

AUSTRIAN MEDIA WEATHER COMMUNICATION – STRENGTHS AND WEAKNESSES

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I. INTRODUCTION

Media weather forecasters know that their reports reach an audience with different perception habits and that their presentation modes make the difference (Ayton, 1988; Doswell, 2003; Neuman, 1976; Wagenaar et al., 1979). In this complex communication situation, user research is needed as a quality control. In a cooperation project of Salzburg University, ESSL and ORF Austrian Broadcasting Corporation, after a pre-test (Keul et al., 2009), both a field experiment and a questionnaire survey on weather interest and knowledge were run in the spring of 2010 (Keul et al, 2010, 2011).

II. PRESENTATION OF RESEARCH

Parallel to the weather report field experiment testing of TV and radio MET reports on fair weather and warnings (see Keul et al. 2011, this conference), an extensive questionnaire covering 56 items about weather interest and knowledge of lay people was distributed to quota samples in east Austria and around Salzburg, a total of 237 adults (72 natives & 52 immigrants Vienna, 113 Salzburg). Tab.I shows a cross-section of the most relevant results.

About 50% of the samples were female respondents. The quota sample had a mean age of 35-40 years. With 30-40% low and 30-45% high education, the sample has a high-education bias.

Only 15-20% expressed disinterest in weather, 30-40% high weather interest. Only 10% called themselves very weather-exposed. 15-20% report daily attention to weather reports. Weather information is mostly used for leisure time activities, clothing and transport mode selection. Television, radio and internet are the most popular MET information media in Austria. In both samples, TV weather reports came first, followed by radio and internet.

The lay MET knowledge level is high: 50-60% can identify and name clouds (mostly cumulus, cirrus), over 90% know the adiabatic temperature gradient, 80% freezing droplets on a cold road surface, over 90% know a car is lightning-safe, but the majority computes a wrong lightning distance.

Usual MET report cloud cover phrases were correctly ranked (but overcast and heavy clouds mixed up). In 2008 the same was obtained for typical sunshine duration expressions. About 55% marked the right interpretations for „shower“, 50% for „sleet shower“, 75% for „summer storm“. Usual MET wind velocity phrases were put in a correct rank order, also expressions for rain duration/frequency. Snowfall levels were ascribed to correct Austrian locations by 50-60%.

Item	Austria east	Austria west
sample size	124	113
female	47%	50%
mean age (years)	35	40
low education	30%	42%
high education	45%	30%
high weather interest	31%	42%
very weather-exposed	9%	12%
always daily MET report	16%	21%
main weather media	TV 69%	TV 75%
	radio 60%	radio 65%
	internet 60%	internet 63%
knows cloud names	50%	60%
3 physics quest. correct	80%	88%
correct shower definition	57%	56%
correct snowfall 400m	48%	50%
correct snowfall 800m	49%	60%
corr. summer storm def.	73%	73%
TV forecast. very important	16%	12%
Prognosis/symbols import.	rank* 2,0	49%
T_max tomorrow import.	rank 1,7	50%
T_min tomorrow import.	rank 2,1	46%
T_max next days import.	rank 2,1	60%
T_min next days import.	rank 2,5	32%
weather warning import.	rank 2,1	49%
satellite picture important	rank 2,7	49%
rain/snow progn. graphics	rank 2,2	48%
weath.elem. in same order	80%	81%
prognosis tomorr. import.	rank 1,5	71%
prognosis 2-3 days import.	rank 2,2	38%
	*ranks 1-5	

TABLE I: Cross-section of most relevant numerical results.

TV forecasters, who personally present the weather, are considered very important only by about 15%. 80% said the weather elements should always appear in the same order (to reduce complexity for lay-people).

The most important media weather elements were max-temperature for tomorrow and the next days. The most important prognosis range was tomorrow. This means that the majority is concerned with the most trivial parameters for their immediate future. Planning for the next several days is done by less people on a routine base.

Item	Austria east	Austria west
<i>TV weather positive, ranks</i>		
general	1.	2.
prognosis, trends	1.	3.
satellite picture	3.	6.
map, graphics, animation	4.	4.
presentation, explanation	5.	1.
short, concise	---	5.
<i>TV weather negative, ranks</i>		
nothing	1.	4.
not enough details	2.	1.
too short	3.	---
too long	---	5.
prognosis incorrect	4.	2.
presentation	5.	3.

TABLE II. TV weather elements ranking.

The ranking of TV weather report elements (Tab.II) does not give a consistent picture of Austria-east and -west. Some elements are overall important (prognosis/trends, not enough details), others are not (presentation/explanation, incorrect prognosis). As the user motivation is high, but the subjective wishes highly different, a media weather report cannot fulfil a number of simple criteria, like a consumer brand, but is rather a compromise of ambivalent components ("more details, but not confusing") and has content limits because of the time constraint – TV/radio weather reports last 1-2 minutes in Austrian ORF.

III. RESULTS AND CONCLUSIONS

1. **Interest in weather reports is driven by information seeking, not only by existential necessity.** Only 10% see themselves as very weather-exposed, twice pay daily attention to the weather report and three to four times more people express high weather interest to plan leisure activities, clothing, transport modes. Motivation to consult the service is a strength of MET reporting.

2. **Television (about 70%) is the leading medium for the dissemination of weather reports**, followed by radio (60%+) and internet (60%+). This means that short, fast, condensed and highly visualized messages are still more important than "standing information" that can be downloaded, re-read and evaluated. For users with individually slow perception and understanding, this "data slip" is a weakness of the service.

3. **The lay knowledge level of meteorological basics is high in Austria** – 80-90% give correct answers to questions on clouds, temperature gradient, Faraday cage. The good education level is a strength for MET reports.

4. **Typical MET-report phrases are correctly decoded by the users** – cloud cover, sunshine, wind and rain duration phrases were put in the right order with few exceptions. Its good legibility is a MET report strength.

5. **Weather report elements should always appear in the same order (80%).** This strategy reduced complexity for lay users of the quick, condensed messages – reversing the usual order would be a weakness for users.

6. **Most attention is paid to rather trivial parameters** (tomorrow and following 2 days max-T) – The mainstream wish should be fulfilled, too much details resulting in a possible "complexity weakness".

7. Result of the parallel field experiment (Keul et al., 2011): **40% cannot extract their local prognosis from the MET report** – this is definitely a weakness, but very difficult to improve within a 60-120-seconds-report.

IV. ACKNOWLEDGMENTS

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