# BUILDING BRIDGES IN CONTENT ANALYSIS: QUANTITATIVE AND QUALITATIVE TRADITIONS

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**Abstract**

Platforms and manifestos hold a wealth of data for students of politics. Such documents contain concrete policy pledges, which allow scholars to assess parties according to their prescriptions for the future, or the extent to which they fulfill their mandates once in office. Manifestos also contain rhetoric – iconic representations of the world that allow observers a window into the ideological mindset of parties and their leaders. Too often, these two approaches are posed as polar opposites. The first is viewed as largely quantitative, driven by content analysis and deduction, and focused on public policy, whereas the second is more qualitative, guided by narrative analysis and induction, and centered on ideology. This paper explores the middle ground between the two traditions, their common strengths and challenges, while examining ways in which students from each group can help strengthen the research of the other. In an age that requires social scientists to apply a variety of instruments in their methodological 'toolbox,' such an understanding between qualitative and quantitative content analysts is crucial if we are to expand our knowledge about political life.

## Introduction

The Poltext Project[1] promises researchers access to a wealth of data surrounding Canadian politics and government. From party manifestos and campaign literature, to budget and throne speeches, the Project assembles one of the largest collections of its kind, bringing together previously-buried documents from across Canada and throughout the past century. Students of Canadian politics are presented with many new avenues of inquiry. Evidence abounds for policy analysts, party politics researchers, legislative scholars, historians, bureaucrats, commentators, political operatives, and other academics and observers. Considering the sheer amount of data – literally thousands of individual files – what is the best way to approach these documents? Which tools and techniques will allow us to get the most out of the Poltext collection?

These questions seem innocuous enough. These are "raw" materials, after all. They allow for research of all kinds. Beyond casual reading, however, disciplinary standards require social scientists to adhere to certain "rules" when it comes to treating texts as data. As Scott (2006: 3) suggests, "the general principles involved in handling documents are no different from those involved in any other area of social research." "Texts" only become scientific "evidence" when treated systematically, and certain standards apply to quantitative and qualitative scholars, alike. For, while textual data may be counted – as a series of words, phrases, policies, or promises – or rendered – as texts with symbolic, rhetorical, or iconic meaning – each approach must be *trustworthy* in its treatment of these documents. In particular, content analysts must establish the legitimacy of their research by protecting its authenticity, portability, precision, and impartiality.

With this in mind, the following paper details the common challenges confronting qualitative and quantitative content analysts.[2] Part I outlines the epistemological and methodological distinctions typically drawn between the two traditions. These divisions include questions over the nature of legitimacy or trustworthiness in social science, a topic covered in Part II. The lessons from this discussion are applied to Part III, where the key attributes of quantitative and qualitative content analysis are outlined in greater detail. In an age when social scientists are asked to carry complete "toolboxes" when approaching their research problems, the willingness, ability and desire to combine various methodological techniques are definite assets. By appreciating the credibility, transferability, dependability, and conformability of the qualitative method and the validity, reliability, and objectivity of the quantitative approach, students will gain the "best of both worlds," and get the most out of the Poltext dataset.

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[1] The author is one of the Project's researchers, joining an international consortium of academics working toward the collection and public distribution of political texts, including party platforms. For more information, see the Poltext website: http://www.poltext.capp.ulaval.ca/.

[2] This paper is not intended as a complete guidebook for content analysis. For excellent directions on "how to" conduct quantitative textual research, see: Krippendorff (2004) and Bryman (2008: Chapter 12). On qualitative content analysis, see: Altheide (1996), Morse and Richards (2002: Chapter 6), and Boyatzis (1998).

## I. The Quantitative / Qualitative Divide

There are three general perspectives on the relationship between quantitative and qualitative methods (Bryman, 2001: 276; Corbetta, 2003: 50). While ideal types, in that no researcher is likely to adhere entirely or permanently to one set of beliefs, the distinctions are informative. The first perspective holds that the quantitative and qualitative traditions are so ontologically distinct as to be incommensurable. Scholars in this "*purist*" school believe in a hard-and-fast connection between quantitative methods and the tenets of positivism,[3] on one hand, and qualitative methods and relativism, on the other. According to this perspective, quantitative positivists believe in the principles of inherency and verifiability, which puts them at odds with the belief among qualitative relativists that all reality is socially constructed. As Manheim et al. (2002: 318) describe, "Some quantitatively oriented scholars regard at least some qualitative work as so dependent on the perceptions of the individual researcher and so focused on specific cases as to be unverifiable and essentially useless. In contrast, some qualitatively oriented scholars judge quantitative methods to be so incomplete in their representation of reality as to be empirically misleading…" In this environment, researchers toil in opposing camps – either parallel, but separate, in their pursuit of knowledge, or actively seeking to undermine the other. Political science has not been immune to these tensions; thankfully, "Most empirical researchers work primarily with either qualitative or quantitative methods but can see value in the other approach…" (Manheim et al., 2002: 318).

A second perspective, embodied most famously in the work of King, Keohane and Verba (1993), holds that both quantitative and qualitative research methods are commensurable under the positivist approach to social life. In their words, "the differences between the quantitative and qualitative traditions are only stylistic and are methodologically and substantively unimportant. All good research can be understood – indeed is best understood – to derive from the same underlying logic of inference. Both quantitative and qualitative research can be systematic and scientific," provided each submits to "the rules of scientific inference – rules that are sometimes more clearly stated in the style of quantitative research" (1993: 4-5, 6). Critics of the "KKV" approach accuse the authors of developing a "quantitative template for qualitative research" – a premise that presupposes the superiority of the former over the latter (Brady et al., 2004: 3). For this reason, qualitative purists have anointed King et al. as headmasters of the "quantitative imperialist" school, imposing positivist concepts like hypothesis-testing and inter-subjectivity on an unwilling qualitative community. In fairness to King et al., their aim was to bridge the "quantitative-systematic-generalizing" / "qualitative-humanistic-discursive" divide (King et al., 1993: 4). Less pejoratively, then, one may refer to theirs as the "*neo-positivist*" perspective.

[3] For the purposes of this discussion, "positivism" is defined by the following three tenets: (1) scientific methods (i.e., the testing of hypotheses derived from pre-existing theories) may be applied to the study of social life; (2) knowledge is only generated through observation (empiricism); and (3) facts and values are distinct, thus making objective inquiry possible (Snape and Spencer, 2006).

A third perspective takes a middling view of the relationship between quantitative and qualitative methods. Developed most coherently in a volume edited by Brady and Collier (2004), the "*dualist*" school promotes the co-existence of quantitative and qualitative traditions within a broad social scientific enterprise. Unlike "purists," "dualists" see value in collaboration between quantitative and qualitative researchers, and an important element of interdependence in their relationship. Compared to "neo-positivism," the "dualist" school sees strengths and weaknesses in both approaches. As Brady et al. (2004: 10) put it,

> *In the social sciences, qualitative research is hard to do well. Quantitative research is also hard to do well. Each tradition can and should learn form the other*. One version of conventional wisdom holds that achieving analytic rigor is more difficult in qualitative than in quantitative research. Yet in quantitative research, making valid inferences about complex political processes on the basis of observational data is likewise extremely difficult. There are no quick and easy recipes for either qualitative or quantitative analysis. In the face of these shared challenges, the two traditions have developed distinctive and complementary tools (emphasis in original).

Instead of struggling for methodological supremacy, dualists implore all social scientists to "refine and develop the battery of techniques on offer, and above all to be as explicit as possible about the implications of the methodologies we employ…" (Laver, 2001: 9).

While acknowledging that many readers view the world from the "purist" and "neo-positivist" perspectives, the following discussion proceeds along "dualist" lines. According to this view, social science is the systematic study of the social world; the definition of what constitutes "systematic" is contentious, a debate that is explored in greater depth below.

## *Epistemological Differences*

Again, when it comes to the two traditions, most scholars do not sit solely in one "camp" or the other. As Bryman (2004: 442) cautions, "the connection between research strategy, on the one hand, and epistemological and ontological commitments, on the other, is not deterministic. In other words, there is a *tendency* for quantitative and qualitative researchers" to be associated with the positivist and interpretivist communities, respectively, "but the connections are not perfect" (emphasis in original). In this spirit, the following descriptions refer to two sides of a continuum; most social scientists occupy the middle ground (see Table 1).

### *Primary Intent*

The primary purpose of most quantitative analysis is to test hypotheses. Researchers enter the data collection, processing, and analysis stages with pre-defined postulates, which they actively seek to disconfirm. By contrast, most qualitative scholars

approach investigations with broader research questions in mind. Specific expectations are both developed and assessed during the process of observation and analysis (Neuman and Robson, 2007: 336). To be sure, quantitative analysts work from research questions, just as some qualitative researchers seek to test hypotheses. The difference in intent is more a matter of degree than kind. In general, quantitative researchers approach the process with answers they seek to verify or disprove, whereas qualitative researchers approach the process with problems they seek to understand or address (1996: 15).

*Primary Objective*

The ultimate objective of most quantitative analyses is to produce widely-applicable results, whereas most qualitative studies aim to shed intense light on a specific context. The former often generate generalizable findings based on a wide range of cases. Proponents refer to this as a "broad" approach, while critics call it "shallow." By conducting "smaller-N" studies, qualitative researchers present more detailed understandings of specific cases. Some deem this analysis to be "deeper," others "narrower," than quantitative research.

*Approach to Reality*

Quantitative scholars treat "reality" as something that can be both measured and configured. Real-world observations are converted into numerical form, then manipulated statistically to produce findings. Qualitative researchers tend to take a more "naturalistic" approach, adapting their techniques to the environment rather than vice versa (Guba and Lincoln, 1985). To put it crudely: in quantitative research, nature submits to the method; in qualitative research, the method is more likely to submit to nature.

*Position of Researcher*

Most quantitative analysts aim to limit their own, "personal" imprint on their research. While often recognized and acknowledged, researcher biases are actively minimized during the investigation, as they are seen as contaminants of objective inquiry. Such prejudices are deemed more benign (or, at least, less malignant) in qualitative research. There, researcher biases are more likely to be perceived as unavoidable elements of interpretive inquiry, rather than pollutants. Researchers are the instruments of qualitative study; they are the agents of quantitative research (Merriam, 2002b: 5).

*Theory Development*

While both schools combine deduction and induction in their analyses, they do so to differing degrees (Neuman and Robson, 2007: 111; Punch, 2005: 196-197). Quantitative analysts tend to apply existing theories to the data at hand in order to deduce patterns among pre-defined variables, whereas the qualitative method is more conducive to an inductive process whereby themes and explanations emerge from the data, itself. All told, quantitative research is more closely connected to the positivist school of social

science, wherein theory precedes observation. In qualitative research, ("grounded") theory tends to emerge from observation – a notion closer to the interpretivist approach to social science (Babbie and Benaquisto, 2002: 378-379; Creswell, 2003: 182; Punch, 2005: 209; Ryan and Bernard, 2003: 278-280; see: Strauss and Corbin, 1994: 1994).

### *Methodological Differences*

These broader epistemological divisions influence the narrower, methodological differences between quantitative and qualitative analyses. Neo-positivists refer to these differences as merely "stylistic," while purists see them as irreconcilable. Dualists see the distinctions as substantive, but view the two traditions as compatible (see Table 2).

#### *Data Format*

Quantitative analysts deal in numbers and qualitative scholars do not. By definition, quantitative analysis requires the "quantification" of political phenomena. Behaviors, ideas, and other observations must be converted into numbers by means of counting or scoring. Qualitative analysts approach political life differently, treating phenomena in terms of words, images, symbols, and other non-numerical forms.

#### *Data Reduction*

The desired format of the data leads quantitative and qualitative scholars to pursue different means of reducing their "raw materials" into manageable portions. For quantitative analysts, data reduction involves categorizing observations according to a series of pre-defined criteria. Phenomena are counted or ranked based on the means by, and extent to, which they 'vary' in terms of certain attributes. In other words, observations are filtered through a set of *variables*, with specific values being assigned to them. This variation may be expressed in nominal, ordinal, or interval form. Crucially, these categories are determined prior to the data reduction process, such that the resulting dataset is the product of how each variable was defined, and which variables were studied.

By contrast, qualitative scholars make sense of their observations through the identification of themes. This may be achieved through a wide range of techniques, with various researchers referring to the process as one of "soaking," "chunking," "puzzle-solving," or "concept-mapping". Regardless of the terminology, all qualitative researchers search for patterns in their data, as they group different observations according to certain non-numerical relationships. This may involve linking similar ideas or respondents under given "schools of thought," or combining related concepts into distinct "pillars" of understanding.

In this sense, both quantitative and qualitative scholars impose orderliness on their data. They simply approach this data reduction process from different perspectives, using different tools. As one group of methodologists explains, "Quantitative researchers

conceptualize and refine variables in a process that comes before data collection or analysis. By contrast, qualitative researchers form new concepts or refine concepts that are grounded in the data" (Neuman and Robson, 2007: 336-337).

*Substance of Data*

A guiding, if unstated, premise of quantitative analysis holds that meaning is intrinsic to the data, itself. Given the operational definition established a priori, the purport of a given observation is inherent, inter-subjective, static, and univocal. This differs from the approach of many qualitative scholars, who insist that meaning is more contingent, or subject to the unique perspectives of the observer and the diverse qualities of the observed. As such, to most qualitative social scientists, observations are necessarily subjective, dynamic, and – ultimately – equivocal.

*Data Recording*

Based on these perspectives, quantitative and qualitative researchers approach the data collection process very differently. For the former, meaning is inherent in the data, which allows them to use a standardized recording instrument (e.g., a closed questionnaire or code sheet). Qualitative researchers are more "flexible" in recording their data (Babbie and Benaquisto, 2002: 381; Neuman and Robson, 2007: 111). To them, meaning varies from observation to observation, and observer to observer. A more inclusive form of data collection is necessary to allow for these variations. Hence, qualitative analysts employ open-ended questionnaires, interviews, and coding techniques.

*Data Processing*

Quantitative researchers apply proven statistical formulae, correlation coefficients, regression analyses, tests of significance, and other mathematical procedures in an effort to reveal the regularities of political life. Conversely, qualitative approaches provide a "softer" approach of "soaking and poking" and "extracting" distinct themes and motifs (King et al., 1993: 36-43; Putnam, 1993: 12; Shively, 1998: 17). Hence, whereas the data reduction, processing, and analysis stages are distinct and sequential in quantitative analyses, all are subsumed under the qualitative coding process.

*Data Reporting*

Findings in quantitative analyses are depicted largely in numerical terms, in the form of graphs, tables, charts, and other figures. By contrast, qualitative analysts use words, not numbers or statistics, to express research findings verbally. Again, these are generalizations. Nearly every qualitative scholar invokes numbers, or speaks in terms of frequency or intensity, just as almost all quantitative scholars 'qualify' their findings with reference to quotations or other non-numeric evidence. Suffice it to say, however: just as quantitative scholars format, reduce, and manipulate data in numerical terms, so, too,

do they report their findings in terms of numbers. The same applies to qualitative analysts, who toil and inform through words and concepts.

*Standards of Evidence*

One of the core epistemological divisions between the quantitative and qualitative traditions lies in their differing definitions of "proof". According to the tenets of post-positivism, social scientists need not – indeed cannot – establish their conclusions with absolute certainty. Rather, their aim is to approximate "truth," limiting the scope of their findings based on certain disciplinary standards. Grounded in numbers and mathematics, quantitative researchers rely on statements of statistical significance and other measures of *probability* to establish the boundaries of their conclusions. Conversely, qualitative researchers report the *plausibility* of their findings, based not on statistical odds but on the conceivability and fitness of their results to the real-world; rather than mathematical tests, they marshal evidence and logic to establish the soundness of their findings (Manheim et al., 2002: 317; Neuman and Robson, 2007: 336). While closely related, "probability" and "plausibility" are by no means synonymous.

For all of these reasons quantitative research is often described as being "harder" than qualitative research. This difference lies not in the level of difficulty or complexity associated with the former (although some may portray it, as such). Rather, quantitative research is commonly viewed as nearer to the physical ("hard") sciences than the ("soft") arts- or humanities-focused brand of qualitative research (see: Brady et al., 2004: 10-11; Guba and Lincoln, 1994: 105-106).

## II. The Nature of Trustworthiness

This leads to the one, core question at the heart of the debate among "purists," "neo-positivists," and "dualists" – *How do we ensure that the knowledge generated through social science is legitimate?* For quantitative purists and neo-positivists, the answer is relatively straightforward: all social science research must achieve three standards of accuracy: validity, reliability, and objectivity. Qualitative purists, particularly postmodernists and other relativists, reject these notions entirely. For them, all explanations of social life are constructed and subjective, and, thus, no universal standards of "proof" or "truthfulness" can be applied. Striking a balance between these two approaches, dualists hold that – while attaching slightly different labels and imposing unique measurement requirements – quantitative and qualitative analysts share a common set of expectations of scholarly research. This view is best captured by Guba and Lincoln's (1985) concept of "trustworthiness." Building on their seminal account, the following discussion outlines the four (4) essential elements of legitimate social science research: authenticity, portability, precision, and impartiality (see Table 3).

*Authenticity*

At its basic level, "authenticity" connotes a correspondence between the observation and the observed. To what extent is the recorded data a genuine reflection of reality? In this sense, "the goal is to demonstrate that the inquiry was conducted in such a manner as to ensure that the subject was accurately identified and described" (Marshall and Rossman, 1989: 145). Quantitative scholars refer to this notion as "measurement validity" – or "the degree to which the measurement of a concept truly reflects that concept" (Bryman, 2004: 541). As they harbor more reservations about the inter-subjectivity of "accuracy," in general, many qualitative scholars prefer the term "credibility" to "validity." To have integrity or authenticity, a qualitative account must provide a tenable, believable depiction of the subject under study. In other words, the observation and data must "fit" the world being described – an evaluation that depends less upon the true nature of reality than the judgment of the reader (Krippendorff, 2004: 314).

*Portability*

A second important criterion for assessing the trustworthiness of a social scientific study is its "portability." Most researchers acknowledge that, in order to make a substantive and substantial contribution to knowledge, studies must move beyond the explanation of a small number of cases. The results ought to connect to broader questions about social life; they ought to be 'portable', or applicable in some way to other environments. Quantitative researchers refer to this as "external validity" – or the degree to which "the results of a study can be generalized beyond the specific research context in which it was conducted" (Bryman, 2004: 539). This is often established through the specification of operationalized variables, causal models, and regression models, which may be repeated in other contexts. Many qualitative researchers prefer the term "transferability," reflecting their view that a study's findings must be transposed in order to establish their generalizability. In this sense, "the burden of demonstrating the applicability of one set of findings to another context rests more with the investigator who would make that transfer than with the original investigator" (Lewis and Ritchie, 2006: 145). As Merriam (2002a: 228-229) suggests,

> the most common way generalizability has been conceptualized in qualitative research is as reader or user generalizability. In this view, readers themselves determine the extent to which findings from a study can be applied to their context. Called case-to-case transfer by Firestone (1993), "It is the reader who has to ask, what is there in this study that I can apply to my own situation, and what clearly does not apply?" (see also: Lewis and Ritchie, 2006: 271)

*Precision*

The inability of qualitative researchers to replicate their results constitutes the most crucial point of contention among followers of the two traditions. Replicability is a fundamental component of the positivist approach to social science. To confirm its

"reliability" – "that quality of measurement method that suggests the same data would have been collected each time in repeated observations of the same phenomenon" (Babbie and Benaquisto, 2002: 497) – any finding in quantitative research must be repeatable.

As the process of qualitative research is more fluid and dependent upon the researcher's role as an instrument in the process, findings cannot be reproduced in the same sense as quantitative ones (Lewis and Ritchie, 2006: 270). This is not to say that qualitative researchers ignore the value of "precision". Rather, they shift focus from the more inter-subjective notion of "reliability" to the standard of "dependability." As Merriam (2002a: 27) argues,

> Replication of a qualitative study will not yield the same results, but this does not discredit the results of any particular study; there can be numerous interpretations of the same data. The more important question for qualitative researchers is *whether the results are consistent with the data collected*… That is, rather than insisting that others get the same results as the original researcher, reliability lies in others' concurring that given the data collected, the results make sense – they are consistent and dependable" (emphasis in original).

Thus, provided that the research process is clearly specified and transparent, readers may assess its precision by asking the question, "Is it reasonable to assume that, given the opportunity to repeat the exercise under the same conditions, a researcher would have reported the same results from the same observations?" If yes, the qualitative study is verifiable and dependable in the same way that a quantitative analysis is replicable and reliable.

*Impartiality*

Lastly, but certainly not in terms of importance, most social scientists agree that research should impart impartial knowledge about the world, as opposed to normative opinions or value-laden wisdom. As Marshall and Rossman (1989: 147) put it, "How can we be sure that the findings are reflective of the subjects and the inquiry itself rather than the product of the researcher's biases or prejudices?" In attempting to minimize their own biases, quantitative researchers aim to protect a study's "objectivity" – a term clearly at odds with the interpretive principles of qualitative scholars. The latter are more likely to acknowledge (even embrace or test) their personal biases as unavoidable elements of the research process (King et al., 1993: 14-15; Merriam, 2002b: 5). As a result, all qualitative inquiry contains some element of subjectivity. Instead of objectivity, when striving for trustworthy results, qualitative researchers demand that their readers ask, "Can these findings be *confirmed* by another individual, independent of the original researcher's predispositions?" This is the essence of "confirmability".

Neither of the two traditions is beyond reproach when it comes to producing trustworthy results. Preserving validity the greatest challenge for quantitative scholars.

For example, coding platforms and speeches has the potential to reduce complex, living texts to a series of simpler, colder numbers. The opposite issue confronts qualitative analysts. By delving into the deeper meaning of these documents, relying upon more "intuitive, soft, and relativistic" modes of interpretation, they risk compromising the dependability, transferability, and confirmability of their findings (Creswell, 1998: 142) (see also: Manheim et al., 2002: 315). Hence, on their own, neither quantitative nor qualitative scholars stake claim to a superior method. Both traditions have advantages and drawbacks. Fortunately, their weaknesses are offset by their complementary strengths, and common tools are available to preserve the trustworthiness of their research.

## III. The Two Traditions of Content Analysis

While tomes have been written on the quantitative / qualitative divide more generally, the distinction has seldom been applied to textual analysis, in particular.[4] Having spent over twenty-five years in the field, one content analyst confesses "Our current capacity for exciting document analysis surpasses our conceptual awareness of what to do, how to do it, and how to interpret what is found" (Altheide, 1996: 3). This is remarkable, given that study of documents is so engrained in the social sciences. Well before the quantitative turn in the social sciences, students of politics have long turned to texts as major sources (Klingemann et al., 2007: xvi). "Marx made extensive use of the reports of the factory inspectors, Weber used religious tracts and pamphlets," Tocqueville studied newspapers, and countless others have consulted texts as a means of gaining other mediate (or indirect) perspectives on social behaviour (Scott, 2006: 3-5). Yet, despite the prevalent use of documents as evidence, methodological debates surrounding the proper use of text as data have been muted. As a result, there remains a noticeable dearth of dialogue on document analysis, in general, and qualitative textual analysis, in particular (George, 2006: 135).

Indeed, until very recently, "The dominance of quantitative methods [had] resulted in an underdeveloped theory of qualitative textual analysis and heavy reliance on literary criticism, linguistics, computer science, and cognitive psychology for models for assessing the quality of documents" (Manning and Cullum-Swan, 1994: 463). For their part, political scientists have focused overwhelmingly on the quantitative approach to content analysis. Here, scholars like those in the Manifestos Research Group (MRG) of the European Consortium for Political Science Research have played a significant role in

[4] Indeed, relative to the attention granted to interviews, surveys, focus groups, direct observation, and other approaches, the examination of political texts is scarcely mentioned in methods textbooks and monographs. Compared to these, most textbooks on social science research methods reserve little space for "content analysis." As Platt (2006a: 83) describes in her review, "In 18 general textbooks on research methods only 7 devote a significant amount of space to anything to do with the use of documents, and these often either conflate it with other points (e.g. under the general heading of 'unobtrusive measures' or 'available data') or concentrate on only one type of use." That "one type" is quantitative research, whose development by communication scholars during World War II signaled the birth of modern "content analysis" (Berelson, 1952). Discussion of qualitative document analysis techniques, when conducted, is often conflated with those surrounding the review of field notes or transcripts.

advancing the practice of "traditional" content analysis. To date, political scientists have made few contributions to the qualitative document analysis literature, however, leaving historians, sociologists, psychologists, communication scholars, and anthropologists to develop appropriate methods for the social sciences (see also: May, 2001: 176). This imbalance – in favor of the quantitative, counting approach over the qualitative study of messages – has masked the contributions each tradition can make to our understanding of political life through texts. Below is a discussion of the core differences between the quantitative and qualitative approaches to content analysis.

***Content Analysis***

The very definition of "content analysis" remains contentious among social researchers. Some feel the term should be reserved solely for the *quantitative* examination of texts. Consider the following prominent definitions of the term:

- "Content analysis is a research technique for the objective, systematic and quantitative description of the manifest content of communication" (Berelson, 1952: 18); or

- "… an approach to the analysis of documents and texts that seeks to quantify content in terms of predetermined categories and in a systematic and replicable manner" (Bryman, 2001: 183);

Others feel "content analysis" encompasses both quantitative *and* qualitative approaches, or should be blind to the distinction. Depending on the research question and researcher's ontological and epistemological approach, texts are deciphered, deconstructed, rendered, reduced, framed, or in some other way interpreted during the course of analysis (Corbetta, 2003: 297). This representation may take many forms, be they qualitative, quantitative, or some mixture of the two approaches. To others, the relationship between qualitative and quantitative analysis is not entirely dichotomous. Krippendorff (2004: 16), for one, questions "the validity and usefulness of the distinction between quantitative and qualitative content analysis. Ultimately, all reading of texts is qualitative, even when certain characteristics of a text are later converted into numbers" (see also: Jackson, 1999: 16). By the same token, qualitative analyses are not entirely divorced from quantitative concepts like frequency or intensity.

The following discussion proceeds along these lines – as raw materials, documents are neither inherently quantitative nor qualitative. As such, *content analysis may be defined as a set of social science research techniques whereby documents are systematically coded to allow for the development of trustworthy inferences about social life* (see: David and Sutton, 2004: 360; Neuman and Robson, 2007: 221). Within the content analysis approach, there are distinct quantitative and qualitative variants (see Table 4).

*Objects of Observation*

Content analysts convert textual information into a series of numbers, a task accomplished by a wide variety of measurement techniques. Some count the number of times a specific subject is mentioned within a document, or the sequence of these mentions. Qualitative scholars are less concerned with these 'countable' attributes than with the meanings, motives, and purposes embedded within the text. Their focus is concentrated more on the "latent" aspects of communication, whereas quantitative scholars tend to examine the more "manifest" elements.

*Units of Observation*

More than their qualitative counterparts, who tend to study documents in their entirety, quantitative content analysts often divide texts into smaller segments. Some quantitative researchers count individual words, for instance, while others examine phrases, word-strings, sentences, or paragraphs. These units of observation are applied to all documents in a given study. Most qualitative content analysts avoid imposing such pre-set metrics, as they search for meaning through messages, themes, and other broader patterns found throughout each document (or corpus of texts).

*Procedures of Observation*

Quantitative content analysts employ a range of techniques, including counting, rating, ranking, logging, and other means of reducing their data to numerical form. As one group of researchers put it, "the manual coding of text into policy categories is time consuming, boring and potentially unreliable" (Kleinnijenhuis and Pennings, 2001: 164). This has encouraged many content analysts to adopt computerized coding techniques (see below). For qualitative analysts, "observation" consists of repeatedly reading texts. "From this perspective, content analysis is not a reductionistic, positivistic approach. Rather, it is a passport to listening to the words of the text and understanding better the perspective(s) of the producer of these words" (Berg, 2004: 269) (see also: May, 2001: 193) . In one of the most widely-accepted methods, researchers undertake a three-stage coding process (Miles and Huberman, 1994). During the first "open coding" phase, the analyst selects a small sample of the documents for a preliminary, in-depth review. She makes general notes about the broad themes that characterize each document individually, and all texts collectively. These themes are knitted together during a second stage of "axial coding," in which all documents are consulted. Patterns are given specific labels, and certain passages are "tagged" as belonging to one or more categories (see: Boyatzis, 1998: 31). A third stage of "selective coding" involves checking and re-checking these tags, ensuring that labels are applied properly and noting any discrepant evidence (see: Creswell, 1998: 150-152; David and Sutton, 2004: 203-212; Morse and Richards, 2002: 111-128; Neuman and Robson, 2007: 337-342; Punch, 2005: 199-204).

As Neuman and Robson (2007: 337) explain, this process differs from that employed by quantitative content analysts:

> A quantitative researcher codes after all the data have been collected. He or she arranges measures of variables, which are in the form of numbers, into a machine-readable form for statistical analysis. Coding data has a different meaning in qualitative research. A researcher codes by organizing the raw data into conceptual categories and creates themes or concepts. Instead of a simple clerical task, coding is an integral part of data analysis guided by the research question. Coding encourages higher-level thinking about the data and moves a researcher toward theoretical generalizations.

Regardless of the tradition, however, the categories used in a given content analysis "must be sufficiently exhaustive to account for each variation of message content and must be rigidly and consistently applied so that other researchers or readers, looking at the same messages, would obtain the same or comparable results" (Berg, 2004: 268) (see also: George, 2006: 154).

*Discovery of Patterns*

Quantitative and qualitative content analysts share a common aim: the identification of patterns within a given set of documents. The discovery of these patterns takes place at different points in the research process, however, and it is achieved through very different means. In quantitative analysis, patterns are calculated during the data analysis stage, through "number crunching" processes. Factor analysis, regression analysis, and other correlation tests may reveal (or disconfirm) a certain level of orderliness in the textual data. Patterns emerge much earlier in the qualitative research process. Throughout the data collection and processing stages, qualitative content analysts are not only exposed to, but actively seek, potential themes. Various practitioners have referred to this "puzzle-solving" process as one in which patterns appear to "crystallize," or "leap off" the page (Berg, 2004: 272; Morse and Richards, 2002: 138). Two of the most oft-cited authorities on qualitative content analysis describe the process as follows:

> you more often note recurring patterns, themes, or "gestalts," which pull together many separate pieces of data. Something "jumps out" at you, suddenly makes sense… The human mind finds patterns so quickly and easily that it needs no how-to advice. Patterns just "happen," almost too quickly… [and so] need to be subjected to skepticism – your own and that of others – and to conceptual and empirical testing (Miles and Huberman, 1994: 246).

*Presentation of Data*

Like their counterparts using other techniques, quantitative content analysts report their data largely in numeric form, be it statistical, graphical, tabular, or figural. Alternatively, quantitative analysts may use frequency scores to generate "word clouds" (or "tag clouds"), which use the frequency of words in a given piece of text to generate a

visual representation of the document. (Words that are mentioned more often are depicted more largely than words that are used less frequently.) Data is reported quite differently by qualitative content analysts, who rely on quotations and narrative as their primary modes of presentation. Some also draw concept maps, charts, diagrams, or other figures to visually represent the patterns in their data.

### *Ensuring Trustworthiness*

There are numerous ways for content analysts to bolster the authenticity, portability, precision, and impartiality of their research.[5] Many of the following tools are available to quantitative and qualitative scholars, regardless of tradition or method. While leading methodologist John Creswell (1998: 203) recommends adopting at least two (2) legitimacy checks, content analysts would be wise to incorporate as many of the following practices as possible to ensure the trustworthiness of their analyses (see Table 5).

#### *Triangulation*

For dualists, "triangulation" is the foremost means of protecting the legitimacy of their research, although the definition of the term is somewhat ambiguous.[6] Some view triangulation as the concurrent use of a number of different methods in a single research study. This may involve combining content analysis with interviews or direct observation, for example. To others, this combination may take place through separate studies, either consecutively or in tandem (Boyatzis, 1998: xiii). Still others believe triangulation can be achieved by using existing literature to provide "supplemental validation" of research findings (Creswell, 1998).

Moreover, the complementary strengths of qualitative and quantitative research have pushed many dualists to develop "hybrid" approaches as a "third way" of conducting social science research (Tashakkori and Teddlie, 2003: x). Whether to compensate for the weaknesses of a single approach, or to address a particularly complex topic, an increasing number of social scientists are adopting a broader perspective on research (Creswell and Clark, 2007). Some refer to this as "mixed-methods research" – "the use of both qualitative and quantitative method in one study or sequentially in two or more studies" (Hesse-Biber and Leavy, 2006: 316). For qualitative content analysts, this may mean "quantizing" their verbal analyses, by buttressing their findings with reference to frequencies and other quantitative measures (Hesse-Biber and Leavy, 2006: 326-330) (see: Gerring, 1998). By the same token, quantitative researchers may "qualitize" their data, contextualizing their findings with direct quotations from various documents

[5] The following discussion draws upon a wide range of sources (Bryman, 2001: 272-276; Creswell, 1998: 197-209; 2003: 196; George, 2006: 155-157; Hodder, 1994: 401; Holliday, 2007: 167-181; King et al., 1993; Krippendorff, 2004: 212-216, 313-321; Lewis and Ritchie, 2006: 275-276; Marshall and Rossman, 1989: 144-149; Merriam, 2002a: 24-31; Platt, 2006b: 112-113).

[6] Some qualitative scholars disagree with this view, arguing that "triangulation is not a tool or strategy of validation, but an alternative to validation" (Denzin and Lincoln, 1994: 2).

(Hesse-Biber and Leavy, 2006: 330-333) (see also: Neuman and Robson, 2007: Chapter 16).

Whatever the definition, the purpose of triangulation is clear: by invoking multiple data sources to support their findings, researchers may substantiate the overall trustworthiness of their work.

*Detailed Findings*

Only by providing a meticulous account of their results can researchers offer readers the information necessary to draw their own conclusions about the authenticity, portability, and precision of the findings. Qualitative researchers must provide "thick description" of their cases; in content analysis, this is often accomplished through the inclusion of direct quotations and copious footnoting.[7] In addition to statistical tables and data appendices, quantitative content analysts are challenged to provide 'color' or 'substance' to their reporting, as well; doing so provides the meaning behind the numbers they present.

*Established Techniques*

Where possible, content analysts should seek to build upon established techniques. For quantitative researchers, this may mean drawing upon existing coding manuals. Qualitative scholars may rely on general methodological guidelines, including the widely-accepted three-stage process of "open," "axial," and "selective" coding (discussed above). This does not mean the abandonment of methodological innovation. Far from it. Great strides have been made by testing, challenging, expanding, adapting, and improving the Comparative Manifestos Project coding method, for instance (Volkens, 2001). Rather, building on tested techniques allows content analysts to elude many pitfalls encountered during earlier studies, and avoid a state of methodological anarchism (Budge and Bara, 2001).

*Report Method*

In order to provide readers with the opportunity to assess the authenticity and precision of their analyses, researchers must also report the exact process through which they achieved their results. In quantitative content analysis, this is most efficiently accomplished through the publication of the coding manual, including a comprehensive

[7] Striking a balance between the presentation of data and analysis is especially challenging for qualitative researchers. "The overuse of participants' voices makes the research look like compilations of quotations linked together in a logical way, but with minimal commentary by the researcher. If quotations are overused, the researcher may become silent or backgrounded, and the readers are left to interpret the intent and significance of the quotations themselves. This is transcription, not qualitative inquiry" (Morse and Richards, 2002: 188). According to Platt (2006b: 111-112), "the problem is how to show that the data do indeed support the interpretations made without presenting the reader with all of it… The choice then is between using extraordinarily lengthy, crude and cumbersome means of presentation or giving the reader insufficient material with which to evaluate results." Berg (2004: 270) suggests "A safe rule of thumb to follow is the inclusion of at least three independent examples for each interpretation."

list of coding rules. With no standardized coding instrument, qualitative analysts must provide their readers with an "audit trail" – a detailed account of the coding "protocol," including how conclusions were reached (Altheide, 1996: 25-33). As Holliday (2007: 7) suggests, all research "needs to be accompanied by accounts of how it was really done… [Analysts must] reveal how they negotiated complex procedures to deal with the 'messy' reality of the scenarios being studied."

*Discrepant Evidence*

Most practitioners readily acknowledge the limitations of social science when it comes to representing and explaining "reality". Rather than absolute "proof" or "truth", many social scientists aim to establish the persuasiveness of their accounts relative to alternative explanations. Many quantitative researchers turn to the statistics of "probability," just as qualitative scholars depend upon "plausibility arguments" to buttress their claims (Richerson and Boyd, 2004: 410-411). In both traditions, researchers are encouraged to seek out and report discrepant evidence to place reasonable boundaries on their conclusions. Becker (1998), Esterberg (2002: 175), and Berg (2004: 184) refer to this as the "null hypothesis trick": analysts ought to approach the data by assuming that no patterns exist, then provide clear evidence, using concrete examples, to establish their presence. As George (2006: 155) explains, the seasoned content analyst

> considers not just one inferential hypothesis when reading and rereading the original communication material, but also many alternatives to it. He systematically weighs the evidence available for and against each of these alternative inferences. Thus, the results of his analysis, if fully explicated, state not merely (1) the favored inference and the content 'evidence' for it, but also (2) alternative explanations of that content 'evidence,' (3) other content 'evidence' which may support alternative inferences, and (4) reasons for considering one inferential hypothesis more plausible than others.

Without these qualifications and justifications, the analysis may lack validity or credibility (Holliday, 2007: 167-181).

*Publish Data*

To guard against criticisms of inauthenticity, imprecision and partiality, content analysts should also provide reasonable access to both their data and raw materials. Coding databases and memos should be made available for verification – privately, if not publicly – as should the original documents. In an electronic age, sharing this information has never been easier, and there are few legitimate excuses to withhold access to such material (beyond important privacy concerns).

*Member Checks*

Most qualitative researchers are familiar with the notion of "member checks" – a process through which their inferences are verified by the subjects of their analysis. Field

observations may be referred to some of the participants involved, or focus group data may be shared with members of the study. In content analysis, this means consulting the authors of the source documents. Sometimes this is not desirable, or even possible. Some documents may not have identifiable authors, or too many to consult, while others may have no willing or surviving authors with whom to confer. When completed, however, member checks may alert researchers to inauthentic claims or biased interpretations.

*Intense Exposure*

Extended, intense contact with source documents is more likely to produce valid or credible interpretations of their contents. To produce authentic results, both qualitative and quantitative researchers must read and re-read these materials, much the same way that field researchers spend prolonged periods with their subjects, or interviewers in close contact with their respondents. Various qualitative researchers refer to this process as one of "immersing," "marinating," or "soaking" oneself in the texts, in order to "absorb" their meanings. While no disciplinary standard exists in terms of how long researchers ought to spend with the text, as a general rule, analysts should remain immersed in the data until they are "saturated" – that is, until no new meanings or interpretations appear evident.

*Research Teams*

Document analysis is no longer conducted solely by independent researchers toiling by lamplight. The academic community has long since embraced the value of collaboration, be it intra- or inter-disciplinary in scope. Quantitative content analysts have embraced this trend, as witnessed by the ever-growing Manifestos Research Group (MRG). Armed with a standardized coding instrument and intensive coder-training program, the MRG has expanded its reach into dozens of countries. The sheer number and diversity of researchers working on the Comparative Manifestos Project – as directors, coders, and analysts – suggests it is not only possible, but fruitful, to pursue content analysis with a team-based approach. The material benefits are obvious: a large group of researchers can collect and process a wider range of documents, generate more data, and produce more analyses than a single individual. More than this, however, a larger working group can help to ensure the precision of the data and impartiality of the analyses. More eyes mean more perspectives, and more minds mean more debate. Whether due to their ontological predispositions or lack of experience with collaboration, many qualitative researchers have been less eager or equipped to adopt the team-based approach. Doing so may lead to an improved sense of dependability and confirmability in their analyses.

*Computerized Coding*

The quest for precision and impartiality has led many social scientists to develop automated means of coding documents. The advancement of optical character recognition (OCR) scanners and software has facilitated this latest transformation in

content analysis, in the way that personal computers and statistical programs revolutionized other branches of behaviouralist research in earlier decades. Now, many documents can be fed into scanners designed to convert the text into digital/electronic format. With future advances in voice-recognition software, it may be possible to convert orally-delivered speeches into textual format, as well. This makes the documents fully searchable, using keyword or Boolean techniques.

Once the text is in electronic format, it may be coded using computer programs designed to translate its contents into quantitative data. To accomplish this, software contains a unique coding scheme and built-in "dictionary." These are used to detect certain keywords and phrases, thus recording the number of mentions each subject area receives. (Phrases like "diagnostic equipment" and "primary care" may be coded as "Health Issues," for example.) Together, these computerized recognition and translation techniques help researchers avoid the tediousness, cost, time, bias, and other reliability issues associated with manual transcription and coding.

Whether manual or automated, the quantitative coding procedures differ from the qualitative approach to documents. In the latter, researchers record patterns by means of tagging specific passages of text as corresponding with various themes, and by writing memos. In recent decades, this process has been made more convenient through the development of computer assisted qualitative data analysis software (CAQDAS), which helps researchers record, file, organize, store, and retrieve their notes.

While it holds many advantages, this computerized turn has its critics (see: Ray, 2001). First and foremost, computerized coding magnifies the largest challenge facing quantitative content analysts, in general: validity. The computerized technique "breaks radically from 'traditional' techniques of textual content analysis by treating texts not as discourses to be read, understood, and interpreted for meaning… but as collections of word data" to be mined, calculated, and consumed (Laver et al., 2003: 312) (see also: Parker, 1999: 2). The extent to which a manual coder can reduce a text to a series of numbers that capture its full meaning is debatable enough; the extent to which a computer, searching for purely manifest content using a pre-defined set of keywords and phrases, can do so, seems even more dubious (Garry, 2001: 184).

Even as further advances are made in hardware and software, and as coding dictionaries become more refined, we must continue to evaluate the proper place of computers in the examination of political texts. Bara (2001) is correct in considering the use of technology in content analysis as a sort of continuum, ranging from fully-automated to fully-manual, with the most effective forms of inquiry falling somewhere between these two poles. There will always be an important role for humans in the process, be it to build, update, and improve coding dictionaries, or to test for portability (Budge and Bara, 2001: 10). At the same time, researchers cannot ignore the many advantages of automation, particularly the reduction of coder bias, improved convenience, and increase in productivity it offers.

*Intra-Coder Testing*

Conducting "intra-coder testing" is another means of ensuring the precision of data collected from documents. Simply put, researchers should take more than one "pass" through their raw materials. Quantitative researchers should not only "clean" their data by examining it for "noise" – they should periodically re-check their coding to ensure that their assessments and recordings remain consistent throughout the research process. Qualitative content analysts need to be equally vigilant in recording, re-recording, interpreting, and re-interpreting their documents. As mentioned above, this entails actively searching for discrepant evidence of their findings, which is the objective of the third ("selective") coding stage. Conducting such tests grants researchers increased confidence in the reliability or dependability of their results.

*Inter-Coder Assessment*

Inter-coder reliability testing is a staple of the quantitative approach to content analysis. Typically, this involves researchers hiring independent auditors, or tasking other members of the research team, to replicate the coding process on a random sample of documents. Standards of "inter-coder *reliability*" vary from discipline to discipline, but most demand that coders achieve agreement on at least 80 percent of their observations. As previously discussed, qualitative researchers are more reluctant to accept standards based on inter-subjectivity and replication. To them, "*the meanings invoked by texts need not be shared*" (Krippendorff, 2004: 22-23, emphasis in original) (see also: Morse and Richards, 2002: 125). No document 'speaks for itself' – its qualities are neither apparent nor inherent. Every text has a variety of different meanings, and may be put to a number of different purposes. As such, as the product of analysis, a document cannot be *presented* to a reader, but must always be *represented*, by the analyst (Hodder, 2003: 156). For this reason, "inter-coder *dependability*" relies more on verifiability, conceptual assessment, and triangulation, than actual "testing". In each of these cases, the external "coder" is the reader.

*Pilot Studies*

Conducting a pilot study is another important means of improving the precision of a particular approach to content analysis. Pre-testing allows researchers to hone their research techniques and tools, including coding schemes, manuals, dictionaries, and the like, while submitting their results to critical internal and external review.

*Coder Training*

To be accurate, every social scientist requires properly calibrated instruments. In content analysis – where the researcher, herself, is an important instrument in the process – each coder must be well-trained prior to engaging the raw texts (Morse and Richards, 2002). Some research projects, like the CMP, offer coding schools and certification tests to encourage consistency and performance. Other options include attending coding workshops held at many universities and conferences, collaboration with experienced

researchers as a means of apprenticeship, or intensive study of a variety of methods guidebooks. Above all, practice is the best means of attaining experience, and publication, the best means of attaining credentials. Both help enhance the reliability or dependability of one's work.

*Report Biases*

To convince readers that a body of research offers an impartial view of the world, analysts ought to recognize, acknowledge, and minimize the amount of personal bias that enters the study. Critical self-reflection and open admission of bias is second nature to many qualitative researchers, particularly those who engage in field studies and participant observation (Creswell, 2003: 182). Because their method is considered "unobtrusive," many content analysts assume that these same precautions are inapplicable to the study of documents. This is most certainly not the case. By inferring meaning from 'words on paper,' each content analyst filters text through her own, personal lenses. These lenses may impart particular ideological or historical biases, for instance, such that analysts interpret certain passages differently than the original authors or audience. For many post-positivists, this disjunction is unavoidable (Merriam, 2002b: 5). As Krippendorff (2004: 22-23) suggests, "*Texts have no objective* – that is, *no reader-independent qualities*… *Texts do not have single meanings* that could be 'found,' identified,' and 'described' for what they are…" (emphasis in original). In this context, analysts must be self-aware of their own biases, and report these to their readers.

*Peer Assessment*

Ultimately, the trustworthiness of research is judged by its legitimacy in the eyes of the scientific community (Kuhn, 1962). Peer assessment is critical to such judgments, whether it takes place near the beginning of the research process, or in its end-stages. As Merriam (2002a: 26) contends,

> In one sense, all graduate students have a peer review process built into their thesis or dissertation committee – as each member reads and comments on the findings. Peer review or peer examination can be conducted by a colleague either familiar with the research or one new to the topic. There are advantages to both, but either way, a thorough peer examination would involve asking a colleague to assess whether the findings are plausible based on the data.

Where possible, it is wise to have a diverse group of peers assessing one's content analysis, including experts with the methodology, experts in the subject matter, and outsiders. In the interests of interdisciplinarity, it may be suitable to invite input from peers outside one's home academic community. Doing so often sets high standards of trustworthiness, but there is no better way to test the authenticity, portability, precision, and impartiality of the research.

Even with the inclusion of these various checks, content analysts are still vulnerable to charges that they have been selective in incorporating data to suit their purposes. That is, they may have purposefully misrepresented, omitted, or downplayed evidence in order to bolster their arguments. The student of rhetoric is not unlike the quantitative content analyst or the survey researcher, in this sense; all face the temptation to massage data or falsify results (King et al., 1993). In this vein, beyond assurances of academic integrity, both qualitative and quantitative analysts must make every effort to be as transparent as possible to allow for the verification of their method, data, and findings.

## Conclusion

Textual analysis, in general, holds many advantages for researchers. Historically-speaking, formal documents like speeches and manifestos allow us to examine the past in a way that contemporary surveys and interviews do not allow (Laver and Garry, 2000: 620). Like fossils, the throne speeches, budget addresses, and political platforms assembled as part of the Poltext Project remain some of the only raw, political artifacts from decades past. Indeed, considering the comprehensiveness of the Poltext collection, these documents serve as "an uninterrupted – and therefore unparalleled – time series" on political life in Canada (Finegold and Swift, 2001: 103). Moreover, unlike the opinions of experts or survey respondents, these texts can be analyzed repeatedly without exhaustion. This allows researchers to test and retest their own methodologies; replicate the studies of their peers; and employ multiple types of analysis using the same raw materials.

As with any methodological technique, the choice of data format has very little to do with the so-called "raw materials" of research. Whether attitudes and opinions, or manifestos and speeches, what matters in the quantitative/qualitative distinction is not the information contained therein, but how it is translated into data. The raw materials, themselves, do not determine which method should be employed. More often, the research question does. Quantitative analyses fit well with investigations into issues of "How often…?" or "How many…?" whereas conditions, norms and values are well suited to qualitative inquiry (Tashakkori and Teddlie, 2003: 317). As King et al. (1993: 4-5) put it, "trends in social, political, or economic behavior are more readily addressed by quantitative analysis than is the flow of ideas among people or the difference made by exceptional individual leadership." In other words, while "all social science requires comparison," quantitative research is best equipped for "judgments of which phenomena are 'more' or 'less' alike *in degree*," whereas qualitative research is best suited to examine differences "*in kind*" (King et al., 1993: 5).

In this vein, a major advantage of the Poltext Project lies in its accessibility, in both electronic and epistemological terms. In terms of the latter, the nature of the Poltext collection allows analysts to choose how best to approach the raw texts. Unlike "datasets" – which pre-package the raw materials according to a specific coding scheme, forcing researchers to conduct *secondary* data analysis – the Poltext documents are

available in their original form. This allows for both quantitative and qualitative study, using any number of different coding schemes and interpretive frameworks.

Discussed in this paper, these approaches must be systematic in order to qualify as legitimate objects of social scientific inquiry. To move beyond armchair musings, content analysts must take numerous steps to ensure the legitimacy of their research. From triangulation, audit trails, and member checks, to computerized coding, inter-coder reliability tests, and peer review, a host of tools exist to protect the (1) authenticity, (2) portability, (3) precision, and (4) impartiality of their work. These four standards may be given different names by quantitative and qualitative scholars, and they may be approached in slightly different ways. Nonetheless, as criteria for trustworthiness, content analysts of both methodological traditions must pay heed to their principles.

**Table 1: Epistemological Differences between the Two Traditions**

| Element of Research | Quantitative Tradition | Qualitative Tradition |
|---|---|---|
| *Primary Intent* | test hypotheses | address questions |
| *Ultimate Objective* | generalizability | specificity |
| *General Approach* | manipulative | naturalistic |
| *Position of Researcher* | distanced | instrumental |
| *Theory Development* | primarily deductive | primarily inductive |

**Table 2: Methodological Differences between the Two Traditions**

| Element of Data | Quantitative Tradition | Qualitative Tradition |
|---|---|---|
| *Data Format* | numerical (frequency, amount, salience, intensity) | non-numerical (words, images) |
| *Data Reduction* | variables (operationalized a priori) | themes (emergent) |
| *Substance of Data* | meaning is inherent | meaning is contingent |
| *Data Recording* | standardized instrument | variable instrument |
| *Data Processing* | mathematical | conceptual |
| *Data Reporting* | statistical, graphical | verbal |
| *Standards of Evidence* | probability | plausibility |

**Table 3: Criteria for Trustworthiness**

| Criteria | Quantitative Tradition* | Qualitative Tradition* |
|---|---|---|
| *Authenticity* | measurement validity | credibility |
| *Portability* | external validity | transferability |
| *Precision* | reliability | dependability |
| *Impartiality* | objectivity | confirmability |

*Columns adapted from Guba and Lincoln (1985).

**Table 4: The Two Traditions of Content Analysis**

| Element of Inquiry | Quantitative Tradition | Qualitative Tradition |
|---|---|---|
| *objects of observation* | mentions, sequences ("manifest" content) | meanings, motives, purposes ("latent" content) |
| *units of observation* | segments of text | whole texts |
| *procedures of observation* | counting, rating, logging | themeing, tagging, memoing |
| *discovery of patterns* | calculated during analysis | developed throughout process |
| *presentation of data* | graphs, tables, statistics, figures, word clouds | quotations, concept maps, narrative |

**Table 5: Ensuring Trustworthiness in Content Analysis**

| Checks | Authenticity | Portability | Precision | Impartiality |
|---|---|---|---|---|
| *triangulation* | ● | ● | ● | ● |
| *detailed findings* | ● | ● | ● | |
| *established techniques* | ● | ● | | |
| *report method* | ● | | ● | |
| *discrepant evidence* | ● | | ● | ● |
| *publish data* | ● | | ● | ● |
| *member checks* | ● | | | ● |
| *intense exposure* | ● | | | |
| *research teams* | | ● | ● | ● |
| *computerized coding* | | | ● | ● |
| *intra-coder testing* | | | ● | |
| *inter-coder assessment* | | | ● | |
| *pilot studies* | | | ● | |
| *coder training* | | | ● | |
| *report biases* | | | | ● |
| *peer assessment* | ● | ● | ● | ● |

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