

CARMA[®]

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**White
Paper**

Media Content Analysis

The Importance of Qualitative
Analysis & Best Practice Methodology

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Content

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Introduction

This paper provides an introduction to media analysis and a summary of why it is an important area of research and highlights two key elements, namely:

1. **Qualitative** as well as quantitative analysis should be conducted of media content to identify and understand the likely impact and effects of the content on audiences – the goal of content analysis – which quantitative analysis alone cannot reveal; and
2. **International Best Practice methodology and techniques** in research should be followed for analysis to be valid, reliable, generalisable and replicable – key factors in research. Nine specific methodological requirements are outlined.

This paper is written for a professional rather than an academic audience. However, references are cited in support of important points and contentions and a list of references is provided. Further more detailed information is available in in-depth papers which can be provided on request.

Why the Media Are Studied

In modern democratic societies, the media **reflect** views, opinions and perceptions and **influence** views, opinions and perceptions (Lull, 2000, p. 165).

While early 'hypodermic' injection views and transmissional models of mass media which assumed direct effects on audiences (based on Shannon and Weaver, 1949) have been found to be simplistic, and Roland Barthes' famous admonition of 'death of the author' shifted focus from the power of authors and media to audiences and their capabilities to interpret texts and 'filter' them, mass media remain channels of significant influence in modern societies.

Mass media have been a focus of attention in the social sciences since the early 20th century when Max Weber proposed that analysis of mass media content provided a means of monitoring the 'cultural temperature' of society (Hansen, Cottle, Negrine & Newbold, 1998, p. 92).

Contemporary research has found that "media remain central to most people's lives ... next to sleep and work, our next most time-consuming activity is attending to media" (Barr, 2000, p.16).

In fact, some research indicates that the influence of mass media may be increasing rather than declining, with the breakdown of the 'nuclear family', local communities and religion in many societies – social institutions that previously guided individuals in forming opinions and viewpoints but are now less influential in many modern Western countries. Today, the role of providing the information and images that create social awareness, attitudes and identity have been increasingly "taken over by ... forms of communication and entertainment" (Chaney, 1994, p. 58).

One leading British media researcher concludes: "Today, popular media are obviously primary channels for the dissemination of prevailing discourses ... Information and ideas from the media do not merely reflect the social world, then, but contribute to its shape ..." (Gauntlett, 2002, p. 98).

In *The Media Book*, Newbold, Boyd-Barrett and Van Den Bulck (2002) comment:

Psychologists, criminologists and others continue to be concerned about such matters as the implications of exposure of children and adults to programmes containing scenes of violence; educationalists are concerned with the potential of the media for education; social anthropologists ... are interested in the ways in which people use, experience, relate to, live around and take meaning from the media ... (p. 15).

In the commercial world, leading mass media coverage has been shown to significantly affect stock prices; lead to corporate collapses; cause falls in sales; result in the resignation of senior office-holders – even bring down Presidents. On a less dramatic everyday level, mass media help shape brands and reputations; inform (or misinform) consumers about products; raise issues in public debate; and influence governments to change policy, regulate or legislate in certain areas.

Understanding mass media content and its likely impacts and effects, is therefore vitally important for companies and organisations of all types and for individuals in public positions.

Background to Media Analysis

Media analysis is a specialised application of content analysis and has become a well-established research methodology used since the 1920s to analyse the content of mass media.

It became popular as a research methodology for investigating the rapidly expanding communication content of movies during the 1920s and 1930s.

In the 1950s, media content analysis proliferated as a research methodology in mass communication studies and social sciences with the arrival of television.

Over the past 50 years, media content analysis has been a primary research method for studying portrayals of violence in film and television, portrayals of black people and ethnic minorities, and portrayals of women, and the effects that these media portrayals have in society.

Mass media have been a popular subject of research because of their important dual role of:

- a. **Reflecting** societal and market opinion and viewpoints; and
- b. **Influencing** or creating societal and market opinion.

A simple definition of media analysis was provided by Harold Lasswell in 1948 who used it to study propaganda. He says media analysis tells us:

“Who
says what
through which channel
to whom
with what effect” (Shoemaker & Reese, 1996, p. 12).

Leading US content analysis authority, Kimberley Neuendorf, describes it as “the primary message-centred methodology” and cites studies including Riffe and Freitag (1997) and Yale and Gilly (1988) who reported that “in the field of mass communication research, content analysis has been the fastest-growing technique over the past 20 years or so” (Neuendorf, 2002, pp. 1, 9).

The Role of Media Analysis

Berelson (1952) described five main purposes of content analysis as follows:

- > To describe substance characteristics of message content;
- > To describe form characteristics of message content;
- > To make inferences to producers of content;
- > To make inferences to audiences of content;
- > To predict the effects of content on audiences.

While media monitoring tells us who is saying what and where (*outputs*), only media analysis can identify likely audience impact and effects (*outcomes*) – the ultimate result and most important aspect of media communication. Furthermore, only analysis can draw inferences as to producers' intent, interests and biases which provide valuable strategic insights for planning media relations and communication campaigns.

Neuendorf (2002, p. 53) explains this further, identifying four roles of content analysis, one being reserved for clinical analysis of texts such as interview transcripts. The three other key uses which define the important role of media analysis in a commercial context are:

- > **Descriptive** (describing what has appeared, whom it has reached and what it said about which issues – basic media analysis);
- > **Inferential** (what can be inferred about those who said it and those it is said about – such as identifying biases and dispositions, particular interests, etc); and
- > **Predictive** (what effect it is likely to have on awareness and opinion).

These, and other definitions of content analysis provided by Berger (1991), Newman (1997), Shoemaker and Reese (1996) and Weber (1990), show that, in relation to media content, it provides insight into both existing public opinion (as reflected in the media) and insight into likely future public opinion (as influenced by the media). Thus, it is both an **evaluation** and a **strategic planning** tool.

Another important point about the role of media analysis is that it can and, ideally, should not only be used to study an organisation's own media coverage. As well as identifying what messages and information a client organisation is getting into the media and via the media to target audiences, media analysis can also identify **issues** reported in and often placed on the public 'agenda' by the media, as well as what other **sources** such as competitors and organisations are saying and doing.

The mass media provides a 'window' on the marketplace and on society to gain strategic insights, as well as a channel of communication to understand, manage and evaluate.

Understanding of likely impact and effects of mass media information is best understood by analysing a client organisation's coverage as well as that of other key sources (competitors, analysts, NGOs such as environmental and consumer groups, etc) and that of relevant issues, as a combination of all of this information reaches the public and shapes awareness and attitudes – and potentially influences behaviour.

The roles of media analysis are summarised in Figure 1.

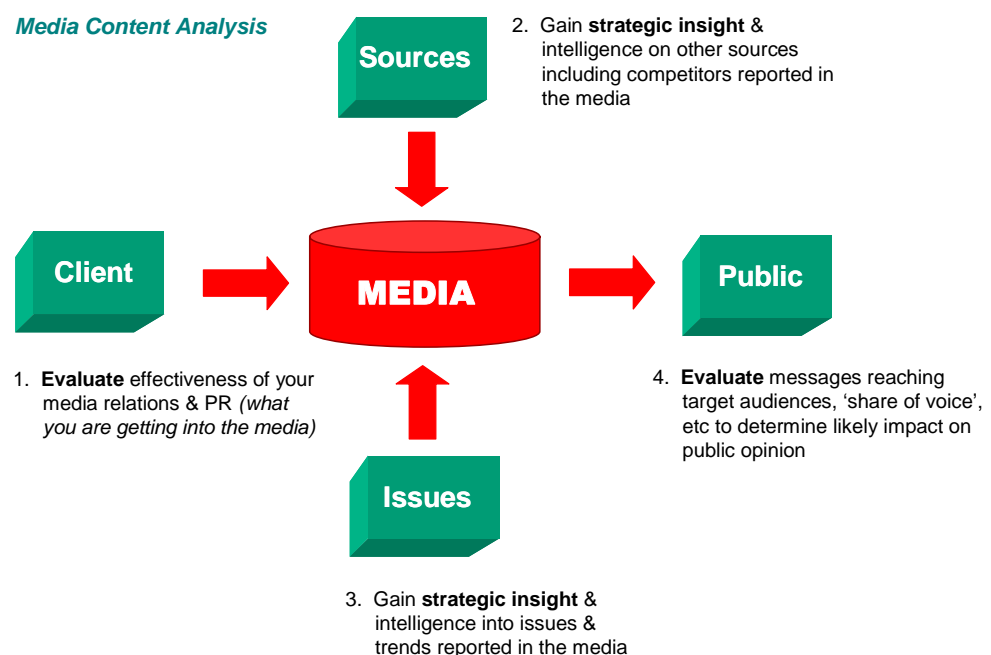


Figure 1.

Media analysis can provide an organisation with cost-effective and timely research information for:

- > **Evaluating PR effectiveness** – ie. what it gets into the media (qualitatively as well as quantitatively);
- > **Media and journalist targeting** and planning through identifying key interests and focus;
- > **Environmental scanning and issues analysis** – gaining insights into key issues affecting the organisation and/or its marketplace;
- > **Competitor analysis** – identifying their positioning, messaging, activities, etc;
- > **Trends analysis** – looking at issues, competitors, and movements in volume and favourability of media coverage on various subjects over time;
- > **Reputation** insights through identifying messages (favourable and unfavourable) that are gaining traction and identifying reputation 'drivers' and influences that need to be managed;
- > **Crisis tracking and analysis.**

Media Analysis Methodology

In all research, methodology is important. None of the benefits available from any research are available unless the research is conducted in a way that produces valid and reliable data. In fact, poor methodology can not only render findings invalid and/or unreliable, but they can be misleading.

Methodology is particularly important in media analysis because we all read mass media and, therefore, we all can and do analyse their content to some extent. But media content analysis, to be quantitative and qualitatively valid and reliable, requires a much more systematic and scientific approach than casual reading and anecdotal interpretation.

Quantitative v Qualitative

The most basic methods of analysing media content are quantitative. Quantitative analysis goes beyond collecting and counting the number of media articles (media monitoring) and can include identification of:

- > The **audience reached** by media coverage (circulation or audience size, sometimes called *Impressions or Opportunities to See*);
- > The **'share of voice'** of various organisations or spokespersons;
- > The **number of mentions** of particular issues or messages.

In-depth quantitative analysis should identify these key metrics.

However, it should be apparent that analysis of editorial media content must proceed beyond quantitative data and *qualitatively* analyse coverage. Unlike advertising content which is controlled, **editorial is variable** in terms of its placement, positioning, lay-out and content. Volume of media coverage does not mean an organisation is getting its messages across and gives little indication of likely impact or effects. Media articles may not address key issues of interest, they may not contain an organisation's key messages, they may be poorly positioned, or they may give more space to competing messages. Even worse, they may be negative. Most content analysts agree that content should be analysed quantitatively and qualitatively.

Qualitative analysis of media coverage can and should identify factors such as:

- > **Placement** of articles – eg. front page, early pages, middle of paper or edition, at the back;
- > **Positioning** of content such as key messages – eg. headline, prominent mention, passing mention;
- > **Images** such as photos, illustrations, charts, cartoons, etc;
- > **Issues** discussed and reported and their relative importance to the client organisation;

- > **Messages** communicated in articles – favourable and unfavourable;
- > **Sources** quoted – including their organisation or affiliation which can affect their credibility;
- > **Tone** of content – eg. extreme language, figures of speech that denote meaning such as sarcasm, metaphors or similes that are favourable or unfavourable, etc;
- > **Contextual factors** such as prevailing economic conditions, major natural disasters occurring around the time, etc which might affect audiences' reading and interpretation of the content.

Best Practice Media Analysis

There is no single standard or method of media analysis – even in academia there are different methods used for different purposes. But there are widely accepted and documented methodological guidelines for both quantitative and qualitative media analysis as there are for other types of research.¹

One of the over-riding principles of rigorous content analysis is that it must take into consideration the range of variables that determine the impact and effects of content on audiences as outlined in the previous section.

Multivariate v Univariate Analysis

Analysis of multiple variables is termed *multivariate* analysis and is an important characteristic of any serious media analysis method. In rigorous quantitative and qualitative content analysis, researchers rate or score a range of variables such as, but not restricted to those listed on the previous page, using a systematic method. For instance, points can be awarded for each variable with objective criteria established for scoring – such as plus five points for each favourable headline mention and minus five points for each unfavourable headline mention; plus four points for each favourable first paragraph mention; and so on.

In comparison, analysis that applies a single evaluation of content – such as positive/negative/neutral rating – is termed *univariate* analysis and is much less reliable and objective. Positive, negative and neutral ratings are based on a general reading of a text with no systematic scoring method and are subjective. This univariate method of analysis and simple 0-10 favourability ratings are unreliable because content may be poorly positioned in a low circulation low importance media, thus having little impact on audiences.

Multivariate analysis (analysis of multiple factors) takes into account the key variables that determine the impact and likely effects of the content on audiences.

Eight Other Key Requirements for Reliable Analysis

Numerous books have been written on the key requirements and techniques for reliable content analysis – eg. *The Content Analysis Guidebook* by Kimberley Neuendorf (2002), Cleveland State University. Other key references include Newbold et al (2002), Silverman (1993) and Shoemaker and Reese (1996). In the interests of brevity and simplicity, eight of the other important requirements for reliable quantitative and qualitative content analysis are summarised as follows:

¹ Some texts argue that content analysis is quantitative research only. However, modern content analysis draws on the qualitative research techniques of discourse analysis, text analysis and semiotic analysis as well as quantitative content analysis methods.

1. Analysis must be based on **valid representative samples** of media content. If a census of media coverage is not analysed (ie. all coverage on a given topic), then articles must be sampled using an objective method such as random, representative or purposive sampling;
2. To be quantitatively valid in line with the 'scientific method' of research, analysis should use **a priori research design** – i.e. the criteria and variables for analysis such as issues and messages should be established, as far as possible, in advance – not added at the whim of researchers as they go. This is a controversial point, with some arguing that analysts only know what is in the content after they have read it. But adding issues and messages to the coding list 'as you go' results in some being added after articles which could have contained them being coded – thus corrupting the data. In *a priori* research design, issues and messages can be identified in advance through a good client brief and preliminary reading by the analyst – what Neuendorf (2002, p. x) calls "immersion in the data pool". Most media analysis presents charts with numbers and percentages (i.e. quantitative data) and, therefore, should follow this approach;
3. Both quantitative and qualitative analysis should be conducted using **systematic coding** (ie. categorisation and classification) based on key words and key data such as positioning (eg. page number), length/size, etc – not conducted subjectively based on personal interpretation;
4. To be qualitatively insightful, analysis should **draw on text analysis and discourse analysis methods, using techniques from semiotics** (interpretation of 'signs', symbols and meaning) – not simply count key word mentions. Also, latent or implicit as well as manifest messages should be considered. For instance, an article may not actually say that a company is an expert or leader in an industry, but if it quotes the company's research giving detailed information about that industry, this implicitly says that the company is an expert in that industry;
5. **Analysts undertaking media analysis should be trained** in content analysis methodology and research procedures generally, including at least basic statistics and in areas such as semiotics. Intensive training is one of the ways that systematic coding is achieved and subjectivity is minimised;
6. Subjectivity is further minimised by using **multiple coders** to avoid what is termed "the idiosyncratic results of one rater's subjective judgment" (Tinsley & Weiss, 1975, p. 359);
7. Furthermore, subjectivity is further minimised and reliability and consistency achieved by providing **written Coding Guidelines** to all analysts working on the analysis. These provide instructions and parameters of how texts are to be interpreted. For instance, if 'is a leader' is a key message for analysis, Coding Guidelines should specify what words and phrases will be accepted as meaning 'a leader'. These guidelines should be followed strictly;
8. Further again, **intercoder reliability assessment** should be conducted regularly to assess variance and/or covariance between coders (called ANOVA and ANCOVA in research). When variance is above set standards, data should be rejected and coders re-briefed, retrained if necessary, and articles recoded. When variance is low, this shows that analysis reflects a

consistent and likely audience reading of the articles. Variance/covariance is measured using academically published standards such as Scott's pi (p); Cohen's kappa (k); Pearson's correlation coefficient (r); Lin's concordance correlation coefficient (rc), etc.

Even in academic content analysis, reliability is sometimes not as rigorous as it should be. For instance, reporting on an analysis of 486 content analysis studies published in *Journalism and Mass Communication Quarterly* from 1971 through 1995, Riffe and Freitag (1997) found that only 56 per cent of these reported intercoder reliability and that most failed to report reliability variable by variable, which is recommended. Even as recently as 2001, a study of 200 content analyses by Lombard, Synder-Duch and Bracken (2003; 2004) found that only 69 per cent discussed intercoder reliability and only 41% reported reliability for specific variables.

In the commercial sector, few individuals or companies conduct intercoder reliability assessment – many do not even use multiple coders – with the result that much media analysis is of questionable reliability. The standards summarised in this paper need to be applied in media content analysis.

Humans or Computers

There is considerable debate internationally over whether content analysis including media content analysis can be done entirely by computers or whether humans must still conduct the research. Those favouring automation view human analysis as Luddite, advocating that advanced text scanning and Optical Character Recognition (OCR) combined with computer dictionaries that identify key words in context (KWIC) and advanced Artificial Intelligence (AI) and Natural Language Processing (NLP) software programs can analyse texts quickly and accurately.

However, many oppose this view pointing out that even the most sophisticated computer programs cannot accurately interpret nuance, colloquialisms, figures of speech such as metaphors, and they cannot read context fully (i.e. meaning identified through reference to factors outside the text). Neuman (1997) gives the example of the word 'red' and how it can be used with multiple nuances that are not visible to a computer such as a company being "in the red", drowning in "red tape" but having a "red hot" product (p. 275).

Neuendorf (2002) says that "the notion of the completely 'automatic' content analysis via computer is a chimera ... The human contribution to content analysis is still paramount" (p. 40).

A strongly favoured compromise view is that computers can aid many aspects of media analysis such as providing databases to hold large quantities of data and graphics programs for chart generation, but that trained analysts are required to interpret texts in the way humans are likely to and make conclusions and recommendations (which are also beyond the capabilities of computers still). Most systems use a *computer-aided* approach.

Irrespective of advancements in computer technology, there are four things that computers cannot do which are important in media analysis:

1. **'Pretextualising'** – even before the analysis begins, humans can bring specialist knowledge of an industry or field which aid interpretation of data. Pre-textualising is aided and optimised by preliminary reading and desk research;
2. **Contextualising** – computers can read text, but cannot 'see' context (i.e. what is outside the text and data, referred to as exogenous information in analysis, and often important to interpretation);
3. Write **recommendations**; and
4. **Talk to clients** to explain and interpret research, including giving advice and consulting.

Benefits of Media Analysis

Media analysis does not replace audience research such as opinion polls, awareness studies, perception audits and reputation studies. Ultimately, audience research such as interviews, focus groups or surveys are important to gain first hand insights into public opinion, awareness and perceptions. Most market leaders use more than one type of research.

However, media analysis has several important benefits, including:

- > It can be conducted **frequently** – eg. weekly, monthly or quarterly, whereas many other forms of research are typically conducted once per annum, which means media analysis gives clients early warning to respond to issues and plan strategy;
- > It is a **non-intrusive** research methodology – i.e. it can be conducted without competitors, media or others knowing, which can be useful when analysing competitors or key journalists, and also means it avoids ‘response generation’ – i.e. audiences saying what they think the researcher wants to hear which contaminates some audience research;
- > It can evaluate **large quantities of data** – eg. a year of media coverage or even several years involving hundreds or thousands of articles across multiple markets if required – for deep insights and reliable results;
- > It is **cost-effective** relative to other forms of research such as surveys.

The CARMA[®] Methodology

CARMA[®] (short for *Computer Aided Research and Media Analysis*) is a commercial media content analysis system which is based on the Best Practice principles and techniques outlined in this paper.

CARMA International was a pioneer in commercial media analysis, founded in Washington DC in 1984, initially for analysing public affairs and ‘lobbying’ campaigns. The CARMA[®] methodology was developed in consultation with several universities including the University of Texas and academics from the Massachusetts Institute of Technology.

Today, CARMA International operates globally with offices in the US, Canada, UK, Europe, Japan, Asia Pacific, India and South America using its in-depth methodology uniformly worldwide.

CARMA[®] analyses media content quantitatively and qualitatively. Quantitative analysis includes identification of:

- > Number of mentions of key topics, issues, messages, etc;
- > Share of voice of the client organisation and competitors and/or other sources;
- > Audience reach.

Even more importantly, CARMA[®] involves *qualitative* analyses of media content based on a range of key variables as outlined in Figure 2. A systematic scoring system is used in assessing each variable, from which an aggregate rating on a 0-100 scale is calculated, called the **CARMA[®] Favourability Rating**.

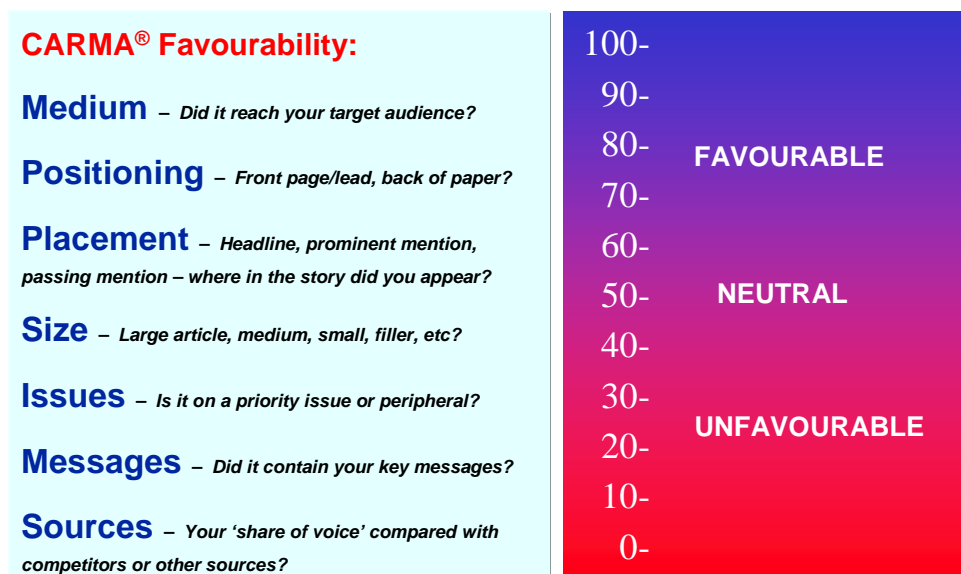


Figure 2.

To illustrate the important difference between positive/negative ratings and the CARMA[®] Favourability Rating, an article may be positive, but it may be in a publication which does not reach the client's key target audiences or market, it may discuss peripheral issues, and it may not contain the client's key messages. This article, while positive, is not favourable to the client's objectives and would be rated near neutral in the CARMA system. Conversely, an article containing a client's key messages on important issues, prominently positioned in a publication which reached the client's target audience would be rated highly favourable.

The CARMA[®] Favourability Rating is far more sophisticated and meaningful than simple positive/negative/neutral classification of articles which a number of other media analysis firms use. It takes into account the likely impact of media content (size, positioning, audience reach, etc) and likely effects (based on messages contained, sourced quoted, etc).

After a Favourability Rating is scored for each article and each competitor mention and entered into the CARMA[®] system, **average favourability** ratings can be calculated for each media, each journalist, each issue, each competitor over time, etc, providing precise data for comparison and trending.

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