Content Analysis

Bernard Berelson defined Content Analysis as "a research technique for the objective, systematic, and quantitative description of manifest content of communications" (Berelson, 74). Content analysis is a research tool focused on the actual content and internal features of media. It is used to determine the presence of certain words, concepts, themes, phrases, characters, or sentences within texts or sets of texts and to quantify this presence in an objective manner. Texts can be defined broadly as books, book chapters, essays, interviews, discussions, newspaper headlines and articles, historical documents, speeches, conversations, advertising, theater, informal conversation, or really any occurrence of communicative language. To conduct a content analysis on a text, the text is coded, or broken down, into manageable categories on a variety of levels--word, word sense, phrase, sentence, or theme--and then examined using one of content analysis' basic methods: conceptual analysis or relational analysis. The results are then used to make make inferences about the messages within the text(s), the writer(s), the audience, and even the culture and time of which these are a part. For example, Content Analysis can indicate pertinent features such as comprehensiveness of coverage or the intentions, biases, prejudices, and oversights of authors, publishers, as well as all other persons responsible for the content of materials.

Content analysis is a product of the electronic age. Though content analysis was regularly performed in the 1940s, it became a more credible and frequently used research method since the mid-1950's, as researchers started to focus on concepts rather than simply words, and on semantic relationships rather than just presence (de Sola Pool, 1959).

Uses of Content Analysis

Due to the fact that it can be applied to examine any piece of writing or occurrence of recorded communication, content analysis is used in large number of fields, ranging from marketing and media studies, to literature and rhetoric, ethnography and cultural studies, gender and age issues, sociology and political science, psychology and cognitive science, as well as other fields of inquiry. Additionally, content analysis reflects a close relationship with socio- and psycholinguistics, and is playing an integral role in the development of artificial intelligence. The following list (adapted from Berelson, 1952) offers more possibilities for the uses of content analysis:

- Reveal international differences in communication content
- Detect the existence of propaganda
- Identify the intentions, focus or communication trends of an individual, group or institution
- Describe attitudinal and behavioral responses to communications
- Determine psychological or emotional state of persons or groups

Types of Content Analysis

There are two general categories of content analysis: conceptual analysis and relational analysis. Conceptual analysis can be thought of as establishing the existence and frequency of concepts in a text. Relational analysis builds on conceptual analysis by examining the relationships among concepts in a text.

Conceptual Analysis

Traditionally, content analysis has most often been thought of in terms of conceptual analysis. In conceptual analysis, a concept is chosen for examination and the number of its occurrences within the text recorded. Because terms may be implicit as well as explicit, it is important to clearly define implicit terms before the beginning of the counting process. To limit the subjectivity in the definitions of concepts, specialized dictionaries are used.

As with most other research methods, conceptual analysis begins with identifying research questions and choosing a sample or samples. Once chosen, the text must be coded into manageable content categories. The process of coding is basically one of selective reduction, which is the central idea in content analysis. By breaking down the contents of materials into meaningful and pertinent units of information, certain characteristics of the message may be analyzed and interpreted.

An example of a conceptual analysis would be to examine a text and to code it for the existence of certain words. In looking at this text, the research question might involve examining the number of positive words used to describe an argument, as opposed to the number of negative words used to describe a current status or opposing argument. The researcher would be interested only in quantifying these words, not in examining how they are related, which is a function of relational analysis. In conceptual analysis, the researcher simply wants to examine presence with respect to his/her research question, i.e. whether there is a stronger presence of positive or negative words used with respect to a specific argument or respective arguments.

Relational Analysis

As stated above, relational analysis builds on conceptual analysis by examining the relationships among concepts in a text. And as with other sorts of inquiry, initial choices with regard to what is being studied and/or coded for often determine the possibilities of that particular study. For relational analysis, it is important to first decide which concept type(s) will be explored in the analysis. Studies have been conducted with as few as one and as many as 500 concept categories. Obviously, too many categories may obscure your results and too few can lead to unreliable and potentially invalid conclusions. Therefore, it is important to allow the context and necessities of your research to guide your coding procedures.

There are many techniques of relational analysis available and this flexibility makes for it's popularity. Researchers can devise their own procedures according to the nature of their project. Once a procedure is rigorously tested, it can be applied and compared across populations over time. The process of relational analysis has

achieved a high degree of computer automation but still is, like most forms of research, time consuming. Perhaps the strongest claim that can be made is that it maintains a high degree of statistical rigor without losing the richness of detail apparent in even more qualitative methods.

Issues of Reliability and Validity

The issues of reliability and validity are concurrent with those addressed in other research methods. The reliability of a content analysis study refers to its stability, or the tendency for coders to consistently re-code the same data in the same way over a period of time; reproducibility, or the tendency for a group of coders to classify categories membership in the same way; and accuracy, or the extent to which the classification of a text corresponds to a standard or norm statistically.

The overarching problem of concept analysis research is the challengeable nature of conclusions reached by its inferential procedures. The question lies in what level of implication is allowable, i.e. do the conclusions follow from the data or are they explainable due to some other phenomenon? For occurrence-specific studies, for example, can the second occurrence of a word carry equal weight as the ninety-ninth? Reasonable conclusions can be drawn from substantive amounts of quantitative data, but the question of proof may still remain unanswered.

The generalizability of one's conclusions, then, is very dependent on how one determines concept categories, as well as on how reliable those categories are. It is imperative that one defines categories that accurately measure the idea and/or items one is seeking to measure. Akin to this is the construction of rules. Developing rules that allow one, and others, to categorize and code the same data in the same way over a period of time, referred to as stability, is essential to the success of a conceptual analysis. Reproducibility, not only of specific categories, but of general methods applied to establishing all sets of categories, makes a study, and its subsequent conclusions and results, more sound.

Advantages of Content Analysis

Content analysis offers several advantages to researchers who consider using it. In particular, content analysis:

- looks directly at communication via texts or transcripts, and hence gets at the central aspect of social interaction
- can allow for both quantitative and qualitative operations
- can provides valuable historical/cultural insights over time through analysis of texts
- allows a closeness to text which can alternate between specific categories and relationships and also statistically analyzes the coded form of the text
- can be used to interpret texts for purposes such as the development of expert systems (since knowledge and rules can both be coded in terms of explicit statements about the relationships among concepts)
- is an unobtrusive means of analyzing interactions

- provides insight into complex models of human thought and language use
- when done well, is considered as a relatively "exact" research method (based on hard facts, as opposed to Discourse Analysis).

Disadvantages of Content Analysis

Content analysis suffers from several advantages, both theoretical and procedural. In particular, content analysis:

- can be extremely time consuming
- is subject to increased error, particularly when relational analysis is used to attain a higher level of interpretation
- is often devoid of theoretical base, or attempts too liberally to draw meaningful inferences about the relationships and impacts implied in a study
- is inherently reductive, particularly when dealing with complex texts
- tends too often to simply consist of word counts
- often disregards the context that produced the text, as well as the state of things after the text is produced
- can be difficult to automate or computerize

Works Cited, and other Useful Resources

Works Cited

Berelson, Bernard. *Content Analysis in Communication Research.* New York: Free Press, 1952.

While this book provides an extensive outline of the uses of content analysis, it is far more concerned with conveying a critical approach to current literature on the subject. In this respect, it assumes a bit of prior knowledge, but is still accessible through the use of concrete examples.

Budd, Richard. *Content Analysis of Communications*. New York: Macmillan Company, 1967.

Although published in 1967, the decision of the authors to focus on recent trends in content analysis keeps their insights relevant even to modern audiences. The book focuses on specific uses and methods of content analysis with an emphasis on its potential for researching human behavior. It is also geared toward the beginning researcher and breaks down the process of designing a content analysis study into 6 steps that are outlined in successive chapters. A useful annotated bibliography is included.

Busha, Charles H. and Stephen P. Harter. *Research Methods in Librarianship: Techniques and Interpretation.* New York: Academic Press, 1980.

One of the most authoritative textbooks of research methods in Library and Information Science. It provides an excellent and comprehensive overview of research methods commonly used in our field. Written in an accessible language, it provides a short, but complete definition and

description of Content Analysis, including some examples of applications in our field.

de Sola Pool, Ithiel. *Trends in Content Analysis*. Urbana: University of Illinois Press, 1959.

The 1959 collection of papers begins by differentiating quantitative and qualitative approaches to content analysis, and then details facets of its uses in a wide variety of disciplines: from linguistics and folklore to biography and history. Includes a discussion on the selection of relevant methods and representational models.

http://www.colostate.edu/Depts/WritingCenter/references/research/content/page2.htm

An introduction to Content Analysis by Michael Palmquist, this is the main resource on Content Analysis on the Web. Comprehensive yet clear and accessible discussion and presentation of Content Analysis; includes examples and an annotated bibliography. The information contained in this page is but a summary of Michael Palmquist's excellent resource on Content Analysis.

Other Useful Print Resources

Carley, Kathleen. "Content Analysis." In R.E. Asher (Ed.), *The Encyclopedia of Language and Linguistics.* Edinburgh: Pergamon Press, 1990.

Quick, yet detailed, overview of the different methodological kinds of Content Analysis. Carley breaks down her paper into five sections, including: Conceptual Analysis, Procedural Analysis, Relational Analysis, Emotional Analysis and Discussion. Also included is an excellent and comprehensive Content Analysis reference list.

Carney, Thomas. *Content Analysis: A Technique for Systematic Inference from Communications*. Winnipeg: University of Manitoba Press, 1972.

This book introduces and explains in detail the concept and practice of content analysis. Carney defines it; traces its history; discusses how content analysis works and its strengths and weaknesses; and explains through examples and illustrations how one goes about doing a content analysis

Krippendorff, Klaus. *Content Analysis: An Introduction to its Methodology*. Beverly Hills: Sage Publications, 1980.

This is one of the most widely quoted resources in many of the current studies of Content Analysis. Recommended as another good, basic resource, as Krippendorff presents the major issues of Content Analysis in much the same way as Weber (1975).

Weber, Robert Philip. *Basic Content Analysis, Second Edition*. Newbury Park, CA: Sage Publications, 1990.

Good introduction to Content Analysis. The first chapter presents a quick overview of Content Analysis. The second chapter discusses content classification and interpretation, including sections on reliability, validity, and the creation of coding schemes and categories. Chapter three discusses techniques of Content Analysis, using a number of tables and graphs to illustrate the techniques. Chapter four examines issues in Content Analysis, such as measurement, indication, representation and interpretation

Thomas, S. "Artifactual Study in the Analysis of Culture: A Defense of Content Analysis in a Postmodern Age." ***Communication Research*** **21.6 (1994): 683-697.**

Although both modern and postmodern scholars have criticized the method of content analysis with allegations of reductionism and other epistemological limitations, it is argued here that these criticisms are ill founded. In building and argument for the validity of content analysis, the general value of artifact or text study is first considered

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Useful Links

http://www.colostate.edu/Depts/WritingCenter/references/research/content/page2.htm

The main resource on Content Analysis on the Web! Comprehensive and clear discussion of Content Analysis, with numerous examples and an extensive bibliography.

http://www.gsu.edu/~wwwcom/content.html

One of the best places on the Web for complete information on Content Analysis. Bibliography, current publications, and numerous links, including to full text articles online on the practical application of content analysis

http://gwdu19.gwdg.de/~mromppe/content.htm

Large site with numerous links and examples, including access to CHASS (Computing in the Humanities and Social Sciences) and current as well as back issues of ACH (Association for Computers and the Humanities)

www.ntu.edu.sg/home/tblmassey/content_analysis/ca.htm

The next best place on the Web: Definition and examples of Content Analysis, bibliographies; links; guide to IT Resources (software); and more. This site offers complete resources and is easy to navigate

www.comp.lancs.ac.uk/computing/research/ucrel/papers/war93.txt

Paper in progress. Excellent definition of / introduction to Content Analysis in regards to Quantitative and Qualitative research. Includes bibliography.

www.library.miami.edu/staff/lmc/psymeth.html

Complete and broad site on Social Science Research Methods, includes numerous links, and definitions

Examples of Content Analysis

Craig, Stephen. "The Effect of Day Part on Gender Portrayals in Television Commercials: A Content Analysis." ***Sex Roles: A Journal of Research*** **26.5-6 (1992): 197-213.**

Gender portrayals in 2,209 network television commercials were content analyzed. To compare differences between three day parts, the sample was chosen from three time periods: daytime, evening prime time, and weekend afternoon sportscasts. The results indicate large and consistent differences in the way men and women are portrayed in these three day parts, with almost all comparisons reaching significance at the .05 level. Although ads in all day parts tended to

portray men in stereotypical roles of authority and dominance, those on weekends tended to emphasize escape form home and family. The findings of earlier studies which did not consider day part differences may now have to be reevaluated.

Herzog, Arthur. ***The B.S. Factor: The Theory and Technique of Faking it in America*****. New York: Simon and Schuster, 1973.**

Herzog takes a look at the rhetoric of American culture using content analysis to point out discrepancies between intention and reality in American society. The study reveals, albeit in a comedic tone, how double talk and "not quite lies" are pervasive in our culture.

Horton, Nancy Spence. ***Young Adult Literature and Censorship: A Content Analysis of Seventy-Eight Young Adult Books*****. Denton: North Texas State University, 1986.**

The purpose of Horton's content analysis was to analyze a representative seventy-eight current young adult books to determine the extent to which they contain items which are objectionable to would-be censors. Seventy-eight books were identified which fit the criteria of popularity and literary quality. Each book was analyzed for, and tallied for occurrence of, six categories, including profanity, sex, violence, parent conflict, drugs and condoned bad behavior.

Kaur-Kasior, Serjit. ***The Treatment of Culture in Greeting Cards: A Content Analysis*****. Bowling Green: Bowling Green State University, 1987.**

Using six historical periods dating from 1870 to 1987, this content analysis study attempted to determine what structural/cultural aspects of American society were reflected in greeting cards. The study determined that the size of cards increased over time, included more pages, and had animals and flowers as their most dominant symbols. In addition, white was the most common color used. Due to habituation and specialization, says the author, greeting cards have become institutionalized in American culture.