body of knowledge and literature on which to draw.

The concept of hermeneutics was originally brought into broad usage by theologians interpreting the Bible,¹⁴ but this form of epistemology quickly spread into other realms. One key benchmark in the progression of hermeneutics came with its use in the interpretation of law. One familiar example of the practical employment of hermeneutics is the ongoing process of interpretation of the US Constitution.¹⁵ A text such as the Constitution is not a static document. It has been written, interpreted, amended, and reinterpreted on many occasions. Indeed, the interpretation of the Constitution has evolved into a mammoth undertaking in and of itself that has engulfed universities, law firms, courts, and all levels of government. Beyond this, hermeneutics

7. Appraisal Institute, SRA-1 and SRB-1 in *Standards of Valuation Practice* (Chicago: Appraisal Institute, January 1, 2015); Appraisal Standards Board, *Uniform Standards of Professional Appraisal Practice (USPAP)*, (Washington, D.C.: The Appraisal Foundation, 2014), U-11.

8. Bentz and Shapiro, *Mindful Inquiry in Social Research*.

9. R. A. Singleton and B. C. Straits, *Approaches to Social Research* (Oxford University, 1999).

10. Creswell, *Qualitative Inquiry and Research Design*.

11. Thomas Jackson and Randall Bell, “The Analysis of Environmental Case Studies,” *The Appraisal Journal* 70, no. 1 (January 2002): 86-95.

12. Bentz and Shapiro, *Mindful Inquiry in Social Research*.

13. Singleton and Straits, *Approaches to Social Research*.

14. Bentz and Shapiro, *Mindful Inquiry in Social Research*.

15. Ibid.

also addresses the interpretation of any legal text, which would include the interpretation of both “black letter” (statutory) law and case law. Large legal battles, with enormous ramifications for the parties and for society, are often decided based on interpretation of law.

Hermeneutics emphasizes that all understanding and interpretation are bound to and shaped by our particular historical and cultural context, because we use the concepts, language, symbols, and meaning of our time to interpret everything. As a research method, hermeneutics has advantages. The written word is powerful, and many cultures can be traced back to a written book, treatise, or constitution. A text is tangible evidence and it may be read and re-read over again. Indeed, writers have often provided ways for analyzing and understanding the stories lived and told.¹⁶ A single text could span hundreds or thousands of pages, thus authors have the ability to set forth a considerable amount of information, edit it, reconstruct it, and rework their text to a point of their satisfaction. Along these lines, Socrates said, “Employ your time in improving yourself by other men’s writings, so that you shall gain easily what others have labored hard for.” With a text, it is possible to read and interpret the information, and thus gain knowledge, in a fraction of the time that the author took in gaining and compiling that information.

Like any method of research, hermeneutics has potential pitfalls. One negative side of hermeneutics is that text can be outdated and thus not applicable to current circumstances. The meaning of words themselves can change over time. There can be apparent contradictions within the text itself and no means by which to reconcile those differences without going outside of the text. If one employs all of the peripheral aspects of hermeneutics in looking beyond the text itself, it could be an exhaustive and virtually endless process.

Also, in hermeneutics there is no face-to-face time with the author of the text. A text is a one-way communication with no ability for a dialog. Because the researcher does not have an opportunity to sit down with the author—to ask for further explanations, to clarify ambiguous points

or apparently contradictory information, to observe their environment or enjoy any type of dialog—the information ultimately derived can be limited.

Because of its advantages, and despite its disadvantages, hermeneutics continues to grow in influence as an epistemological method of research. For many, hermeneutics includes not only the interpretation of a text but also anything in the interpretative process where a coherent interpretation needs to be offered. Hermeneutics is now practiced by a host of professions in a wide variety of fields. Radiologists interpret x-rays, judges interpret the law, economists interpret economic data, and Wall Street interprets the stock market. Likewise, competent real estate professionals inevitably have a significant library and dedicate a significant amount of time to refreshing their knowledge of the fundamentals and to staying current with the evolution of knowledge within the profession and real estate markets.

Phenomenology

Phenomenology is a research method that attempts to document one’s own experience or enter into the mind of another person in order to have complete understanding and empathy. As its name implies, its origins are in the study of phenomena occurring within the mind of the subject. Phenomenologists focus on describing what all participants have in common as they experience a phenomenon, and the basic purpose of phenomenology is to reduce individual experiences to a description of the universal essence.¹⁷

Surveys

Survey research is one example of phenomenology. Surveys are used when information is needed to answer questions about a population. Survey research is common and has many forms. Informal interviews with knowledgeable subjects have long been a staple of research, commonly providing valuable information. Formal surveys, in contrast, are typically based on more scientific survey research techniques. Such surveys have historically been used in marketing, policy analysis, and social science research.¹⁸ Surveys can be administered using a variety of methods, including telephone, mail, online, or in person.

16. Creswell, *Qualitative Inquiry and Research Design*.

17. *Ibid.*

18. Randall Bell, Orell C. Anderson, and Michael V. Sanders, *Real Estate Damages: Applied Economics and Detrimental Conditions* (Chicago: Appraisal Institute, 2008).

Table 1 Epistemology—Methods of Inquiry

Form of Knowledge Concept	Empirical Research	Hermeneutics	Phenomenology	Ethnography	Comparative Research	Action-Based Research	Rationalism	Testimony	Constructivism
Origins	Scientific method, positivism, analytical	Interpret text	Researcher documents phenomenon	Immersion into culture or group	Compare and contrast multiple sources	Learn by doing	Observations with intuition or intrinsic knowledge; innate	Stated by trusted source	Accumulating multiple research methods
Overview	Movement in natural sciences to generate studies backed by facts, data, and logic	Basis in the interpretation of the Bible	Study of phenomena as it occurs within the mind of the subject	Researchers living in remote cultures and becoming part of the group	Compare and contrast characteristics or experiences	Movement to find pragmatic solutions to immediate problems	Recognition instincts in living organisms that facilitate the survival of the species. Socratic.	Judgments made upon sworn testimony of witnesses	Viewpoints from multiple perspectives
Researcher's Question	Research that is analytical, objective, controlled, precise, tangible, measurable	The art and science of interpretation, such as scriptures, texts, law, and constitutions	An attempt to document experience or enter into the mind of a person to have complete understanding and empathy	Effort to enter and immerse fully into the world and reality of another group or culture	Comparing and contrasting multiple groups' features and characteristics	Iterative cycle: problem diagnosed, plan formulated, action taken, results evaluated, and feedback obtained for next cycle	The human brain inherently or instinctively generates natural or innate information	Emphasizes role of experience, especially based on perceptual observations by the senses.	Combining convention, human perception and social experience
Pro's	What are the facts?	What does the text mean?	What was your experience?	What is it like being a part of this group or culture?	How does this compare to that?	How do we figure this out together?	Does this make sense? What do I instinctually know about this issue?	What did they say?	How does everything all add up?
Con's	Tests can be replicated and measurements can be tested	Text is tangible evidence, may be read and re-read	Develops understanding and empathy in obtaining the complete story	Focus is on the natural setting, large amounts of data, ability to generate understanding to the outside world	Allows multiple positions to be studied, along with critical thinking of each	Practical, real experience, own solutions to own problems, since of ownership	Facilitates inclusion of intuitive and self-evident information	Obtain knowledge from a firsthand source or the observer of fact	Knowledge is gained through multiple sources
Business Applications	Can lack the story behind the data, studies only as good as the data relied upon	Text may be outdated, variances from translation, no face-to-face time, researcher bias	Questions never answered if not asked	Time consuming, the researchers presence may alter the experience	Some situations may have limited comparability or may not be comparable at all	Incomparable with scientific method, lack of credibility, injects facilitator's bias into the group, fear of retribution	Unsupportable and incomparable with scientific method, lack of data	Witness may have faulty recollection, interject their bias or have an agenda	May not be practical or necessary to use multiple research methods
Real Estate Applications	Product specifications, statistical research, financial reports	Industry publications, time value of money, business law, regulations	Customer or employee research	Market research	Competitive research	Trial and error	Business sense, information that makes sense or feels right	Insights from business leaders and experts	Total enterprise
	Sales comparables, lease comparables, transactional market data	<i>The Appraisal of Real Estate, Real Estate Damages, USPAP</i>	Verification of data, interviews and surveys, semi-structured interview discussions	Geographic competency, field inspections, observations	Case studies, adjustment grids	Prior experience	Reasonable, established, makes sense	Property owner statements, reports by others	Reconciliation and conclusions

Because real estate markets do not happen in a vacuum, discussions with local market participants are a staple research tool. The verification process allows the appraiser to better understand the attitudes and motivations of the market and may be needed to produce a credible appraisal.¹⁹

A primary concept within phenomenology is that the researcher documents phenomenon to answer the researcher's question, what was your experience? While subjects are studied individually, this research method produces a collective understanding of attitudes and views. Thus, this research method can provide a deep understanding of a phenomenon.²⁰

Phenomenology has some strong attributes as a research method. At its essence, it is an effort to understand others' points of view, and it allows the researcher to develop understanding and empathy in obtaining the complete story.²¹ It also has the advantage of allowing for large samples and statistical testing of results.

As with any epistemology, there are drawbacks to this research method.²² A negative side of phenomenology is that if a particular question is not asked then it is never answered, and it is more difficult for the researcher to actually understand the experience of the subject. Also, the mechanism for inquiry must be carefully selected. For instance, survey research involving questionnaires may not be appropriate for a community that has been over studied.²³ Furthermore, the questions posed to the subject, along with the way that they are asked, could alter the experience itself for the subject. Survey queries also have been criticized as not truly reflective of the situation, instead collecting data based on expectations and perceptions rather than actual transactions or observed behavior. And like any epistemology, researcher bias could sway a subject away from a forthright description of their experience.

Formal market surveys are typically distinguished by structured and standardized questions, and may include a statistical analysis of survey responses.

Surveys can involve a streamlined form of data collection by either single or multiple interviews with participants.²⁴ It is important that any survey, formal or informal, be conducted in such a manner as to elicit objective responses, with attention to both thoroughness and brevity. Objectivity is critical, particularly where a survey is the sole method used to solve a research problem.

An important concern with this research method is the procedure used in the survey. Care must be taken to select a representative sample, to obtain a sufficient response rate, to eliminate ambiguity and bias in the survey instrument, and to accurately document the responses.²⁵ Without proper discipline, planning, and thought, a survey can become little more than casual conversations with individuals, where preconceived ideas and notions become superficially validated.

One particular concern with some surveys is hypothetical bias, defined as the potential error due to not confronting an individual with a real situation. Hypothetical bias is problematic since there are no real consequences to respondents who overstate or understate preferences or values in a hypothetical scenario. Hypothetical bias is one of the concerns that has been voiced regarding the contingent valuation (CV) methodology. The CV survey technique was originally developed as a means for valuing natural resources and public goods, which are not exchanged in a market; however, it later was used in attempts to measure the value impact of disamenities on property in the market. The appraisal literature indicates that CV survey method is a less reliable and less accurate indicator of prices and value than analysis of market data.²⁶ Accordingly, the CV method is not generally accepted as a primary valuation method when transactional market data is ample and available.

Survey Categories by Technique

There are three categories of surveys.²⁷ Type I surveys include interviews with those involved with

19. Appraisal Institute, *The Appraisal of Real Estate*, 14th ed.

20. Creswell, *Qualitative Inquiry and Research Design*.

21. Bentz and Shapiro, *Mindful Inquiry in Social Research*.

22. Albert R. Wilson, "Contingent Valuation: Not an Appropriate Valuation Tool," *The Appraisal Journal* 74, no. 1 (Winter 2006): 53-61.

23. Peter Park, "People, Knowledge, and Change in Participatory Research" *Management Learning* 30, no. 2 (1999): 141-157.

24. Creswell, *Qualitative Inquiry and Research Design*.

25. Bell, Anderson, and Sanders, *Real Estate Damages*.

26. Kristy E. Mathews, "Under the Microscope: Dissection of a Contingent Valuation Survey," *The Appraisal Journal* 76, no. 3 (Summer 2008): 259-269.

27. Bell, Anderson, and Sanders, *Real Estate Damages*.

the actual issue being studied. The participants in the study need to be carefully chosen as individuals who have experienced the phenomenon in question; this enables the researcher to forge a common understanding.²⁸ Type I surveys can be very straightforward and effective.

Type II surveys include interviews with individuals who are active participants in the market but not involved with a specific transaction. This type of survey may be acceptable in situations where (1) Type I surveys are not possible, (2) no relevant market data is obtainable, or (3) it will be used as a backup approach to other research approaches. The survey interviews must qualify the participants, be carefully scripted, and accurately set forth all the relevant issues in a fair and unbiased way. Ideally, all sides of the issues should be studied, such as questions from both a buyer's and seller's perspectives. This type of survey can be valid, but only if it is correctly designed and administered.

Type III surveys include interviews with survey participants who are not active participants in the market but are asked to pretend that they are in the market and to further pretend that they are to purchase a property with certain attributes. Given the superior information collected in Type I or II surveys, this type of survey generally has the least validity.

Regardless of the type of survey or approach taken, to be valid the study must follow some fundamental guidelines. First, the survey should be carefully scripted to ensure that each participant is prequalified and that uniform questions are asked throughout the examination. The questions should be carefully and objectively worded. The survey should be designed in such a manner that no bias or preconceived notions are projected in the questions being asked, and the questions must be truly relevant to the issues at hand. Lastly, the survey participants must be carefully selected. For example, professional surveys make use of large samples chosen through scientific sampling procedures to ensure precise estimates of population characteristics.²⁹ As with

all research methods, all the components must be transparent. The survey design, the survey itself, the responses and their tabulation should be made available, and be testable and repeatable.

Ethnography

Ethnography involves the study of local customs and practices. It is an effort by the researcher to enter into the world and reality of a specific group or culture. As with all qualitative inquiry, there is no single way to conduct the research.³⁰ Ethnography can entail extended studies as well as field inspections and observations.

Ethnographers study the meaning of the behaviors, language, and interaction among members of the culture-sharing group.³¹ The concept here is that immersion into a culture or group will answer the researcher's question, what is it like being a part of this group or culture? Real estate appraisers and economists might consider ethnography to be aligned with geographic competency.³² The importance of understanding local markets—and taking measures to gain an understanding of local markets, local laws, regulations, customs, and practices—is well recognized.³³

The benefits of ethnography are its focus on the natural setting, the large amounts of data it can produce, and its ability to generate understanding to the outside world. As a process, ethnography involves extended observations of a group, most often through participant observation, in which the researcher is immersed in the day-to-day lives of the people and observes and interviews the group participants.³⁴

Ethnography is not a study of an individual person but rather of an entire group. Accordingly, it is important for the researcher to interact with all tiers of the group to avoid a myopic view and to become familiar with the numerous viewpoints within a group.

The downside of ethnography is primarily twofold. First, it can be time consuming. Second, since researchers are viewed as outsiders their presence may alter the experience. In other words, the culture or group may not act the way they would

28. Creswell, *Qualitative Inquiry and Research Design*.

29. Singleton and Straits, *Approaches to Social Research*.

30. Creswell, *Qualitative Inquiry and Research Design*.

31. Ibid.

32. Appraisal Standards Board, *USPAP*, U-11.

33. See for example, "Neighborhoods, Districts, and Market Areas," chap. 11 in *The Appraisal of Real Estate*, 14th ed.

34. Creswell, *Qualitative Inquiry and Research Design*.

have if a researcher were not there.³⁵ To be effective and produce an accurate picture, the researcher must have the ability to elicit genuine behavior while not causing disturbances to the group.

Comparative Research

Comparative research involves comparing and contrasting multiple features and characteristics. The researcher's question here is, how does this compare with that? A positive aspect of the comparative research method is that it allows multiple positions to be considered and studied, along with critical thinking of each position. However, some situations may have limited comparability or may not be comparable at all.

Application of the comparative method in real estate appraisal can be seen in an adjustment grid and in the comparative analysis of case studies. In other words, the sales adjustment grid can answer the question, how does this subject property compare with that comparable? Case study research involves the study of an issue explored through one or more cases within a bounded system (e.g., a setting or a context).³⁶ In a real estate damages context, it could include case studies, wherein the condition being studied, (i.e., environmental contamination, landslides, terrorist sites) are studied and compared with each other in an effort to identify common features or outcomes.

Action-Based Research

Action-based methods of inquiry involve an iterative cycle where problems are diagnosed, plans are formulated, actions are taken, results are evaluated, and feedback is obtained for the next cycle. As its name implies, this is a hands on, learn-by-doing approach to knowledge. Its origins are found in the business management movement to find pragmatic solutions to immediate problems.

The positive side of action research is that it is practical, real experience. Also, it involves one's own ideas and potential solutions to problems, and thus provides a sense of ownership. On the downside, it may eliminate outside knowledge and thus outside solutions. Further, this approach may be incompatible with the scientific method or other methods of inquiry and therefore lack full credibility

by itself. It injects the facilitator's bias into the group and may cause a fear of retribution.

In the valuation process, action research is essentially the cumulative experience of the appraiser or economist. At its best, the action research process becomes embedded within the participant system. Thus, it can be said that successful action research builds into a system (i.e., the organization, the person, the society) an ability to identify and solve problems, to select goals, and evaluate movement toward these goals. In this way, successful action research builds a learning capacity into the system.³⁷

Rationalism

Inquiry based on rationalism involves generating inherent or instinctive information. Its origins are founded in recognition that living organisms are born with instincts and reason that facilitate the survival of species.

The concept here is using intuition or intrinsic knowledge to answer the researcher's question, does this make sense? Thus, rationalism facilitates intuitive and self-evident information. However, what is "rational" and "makes sense" to one person or group may not make sense to another. Some view rationalism as being unsupportable, lacking data, and incompatible with the scientific method, while others feel that the opposite is actually true. Nonetheless, rationalism has some merit. Scientists are expected to follow the principles of logical reasoning. This does not mean that logic can tell scientists how to think or reason. Instead, logic provides the criteria for evaluating the correctness of one's reasoning.³⁸ Thus, more-accepted applications of rationalism could be positions that are demonstrated to be established or peer-reviewed positions.

Testimony

The testimony method of inquiry considers presentations or statements by others, both sworn and unsworn. Sworn testimony is often admissible evidence in court. In litigation support, such statements can be formal declarations made to the court. Furthermore, testimony in the form of statements or declarations are also considered as support or proof of a fact. Real estate professionals often obtain

35. Ibid.

36. Ibid.

37. Bentz and Shapiro, *Mindful Inquiry in Social Research*.

38. Singleton and Straits, *Approaches to Social Research*.

statements or observations of market participants, which may be included in a report. Examples include statements or representations made by property owners or managers, brokers, agents or others.

Constructivism

Constructivism is a research method that combines convention, human perception, and social experience. Its origins are found in the different viewpoints from multiple perspectives. The concept here is accumulating multiple research methods to answer the researcher's question, how does everything add up and how do we reconcile multiple research methods or multiple angles?

While it may be desirable to have research established by multiple methods of inquiry, it certainly is not always practical or necessary. One carefully conducted interview may be sufficient for some research. But in other cases, the researcher may conduct twenty to thirty interviews based on several visits to the field to collect interview data to saturate the categories.³⁹ In a real estate valuation context, one sales comparable may provide an initial indication of value; however, numerous sales comparables add credibility, bracket the characteristics of the subject property, and provide a far more reliable indication of value.

Conclusion

There are many types of research and these methods can be applied to investigate questions and provide reliable conclusions. As real estate professions have an absolute dependence on information, understanding various research methods is critical. The selection of the appropriate method or methods is important, as is the application.

Virtually all researchers will claim to have conducted creditable research. A working knowledge

of research methods, however, can make one aware of the potential flaws in research by others.⁴⁰ Knowledge of the various research methods can enhance one's awareness of the methods others purport to use and to better review, critique, and assess the reliability of that research.

Whether real estate professionals know it or not, the valuation process is firmly grounded in the epistemology that surrounds economics and sociology. In a single assignment, an appraiser may use one or more of the various methods of inquiry discussed in this article. For example, it is quite conceivable that a researcher will use multiple research sources (constructionism) and rely on his or her general experience (action); demonstrate or acquire geographic competency (ethnography); conduct a literature review and comply with standards (hermeneutics); use sales or lease comparables, vacancy rates, expenses, and capitalization rates (empirical research); use adjustment grids or other means to compare and contrast the data (comparative research); have discussions with property owners or managers (testimony); verify the market data with the parties involved or survey participants within the market (phenomenology); and ultimately produce findings that are logical, innate, testable and repeatable (rationalism). Understanding the depth and breadth of each research method can result in a higher level of professionalism.

While there is no off-the-shelf solution for conducting research, it is clear that the appraisal process, when reviewed in the context of epistemology, has a solid, comprehensive, and scientific framework. Ultimately, it is up to the appraiser or economist to be knowledgeable about the relevant research avenues and select those methods that are most suitable for the assignment.

39. Creswell, *Qualitative Inquiry and Research Design*.

40. Singleton and Straits, *Approaches to Social Research*.

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Web Connections

Internet resources suggested by the Y. T. and Louise Lee Lum Library

Brigham Young University—Epistemology

http://linguistics.byu.edu/faculty/henrichsenl/ResearchMethods/RM_1_02.html

FQS journal—“Ontological and Epistemological Foundations of Qualitative Research”

<http://www.qualitative-research.net/index.php/fqs/article/view/1299/3163>

Simon Fraser University—“The Epistemology of Qualitative Research”

<http://www.sfu.ca/~palys/Becker-EpistemologyOfQualitativeResearch.pdf>

Stanford University—*Stanford Encyclopedia of Philosophy*

<http://plato.stanford.edu/entries/epistemology/>

University of Louisiana at Lafayette—The Epistemology Research Guide

<http://www.ucs.louisiana.edu/~kak7409/EpistemologicalResearch.htm>