

# Supporting the Meeting Report Process

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## Abstract

*Meeting effectiveness depends on many factors. This paper explores one of them: the organizational integration of meeting outcomes. As we have observed, meeting outcomes do not flow easily to other organizational processes. Typically, the decisions taken in meetings are conveyed through meeting minutes, a situation that creates a gap of time, and sometimes a gap of interpretation, between meetings and the following organizational processes. To answer this problem, we propose a solution based on the notion of genre and system of genres. In order to implement the proposed solution, we created a framework used in the diagnosis and analysis of the situation. This framework was applied to 4 different cases. The obtained results allowed us to design a supporting system, which is broadly described in this paper.*

**Keywords:** Meeting Processes, Group Decision Support Systems, Electronic Meeting Systems.

## Introduction

According to Peter Drucker (1998), the organization of the future will be based on information and teams. This organization will be organized not like today's manufacturing organizations but more like a hospital, university or symphony orchestra. In this organizational context, meeting and other group processes will be even more pervasive. On the other hand, meetings are already the most widespread and – possibly – the most expensive way of coordinating teams of people in organizations. We have seen in the literature that a meeting may cost up to US\$1000 per hour in salary costs; and that there are more than three billion meetings per year just in the United States (Nunamaker, et al., 1997). Because of this huge potential market, Electronic Meeting Systems (EMS) have been viewed since the beginning of the 1980's as the Holy Grail to improve meeting processes and outcomes (Fjermestad and Hiltz, 1999).

The role of EMS can be broadly defined as facilitating two fundamental aspects of group work: content and process (Miranda and Bostrom, 1999). EMS change the static contents of traditional meetings (e.g. data in a flip chart) into dynamic contents that people can easily manipulate, model and share. EMS have also the potential to

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change traditional meeting processes, either by increasing participation, stimulating collaboration, guiding individual and group tasks to assure coherent results or avoiding conflicts.

Unfortunately, the success of EMS seems to depend on too many factors. For instance, Dickson et al. (1996) found out that some types of process support decrease group effectiveness (in particular, inflexible types of process support). Miranda and Bostrom (1999) also found out that some types of content support have a negative impact on meeting outcomes while others have positive impact (e.g. anonymity).

To complicate these matters, the role of EMS may not be confined to support meetings. They can extend their support to meeting preparation (Antunes and Ho, 1999; Antunes et al., 1999), for instance, with the purpose of defining an agenda or clarifying preliminary positions that people may want to bring to meetings. EMS can also extend their role to the post-meeting phase (Costa et al., 1999), e.g. to support evaluating the outcomes or increasing commitment.

Arrived to this point, we should stress that, besides few notable exceptions that will be described later, there is not much research work done in the subject of close-up and post-meeting support. Our objective, reported in this paper, is to tackle this issue using a divide and conquer strategy. Since EMS functionality can be divided in content and process support, we have started by addressing the process facet.

But how to characterize post-meeting processes? They primarily deal with organizational integration and effectiveness. In fact, independently of the quality of the outcomes produced by a meeting, they must flow to the organization and induce the production of goods and services or influence people's opinions. If a decision is a consequence of a question or request, a response must be sent to the ones who made the request. If it was decided that somebody would execute a task, so this person must be informed and instructed. During the meeting, participants may notice that there is not enough information to take a decision. In this situation, information must be requested to other internal or external entities. At the same time, all these events must be organized and orchestrated. This process may be improved by the use of a support system. This paper describes such a framework as well as support system.

## **Related Work**

Few researchers have discussed EMS support to the post-meeting phase. One of them is Milan Aiken, who has for some time been experimenting the integration of expert systems with EMS (Aiken and Carlisle, 1992; Aiken and Govindarajulu, 1994; Colon et al., 1994; Aiken et al., 1994; Aiken and Vanjani, 1998). Among the proposed systems, there is an Expert Session Analyzer (ESA) imposing structure to meeting outcomes such that they can be used as inputs to other systems. Later, a data retrieval agent (Aiken and Govindarajulu, 1994; Colon et al., 1994) and a natural language translation agent (Aiken et al., 1994) were also proposed. These new systems organize the results of brainstorming sessions (Aiken and Carlisle, 1992). Another tool, designated idea consolidator, was proposed to automate the process of organizing ideas (Aiken and Carlisle, 1992). This tool condenses text by identifying key words and matching them with users' comments.

Cire (Romano et al., 1999) is a system dedicated to support collaborative information seeking and retrieving. Although the major purpose is to support the meeting process, this system constructs a shared memory that may be used across and outside meetings,

thus falling in the post-meeting phase.

Raikundalia and Rees (1995) also proposed a system named LoganWeb, which is an electronic meeting document manager for the World Wide Web. LoganWeb tools provide meeting transcripts with information in various readable and navigable forms.

## Framework for Studying Close-Up and Post-Meeting Processes

Post-meeting processes primarily deal with the organizational integration and effectiveness of meeting outcomes, which ideally will flow to the organization and induce the production of goods and services or influence people towards positive emotions and constructive relations.

One recent research attempt to characterize organizational communication in concrete terms is based on the concept of genre. The concept of genre was imported from the literature (Yates and Orlikowski, 1992), but was generalized to the organizational context (see, for example, Crowston and Williams, 1999). A genre of organizational communication is an institutionalized communicative action (e.g. memo, report, resume, inquiry, letter, meeting, announcement, expense form, training seminar).

Genres are characterized by their purpose and form. The purpose is not a private motive, since the community members must socially recognize it. In an empirical study examining the communication exchanged by a group of workers that relied on electronic mail for coordination, Orlikowski and Yates (1994) identified the following purposes: informational message; comment on group process or use of medium (meta comment); proposed rule, feature or convention (proposal); request for information, clarification or elaboration (question); reply to previous message or messages (report); and residual category (e.g. thanks, apologies, ballots). The form of the genre refers to observable aspects of the communication, such as medium, structural features and linguistic features. In the previously cited study (Orlikowski and Yates, 1994), several forms were also identified: embedded message, graphical element, heading, opening, sign-off, sub-heading, subject line and word or phrase emphasis.

Genres may be linked together in a way that constitutes a communicative process. This circumstance creates a genre system; with interdependent genres that are enacted in some typical sequence. Orlikowski and Yates (1998) proposed such a genre system to characterize meetings. According to these researchers, a meeting is a composition of four genres: meeting logistics; meeting agenda; the meeting itself; and the meeting minutes or reports.

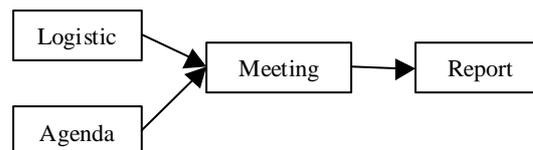


Figure 1: The meeting as a system of genres (adapted from Orlikowski and Yates, 1998)

Of course, this genre system is so broad that is hardly useful to describe post-meeting processes in detail. However, it provides a starting point for studying the issue.

One way to proceed with this subject is either by decomposing or specializing the genre system (Malone et al., 1997). Through decomposition, we can “divide” the system in a set of components. The meeting may be divided in a set of decisions (or issues). The agenda may be decomposed in agenda topics and the minutes may also be decomposed in communicative statements. Typically, each agenda topic has a direct relation with a meeting issue and also a communicative statement.

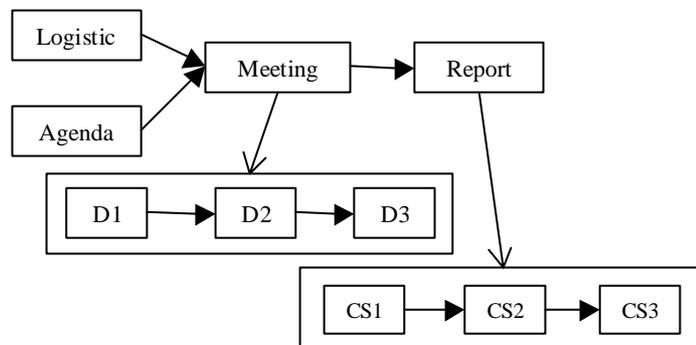


Figure 2: Decomposition

We should note however that decomposition rapidly reaches a point where the notion of genre is void, because social recognition is lost. So, we may try to specialize the genre system instead. Specific logistics, agenda, meeting and minutes genres may come together to form specialized genre systems, such as strategic meeting, operational meeting, brainstorm meeting, etc. Contrary to the decomposition approach, specialization preserves social recognition.

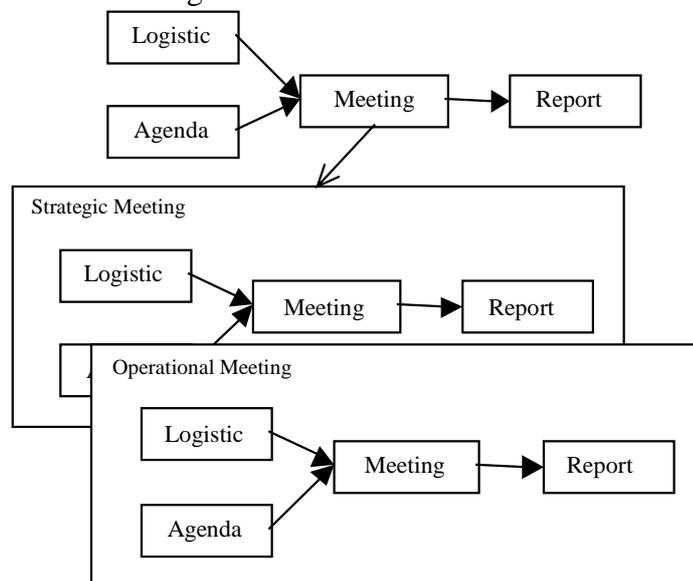


Figure 3: Specialization

We thus arrive to a framework for analyzing post-meeting processes based on the communication of socially recognizable communicative acts – genres – which, combined together, assemble communicative processes – genre systems. Genre systems may then be decomposed and specialized. Finally, the post-meeting process comprises agenda topics, meeting issues, communicative statements, all combined in different manners to form specific genre systems. In the next section we will show how this framework can be used in practice.

## Using the Framework

Genre analysis is not an abstract categorization exercise, but closely tied to the situated activities of the community using them. It is what the community members (or at least the most skilled ones) recognize as genres that count. The situated nature of genres makes it difficult to develop post-meeting support without analyzing how certain communities of people structure their meetings and transfer outcomes to the organization.

As an attempt to understand these matters and, at the same time, assess the proposed framework, we analyzed several cases of meeting processes in different organizational environments: a large public organization, a small accounting firm, the marketing department of a real state promotions firm and a cultural association. As illustration, we present here the process and some results obtained from the first case, where we analyzed a long collection of outcomes produced by meetings of the directive members of a public organization. This collection was formed by 30 meeting sessions, which took place in a period of 4 year (from 1996 to 1999).

The genre analysis followed these steps:

- 1- Identify logistic genres;
- 2- Divide each meeting in decisions;
- 3- Identify genres of decisions;
- 4- Identify genres of agenda topics;
- 5- Identify genres of meeting minutes;
- 6- Identify genre systems.

Only one logistic genre was found, because decisions have a high level of formalization and the regiment of this organization establishes date and time.

The minutes from the 30 meetings were analyzed and decomposed, resulting in a total of 214 decisions. The number of decisions per meeting was very irregular, from 3 to 16 decisions. The decisions were then grouped again by similarity, which produced the following genres: “decide action”, “decide unitary plan”, “postpone decision” and “decide continuous plan”.

The following genres of agenda topics were then identified: occasional requests and repetitive requests.

Finally, it was time to categorize communicative statements in genres. Nine main genres emerged: (1) response; (2) instruction; (3) document approval; (4) agenda; (5) rule, regulation or explanation; (6) document transfer; (7) information request; (8) delegation; and (9) information.

Having accomplished the decomposition of genres, we carried on to the specialization phase, analyzing the correspondences between agenda topics, decisions and communication statements. The obtained genre systems are compiled in Figure 4.

Those genre systems were named according to the decision genre, which seems to be the major differential factor: decision for action, decision to create unitary plan, decision to create continuous plan and postpone decision. The lack of reference to the logistic genre is because there is only one such genre. Note also that the information genre is not connected, because it can be attached to any of the genre systems that were analyzed.

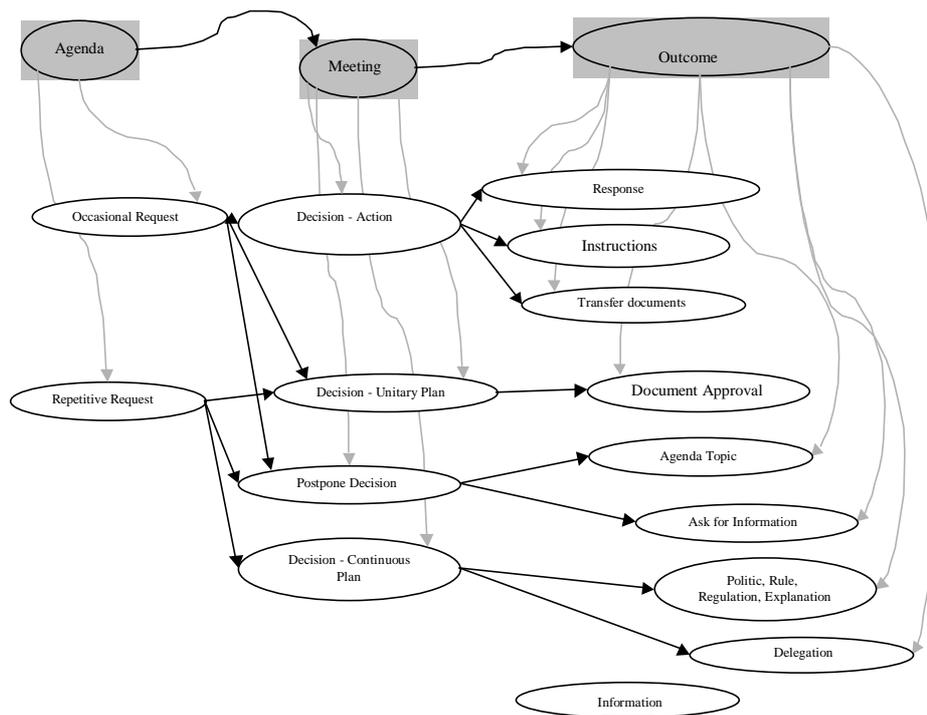


Figure 4: Genre systems

This process of classification and the final results obtained showed us some characteristics of genres:

- There is a need of a relatively small number of genres. The small number of genres that were defined cover entirely 4 years of meetings.
- Occasionally some decisions produce more than one genre. For instance, 116 decisions produced 46 responses, 102 instructions and 2 document transfers.
- Each genre may be decomposed in sub-genres with very slight differences (different receivers, different forms). For instance, responses can be sent either to users, employees or external entities.

As it was already mentioned, this framework was also applied to smaller and less bureaucratized organizations. In those situations, not described in this paper, the framework was much more difficult to use because oral communication was dominant. Nevertheless, the identification of genres was very well accepted.

Using the results obtained and described above, we created a system to support and help meeting participants in the process of creating meeting reports. In the next section we describe this system.

## Incorporating the Framework in a Report Meeting System

The framework and results of the work reported in the last section is being incorporated in a software system that supports the process of production and dissemination of meeting results. In this section we present the main features of the system.

The general purpose of this system is to support the production and dissemination of meeting results. This purpose is accomplished through two goals: 1) suggestion of communication genres; and 2) support to the production of meeting reports. Necessarily, the resultant system is composed of two different software tools: an analysis tool and a

reporting tool.

The analysis tool aids meeting participants in the identification of meeting genres, genre systems and repertoires of genres. Using this tool, it is possible to identify and suggest the possible structures that are behind a meeting.

The reporting tool aids meeting participants producing meeting minutes. Currently, this is the only tool that has been prototyped and, thus, described in more detail.

The reporting tool guides its users through five steps: Logistics, Agenda, Context, Meeting and Outcomes. In the Logistics step, the tool requests general data about the meeting (time, place, people).

In the following step (Figure 6), the meeting agenda is defined. This process may be completed in a top down perspective, by identifying generic objectives, the agenda type and agenda items. The system already provides some pre-defined objectives, which are obviously linked to the agenda genres that may be selected. Each agenda item has also an expected outcome linked to it.

In the Context step, users can identify documents that are necessary or available during the meeting. Each document may be linked to a specific agenda topic and can also be categorized: it may be a basis document, if the agenda topic is directly related to it, like for instance in document approval; it may be a support document, if it is used to support arguments or decisions; and it may finally be a context document, if its purpose is just to give context or explain the decision.

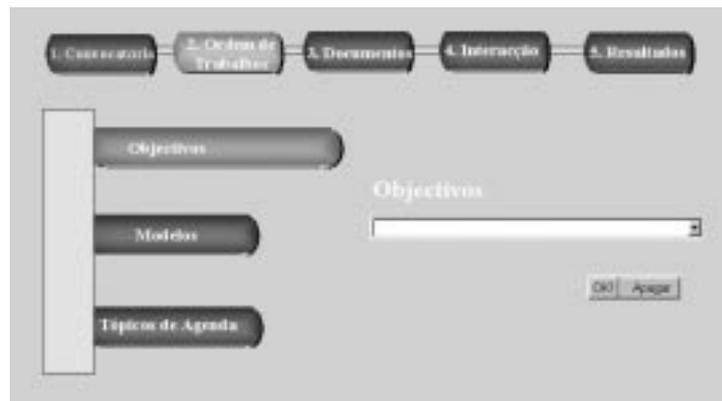


Figure 6: Agenda

In the Meeting step (Figure 7), there are three major activities supported: review agenda, report discussion and evaluate meeting. In the first case, the tool presents the agenda to the audience and allows making any necessary last-minute changes. In the second case, the tool serves as a data repository, allowing to import data from other tools such as GDSS used in the decision process. Finally, the tool allows to document the participants' evaluation of the meeting.



Figure 7: Meeting

In the Outcomes step (Figure 8), there are two different activities supported:

- List the outcomes produced during the meeting (the tool provides several suggestions, related with the genre systems know by the tool);
- Send meeting outcomes to any appropriate receivers.



Figure 8: Outcomes

The above tools may be used during a meeting, where a meeting facilitator is leading the participants while using the tools with an electronic board. Another option that is considered is to use the above tools after the meeting, where a meeting reporter is summarizing information to produce the final minutes.

Another important feature of the system is the possibility of using the tools either individually or cooperatively:

- The group may cooperatively introduce the information requested by the tools. In this scenario, each participant must have a workstation running the tool.
- Meeting participants may avoid using technology in the meeting. In this case, the facilitator must operate the tools in accordance with the verbal instructions from the participants. Concerning the infrastructure, the facilitator must use an electronic board in this case.

Currently, considering the above scenarios, the system is being developed with WWW technologies (Perl, HTML, Java). Several users also suggested the possibility of developing a version specifically for PDA. This option is being analyzed.

## **Discussion**

Our final aim is to develop EMS technology capable to support the meeting report process, where meeting outcomes should easily and efficiently flow into the organization.

This target is partially reached with the prototype discussed in this paper. But, we may still ask, which are the contributions of the framework proposed in this paper? We believe that there are two major contributions. First, the framework characterizes the post-meeting process, making the logical division of meetings in logistics, agenda topics, decisions and communicative statements and, at the same time, establishing associations between these components.

Second, the framework characterizes close-up and post-meeting processes using genres that the community involved can recognize and share. This is important because it allows developing EMS that, potentially, are closer to the ways people use to disseminate results to the organization.

Furthermore, genre analysis has the potential to highlight organizational inefficiencies. For instance, in the organization studied, it was observed that in some situations requests did not have responses because such a type of response was not institutionalized for a number of situations.

On the other hand, there is some additional effort associated to EMS development, since the genres peculiar to each community must be adequately and clearly identified, in order to configure correctly the EMS. We found out however that a relatively reduced number of genres are necessary to describe meeting outputs in organizations.

The results obtained from this work are now being used in the implementation of a system. This system is implemented with WWW technology, allowing supporting both individuals and groups. The system also supports different levels of participation.

## **Conclusion**

This paper explores the process of integrating meeting results in the organization.

To solve this problem, we developed and applied a framework based on the concepts of genre and genre system.

In order to assess the applicability of the framework, we analyzed a long collection of outcomes produced by meetings of directive members of a large public organization.

With the results from this analysis, it was possible to develop a software system to support meeting groups, facilitators and reporters in the process of producing meeting reports. This system was implemented with WWW technology, allowing supporting both individuals and groups with different levels of participation.

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