Descriptive Modeling for Public Relations Environmental Scanning: 
A Practitioner's Perspective

Samuel Coad Dyer

Department of Management Communication
The University of Waikato
Hamilton, New Zealand

This article operationalizes an agenda-setting model for research in public relations issue monitoring. Using adaptations of Manheim's (1987) content dimensions of the media agenda, content analysis strategies are developed for each of the 3 main variables of: (a) agenda issue salience (audience perceived issue importance), (b) valence (positive, negative, or neutral media portrayal), and (c) visibility (amount of media coverage). Using a mathematical model and valuing each variable judgmentally or empirically as +1, 0, or -1 and based on suggested operationalizations of each of the 3 media agenda variables, 27 media agenda situations are developed (a 3 x 3 x 3 factorial design). The interaction of the 3 media agenda variables yields a weighted media agenda value of +3 to -3 describing a range of 7 possible media agenda content states (MACS). The 27 descriptive scenarios and the 7 MACS could assist public relations practitioners in diagnosing media agenda content and managing strategy and tactics based on those findings.

Issue management is an important area of public relations research. As Van Leuven and Slater (1991) wrote: “Our central argument is that the changing nature of the publics attending to a developing public issue shapes the communication behavior of organized interests and the mass media” (p. 165). This process of emergence onto the public, policy, or media agenda has become known as agenda building.
(Cobb & Elder, 1972) or *agenda setting* (McCombs & Shaw, 1972). Both theories establish well a generally triadic interrelation among the public, policy (governmental), and policy agendas (Rogers & Dearing, 1988). As Manheim (1987) has noted: "It is useful to think less of agenda-setting or agenda-building per se than of a comprehensive system of interactive agendas" (p. 499).

Mass communication researchers have long recognized that media coverage of an issue is a very influential factor in the interactive scheme of agenda content. Olien, Donohue, and Tichenor (1984), in their analysis of electrical reform in the state of Minnesota in the United States, recognized the pivotal role that media can have in the coverage of a public controversy. Many researchers detail the amplification of an issue in the media as an early step in the phases of issue's public life (Downs, 1972; Fink, 1986; Hainsworth, 1990). Hainsworth termed this process the distribution of advantages and disadvantages.

In the public relations literature, the notion of issues management is an important part of the body of knowledge (Walker, 1995). The concept of media relations is very well developed (Cantelmo, 1994; King, 1994). However, in public relations practitioner's research, media agenda monitoring strategies, or environmental scanning strategies are not well developed. Phillips' (1992) practitioner's guide book *Evaluating Press Coverage* is an example of how media agenda monitoring techniques in public relations are largely just counting numbers of topical articles and noting frequencies of raw coverage over time. But in the public relations academic literature, the interaction of media, public, and policy agendas is becoming well developed and interesting applications are being made (Ohl, Pincus, Rimmer, & Harrison, 1995; Theus, 1993).

**AGENDA SETTING AND PUBLIC RELATIONS**

The agenda setting literature is extensive and no attempt to describe all of its various strands is made here. However, as McCombs (1992) and Shaw and Martin (1992) noted, the past 2 decades of research into the area has resulted in interesting ways to describe the mechanisms through which the media shape what issues publics think about. The purpose of this article, however, is not to describe the influence of various organizations on the media agenda. That work is already well understood from a variety of perspectives in over 200 articles since 1972 (Rogers, Dearing, & Bregman, 1992). The purpose here is to describe the content of the media agenda to assist public relations issue monitoring. Lauzen (1995) has found a range of environmental scanning activities in organizations, indicating a model is needed. To meet this need, this article proceeds by: (a) outlining an established conceptual model of the content of the media agenda, (b) setting out ways to operationalize and test for the content components of that media agenda model, and (c) detailing the descriptive implications of the model to help guide public relations practitioner issue management and decision-making.
OPERATIONALIZING SALIENCE, VISIBILITY, AND VALENCE

The extensive agenda setting and agenda building literature documents many ways of operationalizing the measurement of the variables describing the content of the media agenda (Swanson, 1988). One way the content of a media agenda can be fathomed is by measurement of three content dimensions: salience, visibility, and valence. Manheim (1987) defined these variables well: Salience is "the stated or implied relevance of news content to audience needs," visibility is the "amount or prominence of coverage afforded an actor event or object," and valence is "the general sense of favor, neutrality, or disfavor associated with the portrayal of a given object" (Manheim, p. 502). Figure 1 displays the relation of these variables graphically and adapts the triadic models of interactive agendas portrayed in Manheim and Albritton (1984) and Rogers and Dearing (1988) for purposes of illustration.

Let us proceed to operationalize salience, visibility, and valence from a public relations practitioner perspective by specifying: (a) definitions, (b) measurements and data collection, and (c) interpretations of data in order to assist in environmental monitoring of issues.

Salience

**Definition.** For this study, salience is the personal relevance or importance (stated or implied) that an audience ascribes to an issue in the media agenda. Audience salience can be conceptualized variously as "perceived-community salience, interpersonal salience, and perceived-media salience" (Salwen, 1988, p. 103). For the model being developed, we will use perceived-community salience. This salience definition is logical from a public relations standpoint because the media agenda is meaningless if its content is not viewed, heard, read, or talked about by a community/public.

**Measurement.** To measure salience, a public opinion poll or market survey will need to be conducted or obtained from a secondary source on every issue being monitored. Price and Roberts (1987) called the process of developing the relevant importance of an issue to the public as polltaking: the process whereby individuals decide what items on the media agenda are important. No attempt is made here to discuss polling strategies because other sources of information can provide time-tested ways of conducting this kind of research (Broom & Dozier, 1983; Stamm, 1977; Strenski, 1980). But important to the public relations practitioner is the identification of the full range of meaning that the audience attributes to an issue construct. Good, data-based issue categories will need to be developed. For example, Salwen (1986) developed seven global issues in news coverage on the environ-
ment. These audience specific issues were: (a) hazardous substances, (b) disposal of wastes, (c) quality of water, (d) quality of land, (e) quality of air, (f) wildlife conservation, and (g) noise pollution. Dyer, Miller, and Boone (1991) examined newscopy associated with the Exxon Valdez disaster and coded stories for three situationally specific issues: (a) economic, (b) environmental, and (c) legal. It is easy to see from these two examples that there would be a wide range of audience interpersonal issue significance. And as Neuman (1990) found in tracking 10 issues in the media over 35 years and comparing that issue coverage to public opinion, public awareness of media coverage can differ significantly depending on the issue. Finally, from a public relations perspective, issue polltaking is consistent with the two-way symmetric and two-way asymmetric approaches to public relations practice, thereby allowing the practitioner to be more responsive to audience needs.

**Interpreting salience.** For the purposes of the descriptive model being developed here, interpret audience salience as either positive, negative, or neutral. **Positive salience** means the audience is being led to believe, on balance, that the issue is important to them. **Negative salience** means that the audience is being led to perceive the issue as not important to them. **Neutral salience** means that the audience is being led to believe, by media content, not to perceive an issue as either
on balance relevant or irrelevant to them. Issue salience neutrality is a very ambiguous situation for the public relations practitioner because neutrality can frequently be a pivot point from which audiences can fall into the polarized positive or negative salience categories.

Visibility

**Definition.** Visibility is the amount of coverage afforded an issue in the media. Visibility is well understood in public relations. Stocking (1985), though, found that the relation between public relations activity and media visibility could not be assumed and that practitioners had to take into account the newsworthiness of their clients in promulgating a media relations strategy. Therefore, there are many ways to operationalize media agenda issue visibility. The most common technique that public relations practitioners use to evaluate visibility is simply to count the number of articles obtained from a clipping service. More articles in the right media outlets means positive visibility. Articles in wrong or undesirable outlets mean negative visibility. Neutral visibility is no coverage at all. These ideas are too simple, and an elaboration and extension of this concept is needed to improve environmental monitoring.

**Measurement.** Another way to assess visibility is to assume that to capture the media agenda, the organizational view of an issue would need to be the most frequent reported news source. The interaction between media and news sources is an important force in shaping the news (Sigal, 1986). The sources used in newscopy have a significant effect on issue perception (Gibson & Zillmann, 1994). Strategies for measuring sources for ideas in newscopy from a public relations perspective using computerized content analysis were discussed by Dyer (1993). To assess the frequency of these main actors, content categories for sources associated with an issue’s portrayal in the media need to be developed. For example, Dyer (1994), in public relations issue monitoring of the sale of an electrical corporation in New Zealand (an issue of high audience salience in a country of rapidly privatizing industry and sale of formerly public assets), established source categories of (a) organizational sources, (b) community and interest group sources, and (c) governmental sources. In public relations issue monitoring, sources chosen for the analysis will need to be related judgmentally to the issue being studied.

**Interpreting visibility.** A high incidence of organizational sources means the organizational story is being told in the newscopy: positive visibility. More extra-organizational sources means that someone else is telling the organizational story: negative visibility. Neutral visibility would be the balanced portrayal in the media agenda of organizational and extra-organizational sources.
In general though, public relations practitioners understand positive visibility and no (read as neutral or balanced) visibility very well. Three points can be made about negative visibility. Negative visibility can mean: (a) coverage of the organizational issue by the wrong media or an undesirable media outlet, (b) coverage of the organizational issue in the media by undesirable sources, and (c) sustained and unwanted continuous coverage of an organization over a long period of time. In the first instance, negative visibility can be a dangerous situation for the practitioner because it can signal an interest group attack in specialist media (union newspapers, action group magazines, etc.). In the second instance, negative visibility can mean the organizational view is not being portrayed in the media through organizational sources/storytellers. Negative visibility means that the ratio of organizational sources to extra-organizational sources in the media coverage is unfavorable.

**Valence**

**Definition.** Valence is the assessment of the portrayal of an issue in the media as either positive, neutral, or negative. This is the stuff of media content analysis since its beginnings. As Pool (1970) has observed: "A given ideology can be conveniently summarized according to the key terms receiving positive or negative treatment (or frequent mention of any kind)" (p. 14).

**Measurement.** Assessing whether a news item is positive, negative, or neutral is exacting. In most research, human coders are used. This process is certainly judgmental. Many good sources are available explaining the process of using human coders in content analysis research, but one main point must be made to public relations practitioners: At least two human coders will be needed, and these coders must not be practitioners. As Krippendorf (1980) has observed, a study in which the researcher is the only coder is not much of a study (see especially p. 74). Intercoder reliability will need to be assessed using an intercoder reliability coefficient such as Scott’s $\pi$, which can be easily programmed into contemporary spreadsheet software.

As with the other variables, a coding scheme should be developed based on the nature of the issue being tracked. Of much interest to public relations practitioners should be the research of Fan (1988). He described the process of deriving the coding strategies for content analysis of valence in technical detail. Using waves of successive codings (he calls them successive filtrations) Fan described developing comprehensive lists of positive, neutral, and negative terms. He then used a computer content analysis system to code for the frequency of those terms in newscopy. Here is the most interesting point from a public relations perspective: Fan used the resultant valences of his content analysis to predict public opinion poll
results with 98% accuracy. The implications for public relations research are significant.

**Interpreting valence.** No variable measurement interprets itself, but valence comes close to doing so. Positive valence means that media coverage of an issue is favorable to the organization affected. Neutral valence frequently means balanced coverage of the issue in the media, but it can mean that it is not possible from the news copy to establish that the issue treatment is positive or negative. Negative valence is not usually desired by the public relations practitioner. Negative valence is the portrayal of an issue associated with an organization in the media that is not favorable to the organization.

**DISCUSSION:**
**INTERPRETING THE CONTENTS OF MEDIA AGENDA**

Code each of the three variables either positive (+1), negative (-1), or neutral (0). This coding results in 27 different possible agendas created by the salience, visibility, and valence triad (a $3 \times 3 \times 3$ factorial design). The model can be expressed mathematically, as seen in Figure 2. The model states that the range of weights of the media agenda is the sum of the weights assigned to each of the three media agenda content variables. Logical application of the mathematical model results in seven possible weighted outcomes for media agenda issue content: +3, +2, +1, 0, -1, -2, and -3. These are termed media agenda content states (MACS). This is stated reflexively in the model by placing the media agenda in the interval expression +3 to -3.

\[
(3 \geq MA(x) \geq -3) = \sum_{wi}^{n} \{ Sal(wi) + Val(wi) + Vis(wi) \}
\]

*Where,*

- $MA(x)$ is the weight of the media agenda for issue (x).
- The media agenda variables are:
  - Sal is the audience salience of the media agenda issue.
  - Val is the valence of a media agenda issue.
  - Vis is the visibility of a media agenda issue.
  - $Wi$ is the weight (+1, 0 or -1) assigned to a media agenda variable.

**FIGURE 2** A mathematical model for media agenda content.
Using Hainsworth's (1990) notion of advantages and disadvantages, the outcomes are named: Clear Advantage (+3), Advantage (+2), Marginal Advantage (+1), Ambiguity (0), Marginal Disadvantage (-1), Disadvantage (-2), and Clear Disadvantage (-3). Model outcomes are listed in Table 1 with brief descriptions. Table 2 lists all 27 possible combinations of media agenda content variables with model weights (MACS). These are numbered for ease of reference.

There are four general issue situations that are described by the model that should be very familiar to public relations practitioners: (a) balanced media agenda content, (b) advantage, (c) marginal advantage, and (d) disadvantage.

### TABLE 1

<table>
<thead>
<tr>
<th>Value</th>
<th>State</th>
<th>Description (Frequency)</th>
</tr>
</thead>
<tbody>
<tr>
<td>+3</td>
<td>Clear advantage</td>
<td>This is the best of all worlds for the public relations practitioner: A reward for a job well done. Positive salience, valence, and visibility. (1/27)</td>
</tr>
<tr>
<td>+2</td>
<td>Advantage</td>
<td>Most frequent of positive media agendas. In practice it is probably difficult to achieve. Only occurs with positive (n = 3) or neutral audience salience (n = 1). (4/27)</td>
</tr>
<tr>
<td>+1</td>
<td>Marginal advantage</td>
<td>A mixed bag of media agenda variables. Definitely a transitional media agenda state. Occurs with all three audience salience states. (5/27)</td>
</tr>
<tr>
<td>0</td>
<td>Ambiguity</td>
<td>Which way will this media agenda swing? It is unknown; that is why it is termed ambiguous. Second most frequent media agenda state. Occurs only once with positive audience salience, and once with positive and twice with negative salience. (6/27)</td>
</tr>
<tr>
<td>-1</td>
<td>Marginal disadvantage</td>
<td>No surprise to the practitioner that this is the most frequent outcome from the model. Like the +1 model, this is describing a transitional state. Occurs most often with negative audience salience (n = 3). Probably occurs across a range of issue situations. (7/27)</td>
</tr>
<tr>
<td>-2</td>
<td>Disadvantage</td>
<td>Not a very desirable outcome. One instance is clearly dangerous; negative salience and valence, and visibility coded zero. Other occurrence is with neutral salience, negative valence, and visibility; could describe an emerging crisis or an interest group attack. (3/27)</td>
</tr>
<tr>
<td>-3</td>
<td>Clear disadvantage</td>
<td>Thankfully, a rare outcome. Probably most often associated with crisis events; negative salience, valence, and visibility. (1/27)</td>
</tr>
</tbody>
</table>

*Note: N = 27.*
TABLE 2  
Possible Media Agenda Variable Combinations and Weights

<table>
<thead>
<tr>
<th>Audience Relevance</th>
<th>Media Agenda Variable Combination</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Sal (+1), Val (+1), Vis (+1)</td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td>Sal (+1), Val (+1), Vis (−1)</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>Sal (+1), Val (+1), Vis (0)</td>
<td>2</td>
</tr>
<tr>
<td>4.</td>
<td>Sal (+1), Val (−1), Vis (+1)</td>
<td>−1</td>
</tr>
<tr>
<td>5.</td>
<td>Sal (+1), Val (−1), Vis (−1)</td>
<td>−1</td>
</tr>
<tr>
<td>6.</td>
<td>Sal (+1), Val (−1), Vis (0)</td>
<td>2</td>
</tr>
<tr>
<td>7.</td>
<td>Sal (+1), Val (0), Vis (+1)</td>
<td>2</td>
</tr>
<tr>
<td>8.</td>
<td>Sal (+1), Val (0), Vis (−1)</td>
<td>0</td>
</tr>
<tr>
<td>9.</td>
<td>Sal (+1), Val (0), Vis (0)</td>
<td>+1</td>
</tr>
<tr>
<td>Negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Sal (−1), Val (+1), Vis (+1)</td>
<td>+1</td>
</tr>
<tr>
<td>11.</td>
<td>Sal (−1), Val (+1), Vis (−1)</td>
<td>−1</td>
</tr>
<tr>
<td>12.</td>
<td>Sal (−1), Val (+1), Vis (0)</td>
<td>0</td>
</tr>
<tr>
<td>13.</td>
<td>Sal (−1), Val (−1), Vis (+1)</td>
<td>−1</td>
</tr>
<tr>
<td>14.</td>
<td>Sal (−1), Val (−1), Vis (−1)</td>
<td>−3</td>
</tr>
<tr>
<td>15.</td>
<td>Sal (−1), Val (−1), Vis (0)</td>
<td>−2</td>
</tr>
<tr>
<td>16.</td>
<td>Sal (−1), Val (0), Vis (+1)</td>
<td>0</td>
</tr>
<tr>
<td>17.</td>
<td>Sal (−1), Val (0), Vis (−1)</td>
<td>−2</td>
</tr>
<tr>
<td>18.</td>
<td>Sal (−1), Val (0), Vis (0)</td>
<td>−1</td>
</tr>
<tr>
<td>Neutral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>Sal (0), Val (+1), Vis (+1)</td>
<td>+2</td>
</tr>
<tr>
<td>20.</td>
<td>Sal (0), Val (+1), Vis (−1)</td>
<td>0</td>
</tr>
<tr>
<td>21.</td>
<td>Sal (0), Val (+1), Vis (0)</td>
<td>+1</td>
</tr>
<tr>
<td>22.</td>
<td>Sal (0), Val (−1), Vis (+1)</td>
<td>0</td>
</tr>
<tr>
<td>23.</td>
<td>Sal (0), Val (−1), Vis (−1)</td>
<td>−2</td>
</tr>
<tr>
<td>24.</td>
<td>Sal (0), Val (−1), Vis (0)</td>
<td>−1</td>
</tr>
<tr>
<td>25.</td>
<td>Sal (0), Val (0), Vis (+1)</td>
<td>+1</td>
</tr>
<tr>
<td>26.</td>
<td>Sal (0), Val (0), Vis (−1)</td>
<td>−1</td>
</tr>
<tr>
<td>27.</td>
<td>Sal (0), Val (0), Vis (0)</td>
<td>0</td>
</tr>
</tbody>
</table>

(b) positive media content, (c) negative media content, and (d) transitional media agenda content. Each of these are discussed briefly.

Balanced MACS

Regarding balanced media coverage, the model illustrates that balance may not be as desirable a media agenda content condition as thought. Table 2 shows three balanced media agendas, that is, media agenda content situations in which the issue valence and visibility are coded 0 (models 9, 18, and 27). But balanced coverage does not yield consistently positive MACS: +1, −1, and 0, respectively. Clearly balanced media coverage means a pivoting issue situation diagnosis and a dangerous situation for the practitioner.
Positive MACS

Practitioners are quite right in striving for positive media agenda content for their organizational issues. Three media agenda variable combinations in Table 2 describe positive valence and visibility (models 1, 10, and 19). In all three instances, the outcome is positive (+3, +1, and +2 respectively). This is the whole purpose for media relations in the first place: to get favorable treatment in the media agenda. Positive MACS overall could indicate successful placement in the media agenda of the organizational view of an issue and hence a positive evaluation of public relations efforts.

Negative MACS

Negative weighting outcomes (n = 10) or the ambiguous neutral outcomes (n = 6) are, taken together, a more frequent occurrence in the model than positive outcomes (n = 10). This should come as no surprise to public relations practitioners. It is the nature of what Nimmo and Combs (1985) called the “nightly horror” or Sabato (1991) termed the “feeding frenzy.” The marginal disadvantage (−1 weighting) is the most frequent model that occurs (7 of 27 possibilities). Although frequency of a weighting outcome in this model says nothing at all about the likelihood that such a situation will occur in actual experience, it does indicate that there are lots of ways for a practitioner to end up with an ambiguous or negative media agenda content outcome.

Transitional MACS

Important to practitioners is being able to identify when the content of a media agenda is in a state of flux: A state in which there is a high degree of probability for change. Marginal advantage (+1), ambiguity (0), and marginal disadvantage (−1) comprise 18 possible model outcomes. Figure 3 shows the distribution of model outcomes and identifies the transitional area of the distribution.

With a transitional MACS, a change could be impending. Identification of a transitional MACS should be interpreted as indicating that action is needed to prevent a +1 MACS shifting, for example, to a 0 MACS or a 0 MACS to a −1 MACS.

Model Limitations

The limitations to this model as a descriptive tool are clear. Assignment of weights to any of the three media agenda variables is a judgmental process. Practitioners
have to decide, for example, what the opinion poll or market research data means about the content of the media agenda and then choose a weighting. The development of issues and source categories is a judgmental process. Therefore, the model is limited by competing subjectifying and objectifying processes.

This model is useful also for the analysis of a single issue or a cluster of related issues. In reality, issues in an agenda seldom stand alone as independent constructs. Though portrayals of an issue in a media agenda may be presented as items, people generally attempt to make sense of what they see and hear, integrating that experience into a world view.

The temporal boundedness of the research process restricts the applicability of generalizations made about media agenda salience, valence, or visibility. In other words, what is true about media issue treatment (valence) this week may not be true next week. Therefore, practitioners must be involved in tracking media agenda issue content over time. This concept is nothing new. What an appropriate tracking interval is will depend on the issue situation and research resources. During a crisis such as a hostile takeover bid, daily or even hourly monitoring of the media agenda may be needed. In monitoring organizational image constructs before, during, or after a campaign, another, less intensive, interval may be appropriate; perhaps a weekly or monthly assessment would be effective.

Newscopy in the time frame of the issue tracking is needed to develop measurements of all three of these model variables. To obtain newscopy (print and electronic) about an organizational issue, most practitioners use a media clipping service. Some practitioners use wire services. But using a wire service to obtain
those stories can be problematic. Kaufman, Dykers, and Caldwell (1994) have observed that searches conducted by hand are still more accurate than searches conducted in an electronic data base. Thomsen (1995) agrees that the time has not quite come when practitioners can rely totally on electronic sources of information for issues management.

Finally, the model does not describe what the effect on other agendas in the triadic model in Figure 1 will be, though audience perceived interpersonal salience provides a linkage with the public agenda. Zhu, Watt, Snyder, Yan, and Jansong (1993) have developed a model to assess relation of public issue priority and media agenda setting that could be very valuable to public relations practitioners. Without a model, inferences about the content of the public agenda and policy agenda will need to be made by the practitioner. These judgments could be fraught with danger for error. And, of course, a model such as the one described here should be part of a media relations decision-making process and not the whole.

CONCLUSION

Monitoring the organizational environment, environmental scanning, is an important part of the public relations practitioner's job. Everyone knows that the contents of the media agenda have very significant implications for organizations. As Altheide and Snow (1991) have noted, that media logic permeates every aspect of our culture globally.

But some of the greatest utility that the public relations practitioner can offer an organization is the ability to identify incremental changes in the content of the media agenda for issues with which the organization is concerned. Lauzen (1994), in her study of public relations practitioners as technicians or as managers, concluded that public relations managers are responsible for all parts of the issue management process and that this process is one of the most important public relations manager functions. Hopefully the model described here will aid practitioners in structuring their media agenda issue monitoring and improve their ability to act more effectively across the full range of issue management activity.

REFERENCES


Sigal, L. V. (1986). Sources are the news. In R. Manoff & M. Schudson (Eds.), *Reading the news* (pp. 9–37). New York: Pantheon.


