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Data, doppler, or depth of knowledge: How do television stations differentiate local weather?

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Data, Doppler, or Depth of Knowledge

How Do Television Stations Differentiate Local Weather?

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Abstract

Although weather coverage has never received extensive research, previous studies have investigated the importance of weather to viewers and to television station branding. Additionally, such individual features of weather reports like accuracy have been investigated, but no researcher has apparently examined the overall content of day-to-day local televised weathercasts. This content analysis of weathercasts in five medium to large Southern U.S. markets sheds light on the ways stations differentiate themselves through their weathercasts' content. It found that so many stations use radar or claims of accuracy to differentiate themselves that the techniques do not result in product differentiation. Other methods, by themselves or combined with accuracy and radar, may better differentiate weathercasts.

114 word Abstract

Data, Doppler, or Depth of Knowledge

How Do Television Stations Differentiate Local Weather?

With more than 21 named storms, the 2005 Hurricane Season ended as one of the most active in recent history and devastated many areas in the Gulf Coast. Since 2005, fewer hurricanes have made landfall, but deadly tornadoes have left their mark on Enterprise, Alabama, and Greensburg, Kansas while blizzards shutdown Denver, Co. and floods crippled parts of Northeast Ohio. A decade ago, researchers found that weather was the number-one news draw in 11 of the nation's top 20 television markets (Bowser, 1997).

The importance of televised weather was demonstrated in 2006 as local broadcast meteorologists in the Evansville, Indiana and Des Moines, Iowa markets found themselves at the center of deadly weather events. In Iowa, twisters struck during the daytime and forced thousands to evacuate a football stadium, but officials reported only one fatality (Higgins, 2005). Residents in two Southern Indiana counties were not so fortunate when tornadoes came between 2 and 3 a.m. (Neal & Hupp, 2005), the second most likely time of day for tornadoes (Schneider, 2005). Most people had no warning at that time of the morning, allowing the twister to claim the lives of 23 people and leave more than 150 injured. Such weather events make it easy to understand why a television station's commitment to local weather is vital for a community.

Beyond the recent incidents of severe weather, at least three other developments in the delivery of local weather information suggest the topic of local weather is worthy of investigation. First, some television viewers now get forecasts on their computer or via portable devices such as cell phones before any newscasts air. A second recent

change is the effort by some companies to more efficiently provide local news weather segments by using meteorologists at a centralized weather facility. Thirdly, in the last few years, the American Meteorological Society upgraded its requirements to a new Certified Broadcast Meteorologist (CBM) seal, which unlike the traditional AMS seal specifically requires a degree in meteorology (Walker, 2006). These developments demonstrate the constant change in the market, which along with the continual fragmentation of audiences suggests a need for research on the role of weather branding in station differentiation.

This study specifically focused on weather segments from stations in five large and medium-sized media markets. The segments were analyzed on three dimensions: standard weather fare, tools and technology, and brand image. Given the prominence of the weather segment in a local news operation's image, this research considered the weather information delivered on a day-to-day basis as a competitive product. By looking at weather as product, the analysis drew on a conceptual framework from marketing and competitive strategy literature. Scholarly and trade literature on weather forecasting and findings from previous media studies of branding and product differentiation also influences the analysis.

Literature Review

Researching Weather

The literature provides ample evidence that local weather coverage has importance for viewers and local stations. For viewers, it is not only important, it is also

remembered well. For instance, one study found that the public preferred weather second only to the local economy in news categories (Roberts & Dickson, 1984). A separate investigation showed that weather coverage is the number-one reason people watch local news (Bowser, 1997), and a third study conducted by a media consulting firm found that viewers rank weather as the most important item in a newscast (Galetto, 1997).

Additionally, Neuman (1976) found viewers recalled weather better than almost all other news story categories.

Newspaper articles also show that local television coverage of weather gains interest from other media. In Indianapolis, newspapers felt the need to cover the “ratings wars with radar” between the leading television stations (Schoettle, 2005). Likewise, the *St. Petersburg Times* profiled the highly competitive lead broadcast meteorologists in the Tampa-St. Petersburg market based on their respective weather forecasting tools, bragging rights on superiority of equipment and meteorological training (Colavecchio-Van Sickler, 2004).

As for weather’s importance to stations, such content takes almost 10 percent of a newscasts’ time, or four-and-a-half minutes, according to an early study of newscasts in the San Diego market (Wulfemeyer, 1982). This is based on the one-hour newscast rather than the more typical half-hour local television newscast today. A former Radio-Television News Director Association chairman has also emphasized weather’s importance for a station’s image: “A successful weather image is built upon far more than the occasional weather disaster... Stations cultivate their image through countless days of routine forecasts and benign weather maps, punctuated by the occasional big event” (Salsberg, 2003). Additionally, weather gets attention from the RTNDA, which focused

on local forecast credentials when it considered why viewers watch local news (O'Malley, 1999).

Critical scholars have also emphasized the importance of weather related news in our society. Sturken (2001) suggested it can alleviate postmodern anxieties about such things as fragmentation, rapid social change and lack of meaning. Meister (2001) called TV meteorology “priestly” in its speech of scientific culture and argued that The Weather Channel created “weathertainment” that predicates and encourages consumer practices.

Among media audiences, television stations appear to get most of the attention, and are working hard to retain their viewers through online media. In examining which public media audiences used most often for weather information, Tan (1976) provided one of the first journalism/mass communication studies focused on local weathercasts. Among the respondents surveyed in 1973, 41 percent preferred television followed closely by 40 percent for radio (Tan). In more recent research, when Hurricane Danny struck the Alabama-West Florida coast in 1997, a study showed the public relied on local television coverage and local radio reports as their major information/news source (Piotrowski & Armstrong, 1998). The same study showed that the Internet is gaining in prominence. A sizeable minority of the 325 respondents noted using Internet weather sites and weather band radio for information on the hurricane. However, many television stations are moving into that media market, and a content analysis of 128 Internet pages just three years ago showed television home pages offered significantly more weather presentation tools than news radio and newspapers (Randle & Mordock, 2002). Even as early as 1997 a strong web presence paid off for one Arkansas station during tornado

season. One weekend when multiple tornadoes hit Little Rock, KTHV-TV's site received 100,000 hits (Galetto, 1997).

For the television viewers, certain weather features appear more important than others. Scholars have determined that when it comes to news preferences in the area of weather, respondents ranked information about local conditions of highest interest followed by local forecasts, national conditions and national forecasts (Wulfemeyer, 1983). A more recent dissertation-length study of viewer preferences found "new" weather graphics can improve viewer comprehension if the meteorologist takes time to explain the graphics (Siebert, 2000).

Accuracy is a growing concern for broadcasters. It was the focus of *Broadcasting & Cable Magazine's* May 2007 cover story. The story examined concerns within the meteorological community that in the highly-competitive weather forecasting arena, local stations are risking their credibility by providing longer-range (i.e. 10-day) forecasts when conditions are virtually impossible to predict (Malone, 2007). When WeatheRate became the first outside agency to verify a station's forecasting accuracy in 2004, it quickly found stations interested in touting the company's seal of approval (Potter, 2004). When it comes to weathercasters' expertise, results from a survey of 136 weathercasters showed 56 percent had meteorology or related degrees (Earl & Pasternack, 1991), and Walker (2006) highlighted the importance of a meteorological degree and certification for weathercasters in medium sized markets in his research.

In addition to accuracy, ability and technology appear to be weather features of growing importance. One of the first studies of journalism and mass communication programs' role in preparing broadcast meteorologists found nearly 8 in 10 professional

broadcasters thought weather should be covered more in the mass communication curriculum while only 48 percent of educators agreed (Davie, Auter & Dino, 2006). As for technology, the *RTNDA Communicator* regularly features weather technologies that can boost prediction accuracy and precision in its “New Products” columns and feature stories (Murrie, 2000a, 2002).

But, exactly what makes up a station’s normal weather segment? This study will attempt to answer that question even though past studies have had some success in finding the answer. It appears that most of the time stations do get the broad conditions right. Gantz (1982) found that almost all of the forecasts he verified (88 percent) were accurate in their rain/no rain predictions. Forecasts were most frequently accurate for “next day” predictions, but only five percent of temperature forecasts were exactly right. Additionally, the predictions made in the early evening newscasts are generally just as accurate or inaccurate as the late evening newscasts since the forecasts rarely change between two evening shows. As for basic content, Earl and Pasternack (1991) found that most stations responding to their survey presented general weather forecasts. Specialized forecasts were relatively uncommon while current temperature, wind direction, relative humidity and wind speed were the most common topics in the general weather segments. In her study of media coverage of a blizzard, Wilkins (1984) found that the media generally focused on the event itself and provided relatively few analytic stories, while Wulfemeyer (1982) examined style and found that the weathercaster often took on the role of the “lovable buffoon”.

Branding

It's been said that consumers lack the motivation, capacity, or opportunity to process the product information that they see and hear in a thoughtful or deliberative manner (McDowell, 2006). Thus, advertising and marketing researchers have suggested that strong brands assist in this process by making the task of choosing a particular product much easier (McDowell). By definition, a brand is a name, term, sign, design or a unifying combination of those elements that distinguish a product or service from its competitors.

Literature on branding emphasizes its importance. A study of 84 television general managers found that most agree branding is a useful business tool and that a brand image will help their station stand out (Chan-Olmsted & Kim, 2001). They also perceived "advertising" and "community events" to be the most effective tactics for branding. In the minds of some researchers, a station's visual or auditory brand is the "hottest" of contemporary marketing strategies (Bellamy & Traudt, 2000).

Weather seems to be an integral part of station branding. Those who've surveyed local news directors have suggested the nightly focus on weather is crucial so that viewers know where to look or listen when the weather takes a turn (Papper, 2002). In fact, some consultants have suggested weather image is as important as the news image in building viewers' perception of a station. This idea of weather branding simply places a high-interest item of the newscast at the top of a television station's news promotional strategy. To facilitate this type of branding, weather data providers such as *The Weather*

Channel, the non-defunct NBC Weather Plus¹, and Accu Weather have expanded their digital offerings so that the brand associated with the weather data could be extended beyond a scheduled newscast to such things as a separate cable channel with continuous local weather information (Dickson, 2006).

Production differentiation

A number of scholars have used product differentiation to examine local television news content. An analysis of early evening newscasts in three Midwestern markets showed half the stories in Detroit, Michigan; Toledo, Ohio; and East Lansing, Michigan were unique. The larger the market—the more unique the stories it had (Atwater, 1984). A more recent product differentiation study compared content of broadcast network news and all-news cable networks (Bae, 2000). The three cable networks had significantly more unique stories than the broadcast networks.

A separate study of the cable content suggested product differentiation allowed the 24-hour cable news channels to increase what's known as *horizontal diversity* (Bae, 1999). The horizontal diversity or horizontal production differentiation is a concept that comes from the management strategy literature. It focuses on the differences in attribute variety among competing brands (p. 64). For instance, two stations in the same market could diversify through sports opens. One could feature audio sounders to signify the beginning of sports and another station may use a more subtle anchor toss straight to the sportscaster.

¹ NBC Universal purchased The Weather Channel from Landmark Communications in 2008 for a reported \$3.5 billion. NBC Weather Plus, a four-year digital joint venture between NBC and its affiliated local stations, was subsequently phased out.

In his classic strategy text, Porter (1980) identified differentiation as one of three potentially successful generic strategic approaches to outperforming firms in an industry. By differentiating one's product or service, the firm creates something that is perceived as being unique. The resulting differentiation provides insulation against competitive rivalry, increases margins and achieves customer loyalty (Porter).

In laying out the models for product differentiation, Ireland (1987) acknowledges that the key question is whether horizontal or vertical differentiation dominates. According to her model, if there is horizontal dominance (some consumers like some products while others like another), one would expect little competition. Vertical dominance, on the other hand, encourages intense competition among lower quality products. Furthermore, she suggests low homogenous quality becomes the norm when horizontal product differentiation dominates while high-quality products occur when vertical dominance is possible (Ireland).

Hypotheses and Research Questions

The product differentiation conceptual framework from the marketing and strategy literature is helpful in examining how local stations position their weathercast in the highly-competitive arena of local television news. As has been reported by multiple newspapers (Colavecchio-Van Sickler, 2004; Schoettle, 2005), television stations in many markets often position themselves in the eyes of viewers by their radar in so-called "ratings wars with radar." Thus, in what Ireland (1987) conceptualized as vertical product differentiation, one would expect radar to be the particular characteristic that

stations hope consumers perceived as making a weather product better. In this study, the investigators hypothesized that stations will differentiate weathercasts by radar more than other tools or technology (H1).

Since those in local broadcast news have suggested successful weather image relies on countless days of routine forecasts (Salsberg, 2003) and station managers have apparently embraced branding as a useful business tool to help a station stand out (Chan-Olmsted & Kim, 2001), it was hypothesized that the most successful stations in a local market (the number-one or number-two rated television stations) would be more likely than other television stations to use a brand identity to differentiate their weathercasts (H2).

For years, local stations have used the abilities of their weather forecasters to accurately predict the weather as a promotional strategy. Given the impact of forecast accuracy on their promotion, it is likely that stations that use a degree guarantee as a product differentiation strategy would have a higher degree of accuracy in predicting the next day's high temperature than stations without the guarantee (H3). At the same time, Gantz's (1982) research with Indiana stations showed that only five percent of temperature forecasts were exactly right. In his study, forecasts were most frequently accurate for "next day" predictions, but only five percent of temperature forecasts were exactly right (Gantz). In this study, researchers also looked at how accurate local meteorologists were in predicting the high temperatures in the next day's forecast (RQ1).

Beyond the promotional tools such as the degree guarantees and technologies like radar, there are certain aspects of a local weather forecast that are the same regardless of

station. In the study, the investigators looked to identify what specific elements constituted so-called “standard weather fare” (RQ2).

Over the last decade, the television industry has been characterized by consolidation as station groups acquired more stations to increase their buyer power for television programming and their seller power with advertisers. For example, Greenville (SC)-based Liberty Corporation was recently acquired by Montgomery, Alabama-based Raycom Media in a \$1 billion purchase (Werner, 2005). Station groups typically employ similar strategies across local station properties. Thus, this study sought to determine the role television group ownership plays in a station’s weathercast strategy (RQ3).

Methodology

Sample of Programs

The hypotheses were tested and research questions answered using a content analysis of 146 evening weathercasts in five markets (Tampa-St. Petersburg, Florida; Birmingham, Alabama; Oklahoma City, Oklahoma; Richmond, Virginia; and Columbia, South Carolina) from fall of 2003 to winter of 2005. The convenience sample, based upon the availability of recorders and recording equipment, included one constructed week where recordings were made in three of the markets (Birmingham, Columbia and Tampa) and at least three consecutive nights of recordings at various times in the other two markets.

The 31 different record dates began fall 2003 in Birmingham (September 8-12, 2003). Researchers recorded primetime newscasts in that market on that date and again during the first week of November (the next sweeps period when advertising rates are set

based on rating measures in diaries). Also in November 10-12, 2003, both early evening and late evening recordings were made in the Columbia market. In spring 2004, newscasts were recorded in the Tampa-St. Petersburg market on March 3-5 and Richmond market March 31-April 1. In the interest of consistency across markets, a constructed week sample was drawn for the May 2004 period where a Monday, Tuesday, Wednesday, Thursday and Friday were randomly selected from the four-week sweeps period and one non-sweeps day as a control. Recordings were made simultaneously in the Birmingham, Columbia and Tampa-St. Petersburg markets. The six record dates were April 29, May 5, May 7, May 17, May 25 and June 2. Because of a malfunctioning recorder in the Columbia market on May 17, all shows from that date were excluded. During the approach of Hurricane Ivan and immediately following the expansion of one of the older of Birmingham's two primetime newscast to a one-hour format, recordings were made on September 12 and 13, 2004. Later that week, recordings were also made in the Oklahoma City market on September 16, 17 and 18, 2004. Again, the focus was primarily on primetime newscasts in Oklahoma City. Finally, an additional set of recordings was made February 13-16, 2005 in the Tampa- St. Petersburg market.

Four stations produced local news programs entirely on their own at least once a day, but some stations used a different news production strategy. The WB affiliates in Birmingham and Tampa and the FOX affiliate in Oklahoma City utilized a centralcasting strategy. They used weathercasts broadcast from a centralized newsroom to stations in the three markets via fiber-optics technology and produced by Accu-Weather, a private weather service. In the Columbia and Richmond markets, the FOX newscasts were

produced under a contract with a competing station. However, the FOX primetime news program used separately-branded weathercasts with a separate meteorologist.

Local newspaper reports and trade magazine market profiles helped determine the top two-rated stations in each market. Of the 146 weathercasts in this study, 40 aired in Tampa-St. Petersburg (DMA#13)², which was the largest of the five markets. In that market, the Media General-owned NBC affiliate WFLA-TV is the market leader followed by WTVT-TV, a FOX owned-and-operated station (Scheiber, 2003). Shortly after the study ended, WTVT extended its primetime newscast that started at 10pm Eastern Time into the 11pm hour. This move let the station compete head-to-head with the other network affiliates in the late news race (Squires, 2005).

Two other markets sampled were also top 50 markets. In the Birmingham market (DMA#40), which includes Anniston and Tuscaloosa, 49 weathercasts were analyzed. The Fox owned-and-operated station, WBRC-TV, already produces both a primetime (9pm) and a late news product and has, largely dominated for years as the number-one station. The number-two station, Allbritton-owned ABC affiliate, WBMA-TV, took top honors and the cover of the *RTNDA Communicator* magazine for its ratings coup (Cavender, 2005). Slightly smaller than Birmingham, but covering most of the state of Oklahoma was the Oklahoma City market (DMA#45) where 8 weathercasts were analyzed. New York Times-owned KFOR-TV an NBC affiliate has the largest news audience during most newscasts, followed by KOCO-TV, the ABC affiliate owned by Hearst-Argyle ("Oklahoma TV newscasts," 2005).

² Following an increase of 1 million households in the past year, the Tampa-St. Petersburg market moved up to the 12th largest in the country in the 2005-2006 rankings by Nielsen Media Research (Belcher, 2005)

Rounding out the sample were two smaller markets. Virginia's second largest media market, Richmond (DMA#61), covers 32 counties. The Lincoln Financial-owned NBC affiliate, WWBT-TV, is the perennial top-rated station there followed by CBS affiliate WTVR-TV, owned by Raycom Media (Romano, 2005). Twelve weathercasts from the Richmond market were analyzed in this study. Still in the 100 largest designated market areas, but the smallest of those in this study, Columbia (DMA#83) had 37 weathercasts. The oldest of the stations in the market, WIS-TV, also broadcasts across the Palmetto State and has remained number-one virtually since its inception. As a former Liberty station, WIS-TV was part of the recent Raycom Media acquisition (Werner, 2005). The second-highest rated station is Gannett-owned CBS affiliate WLTX-TV.

Coding

Two people timed and coded all 146 weathercasts and a separate person verified the predicted temperatures. The two coders, a graduate student in journalism and a university employee who worked previously as a television producer, noted the presence or absence of techniques such as a weather brand (a name for the weathercast), tools or technology (a named weather instrument), and cross-talk between anchors. "Weather brand" was coded based on whether a name for the weather segment was audibly or visually (i.e. animation) announced. The coders also noted the components of the weathercast such as current conditions, satellite map, short-term forecast and long-term forecast. Finally, the coders noted a predicted high and predicted weather condition for

the next day's forecast. For comparison, an undergraduate student transcribed the actual high temperature reported by the National Climactic Data Center (2003).

A total of 19 cases were checked for intercoder reliability on the five primary variables for this study. Where levels of agreement were unacceptable, a second set of 15 cases were cross-checked using one of the authors of this study as a coder. On those variables, acceptable levels of consistency between the primary coder (the graduate student) and the author were obtained. Since the codes were not particularly subjective in nature, accuracy was the primary concern. For the weather prediction, the coefficient of reliability (CR) was .74. For the standard weather fare, the coefficient of reliability was .84. For the crosstalk before and after the weathercast, the coefficient of reliability was .86. The announcement of the weather brand coefficient of reliability was .87 and for announcement of tools and technology the coefficient of reliability was .79.

Findings

Most of the 146 main weathercasts analyzed aired during the primetime or late evening newscasts. Only nine of the weathercasts or 6.2 percent were recorded during the early evening news. The average length of the weathercasts was 3:05. The weather predicted was evenly divided between inclement, non-inclement and in between predictions.

Table 1 shows the most common elements of those weathercasts. Radar, satellite maps, short-term forecasts and state & regional observations occurred most frequently. They're considered "Standard Weather Fare." At the same time, eight out of ten of the

weathercasts included an extended five-day forecast, national forecast maps and current conditions. Only about one-fifth of the weathercasts had weather video or an instance where the weather anchor talked while video was playing.

In other findings, of the 146 weathercasts, 35.6 percent predicted either scattered showers or thunderstorms for the next day while 28.7 percent predicted mostly sunny, partly sunny or sunny skies the next day. In between these two extremes, about a quarter (25.7 percent) of the weathercasts predicted either partly cloudy skies or scattered clouds for the next day. It is important to mention none of the weathercasts predicted snow or sleet, probably because of the stations' southern locations. Most of the weathercasts involved traditional introductions from news anchors. Only one in five of the weathercasts began with a so-called "audio open" where the weather talent appears after being introduced via sound or animation.

Of the various tools and technologies used for weather product differentiation, radar was, by far, the most common. Thus, consistent with the literature on "weather wars with radar," these data provide support for hypothesis 1: stations differentiated weathercasts by radar more than other tools or technology. Examining all the tools and technologies mentioned, only a handful of the 43 weathercasts in that category explicitly mentioned things such as live cameras or satellite images. Fox-owned and operated stations were most likely to make explicit mention of their radar tools or technology. The Fox weathercasts were 19.9 percent of the total sample and 44.2 percent of stations announcing radar tools or technology.

The data also support hypothesis 2, which suggested branding was more likely to be found among the number-one and number-two rated stations in the market. In fact,

67 percent of the branded weathercasts came from one of the top two stations in a market. A chi-square analysis revealed a significant difference between top stations and other stations use of a weather brand ($\chi^2 = 19.86, p < .001$). As Table 2 shows, the brand images of these top-rated stations are fairly similar from market-to-market with “Storm Team” being the most common brand image or name. The table also shows the extent to which the top-rated stations extend their brand image to the naming of tools or technology. Only four (WFLA, WBRC, KOCO, & WTVR) of the stations use both a brand name and a separate brand name for their tools or technology. About 60 percent of branded weathercasts on top-rated stations also ran longer than the mean time for a weathercast (3:05), and nearly all of the meteorologists were credentialed by either the American Meteorological Society (AMS) or the National Weather Association (NWA).

In the overall sample, only three television stations utilized the “degree-guarantee” promotional strategy. In most cases, the station gave itself a plus or minus three degree cushion, but did not show a significantly higher degree of accuracy than other stations. Therefore, the data do not support hypothesis 3, which addresses prediction accuracy and guarantees. In response to research question 1, which addressed the over all accuracy of sampled weathercasts, more than half (54.8 percent) of the predicted highs were within three degrees of the actual high temperature as reported by the National Weather Service. Twenty-one of the predictions or 14.4 percent were exactly right. Stations in the Sinclair Broadcast Group, most of which utilized meteorologists from the Accu-Weather service in a centralized news format, had the highest degree of accuracy of any station group in the study with six perfect predictions and 13 within three degrees.

Research question 2 asked about standard weather fare, or those elements one is most likely to see on a weathercast regardless of the station. As Table 1 shows, four items emerged in the data that occur in more than 90 percent of the 146 weathercasts: radar, satellite maps, short-term forecasts and state and regional observations. Another set of three items were very common—occurring between 80 and 90 percent of the time: extended or five-day forecasts, national forecast maps and current conditions.

In response to research question 3, the data suggest that some strategic planning takes place at the station group level to brand weathercasts or to emphasize weather as a means of differentiating products. This was particularly true in the Fox owned-and-operated stations which made the greatest use of branding of any of the stations groups. This was evident on one station's website—WTVT, in Tampa, boasts of having the largest weather team in the nation. Both WBRC and WTVT have five staff meteorologists and both now use a branded form of VIPIR product. While not branding the weather-segments, the Sinclair Broadcast Group had the most accurate weather predictions presumably, in part, due to the resources of the Accu-Weather service. Other station groups that had multiple stations in this study (Media General, Raycom) did not appear to have a weather strategy that was as consistent across media markets.

Discussion

As a product, a local station's weathercast is a tool by which television viewers may differentiate between choices in a marketplace. The data from this study suggest stations are, in fact, using the branding strategy to make it easier for viewers to know where to turn. But, as the brands go, there isn't much difference in the name. The analysis of the top two-rated stations showed meteorologist credentials are no longer a

distinguishing factor in that brand. Thus, stations are dependent on their tools to create vertical product differentiation. However, the data in this study show most stations who touted their tools as a reason to buy (watch) their weather product chose the same tool—radar. Even though a station promotes its accuracy (i.e. degree guarantee) as a differentiating factor, they are not necessarily any more accurate than other stations in predicting the next day's high.

Besides brand names, in the absence of few other product differentiations, perhaps stations have to look to non-broadcast delivery methods as a way to make their weather products stand out. As mentioned previously, severe weather brought in 100,000 hits for one Little Rock, Arkansas station in 1997 (Galetto, 1997). Also, Randle and Mordock's (2002) content analysis of home pages showed television stations offered twice as many weather presentation devices online as other traditionally offline media. Not among those devices analyzed in the 2002 study was streaming video, which has improved considerably as the number of web users with high-speed Web connections has increased. Further research might examine the degree to which online or other new technologies could serve as a product differentiation factor for a local station.

Accreditation and focusing on both tools and branding may also be helpful for vertical product differentiation. A station group that emphasizes weather tools and its weather brand may experience success in shoring up its market position among the two top stations as Fox Broadcasting appears to be doing. Considering the many markets where all the chief meteorologists have AMS accreditation (as shown in Table 2), the American Meteorological Society has made a wise move to upgrade its requirements to a new, more difficult Certified Broadcast Meteorologist (CBM) seal (Romano, 2005).

It is worth noting that the meteorologists or weather presenters themselves may be a product differentiation factor. Including the name of the weathercaster (whose name is recognizable by most viewers) in the video introduction is one way to emphasize what may be a product differentiating factor, the person delivering the weather information.

So although a focus on radar or accuracy by themselves may not lead to differentiation, weather related web sites, centralized weather casting to ensure greater accuracy, taking advantage of increased standards for accreditation, and a focus on branding and tools may help stations trying to get ahead in the weather wars. We also acknowledge that branding is bigger than the name used for an item in a television newscast. It can extend to things such as color combinations, symbols and other elements that help customers (or viewers) develop an emotional connection to the product (i.e. weather information) offered.

Despite including five markets ranging in size from the 13th largest to the 83rd largest designated market area, the convenience sample of this study is only a starting point for a new round of scholarly research into the weather activities of local broadcast stations. The feasibility of making recordings over multiple days limits one's ability to draw an ideal national sample. However, future research might analyze content over a wider range of stations from some of the smaller markets (markets larger than 100) as well. This study was based solely on an analysis of the product without any background knowledge of a station's weather strategy. A logical next step would be to contact those producing weather products to understand their intentions, goals and strategies when producing the weathercasts. Finally, future research might also extend this assessment beyond the nightly weathercast to the new media techniques stations are using to

differentiate their weather product as well as assess the experience of the individual weathercasters in a particular market.

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Table 1**Most Frequent Weathercast Elements**

<u>Weathercast Element</u>	<u>Frequency</u>	<u>Valid Percent*</u>
Radar	139	95.2
Satellite Maps	136	93.2
Short-Term Forecasts	134	91.8
State & Regional Observations	134	91.8
Extended Five-Day Forecast	124	84.9
National Forecast Maps	118	80.8
Current Conditions	116	79.5
Almanac	65	44.5
Cross-Talk After Weathercast	64	44.10
Cross-Talk Before Weathercast	57	31.00
Weather video	29	19.90
Live pictures (i.e. towercam)	20	13.70

BOLD indicates "Standard Weather Fare"

* Valid percent is out of 100% for each element

Table 2

Weather Products of Market Leaders

	Group Owner	Length <i>(mins:secs)</i>	Brand Image (name of weathercast)	Tools/Technology (named on air)	WX Seal (for wx chief)
Tampa-St. Petersburg, Fla. (DMA #13)					
WFLA-TV (NBC)	<i>Media General</i>	2:55	StormTeam 8	StormTeam 8 VIPIR	AMS
WTVT-TV (FOX)	<i>Fox Broadcasting</i>	3:27	SkyTower Weather	not mentioned	AMS
Birmingham, Ala. (DMA #40)					
WBRC-TV (FOX)	<i>Fox Broadcasting</i>	2:50	Fox6 Storm Warn	Fox6 Live VIPIR	?
WBMA-TV (ABC)	<i>Allbritton</i>	3:17	none	The Skytracker	CBM
Oklahoma City, Okla. (DMA #45)					
KFOR-TV (NBC)	<i>New York Times</i>	3:20	4Warn Storm Team		AMS/NWA
KOCO-TV (ABC)	<i>Hearst-Argyle</i>	3:32	First Alert Weather	First Alert Satellite	AMS
Richmond, Va. (DMA #60)					
WWBT-TV (NBC)	<i>Jefferson-Pilot</i>	2:48	First Warning Weather	not mentioned	AMS
WTVR-TV (CBS)	<i>Raycom Media</i>	3:19	Storm Team 6	DopplerMax 6	AMS/NWA
Columbia, SC (DMA #83)					
WIS-TV (NBC)	<i>Liberty Corp.</i>	3:09	Storm Team	none mentioned	AMS
WLTX (CBS)	<i>Gannett Broadcasting</i>	2:56	none	19Live Double Doppler	AMS

AMS American Meteorological Society
 CBM Certified Broadcast Meteorologist
 NWA National Weather Association