

GROUPWARE - MODERN INFORMATION MANAGERIAL METHOD

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Abstract:

The notion groupware contents the information technologies that facilitate the team work and that are intended for communication, collaboration, coordination within the organization. Having as base software routines for teamwork, the groupware technology has many applications in the management process of the organization. The notion groupware refers to a special class of web packages connected to a network of personal computers: email, chat, video IP, newsgroups, etc. The studies from the literature consider the groupware as a class of software programs that facilitate the coordination, the communication and the cooperation within the member of a group. As in marketing the marketing-mix is known as the "4P", in the area of groupware its characteristics are known as the "3C": communication within the group; coordination among the members of the group; collaboration among the members of the group. From the groupware software those with relevance for the managerial activity are: electronic mail, Internet meetings, time management, project management, the management of dissimulated information. The groupware technologies can be divided in many categories based on two elements: time and space. The users of a groupware work together in the same time – real time groupware, or in various periods of time – offline groupware.

1. Groupware – definition and characteristics

The concept groupware signifies the information technologies that facilitate the team work and that are intended for communication, collaboration, coordination within the organization

Based on software applications for teamwork, the groupware technologies have a broad set of applications within the management projects of the firms. Groupware refers to a set of web technologies connected to computers networks, such as email, chat, video I.P., news groups. In this sense, all the employees of an organization interact with the purpose of realizing common tasks. The information technology changes the way employees cooperate and it is utilized in order to distribute the

information resources, to communicate ideas, to coordinate the efforts of some members of the organization, etc.

For example, in order to communicate rapidly and efficiently within the organization and with the external environment it is necessary to create a local communication network (LAN – local area networking) and to ensure it with specific teamwork technologies.

Within the multinational companies, the workgroups use global telecommunication networks to coordinate the activities of the subsidiaries located in various part of the globe.

The design of groupware technologies implies the understanding of the way the groups work and the way the persons from a group behave, but

also a good understanding of the way in which the information technology affects the tasks of the end-users. One must take into consideration the characteristics of group organization. For example, a group of 100.000 persons acts different than a group of five persons, and the performance of these technologies varies from one group to the other.

The manager of a groupware project must know the degree of homogeneity of the users from a specific group and the roles they will have in an environment characterized by collaboration.

We can define the groupware technology as an information managerial tool based on using software packages that facilitate the teamwork and determine a tight cooperation among the members of working group, acting in the same or different spaces or time periods.

The specialist regards the groupware technology as a set of applications that facilitate the coordination, the communication and the cooperation between the members of the group.

As in marketing the components of the marketing mix are represented by the "4P", in the field of groupware the characteristics are represented by the "3C" concept: communication within the group, coordination among the members of the group, the collaboration among the members of the group.

(a) Communication within the group is realized by using the electronic mail. The most important facility is the mailing list by which a message can be sent to a group of persons, the catalogues to classify the messages, the possibility to search some

messages, the possibility to securize some information. A good communication between the departments of a company and between various hierarchical levels is the base ground for best decisions.

(b) The coordination among the members of the group can be of three kinds: time, space and tasks.

Time coordination can be realized using software type *Project Management* and using an electronic agenda.

Space coordination offers the possibility to know the place of participants that work together to a common project. Web-camera technologies play an important role in type of coordination.

Tasks coordination requires the electronic distribution of the tasks of each group member. Based on that, each member of the group knows the working phase of the other members of the groups.

(c) Collaboration can be realized using a set of technologies based on IP (Internet Protocol) and multimedia. The videoconferences facilitate the meetings at distance and represent the most important collaboration applications. The persons at distance and involved in a common process can work in real time.

2. The advantages of a groupware project for the management of an organization

A groupware project can be implemented only in a company that uses a participative management style. The managers of the successful companies realize the need for information sharing and they implement groupware technologies.

One of the key responsibility of the information technology management is to distribute the own information to all hierarchical levels of the company.

The implementation of collaborative information technologies for end-users has opportunities but also some problems for the managers of the companies. The establishment of a framework for the groupware is a solution. Using this center can be realized the electronic connections for the participants of a project within a firm.

At the beginning of the team group's activities, the managers should consult the information technology specialists in order to assist the coordination and the communication within these groups. They can bring an important contribution when problems arise or they can observe the deficiencies of the information system designed to function as a groupware. Managers must also establish the policy regarding the acquisition of hardware equipments and software packages in order to improve the teamwork performances.

The main advantage of groupware technologies is that the members of the group may not be located in the same physical location. They can belong to a virtual working group, united by common tasks but not by geographical proximity.

Thou the groupware packages offer many software applications that can perform a lot of tasks, the cooperation, coordination and collaboration represent the key elements for the management of the firm.

The groupware packages lead to the automatization of the information

circuits, represent a support of decision-making process and develop many application that perform some tasks and requires some competences. The base applications for management activities are: email, electronic meetings, the management of tasks programming, management of projects, the management of information sharing.

The characteristics of each application are detailed below:

(a) Electronic mail – is based on sending the electronic messages to the members of the working groups and uses e-mail, VOIP, bulletin board systems;

(b) Electronic meetings – facilitate the electronic reunions of the working groups – for example the videoconferences;

(c) The management of tasks programming – is realized using the electronic calendars;

(d) Project management – is based on software programs that allow the recording, programming and optimal allocation of resources for different managerial projects;

(e) The management of shared information – is realized by using software programs that block the information circuits when some information should not reach some users. Also are implemented securization systems by using passwords for strategic information.

The groupware technologies offers semnificative advantages versus the information systems for individual users.

The main advantages of the groupware method can be detailed as follows:

- facilitate the communication, that becomes faster, clearer and convincing;
- allows the communication that

would not be possible in other way;
- it determines the reduction of transportation costs for the members of an organization;

- allows the realization of common goals groups that cannot have sufficient participants in other way;

- it saves time and financial resources in coordination of the working groups;

- it facilitate the solving of some problems;

- it allows for modern and cheap communication methods.

These advantages should convince the managers of the companies that have not implemented yet groupware technologies of their necessity in order to increase the performance of their organization.

3. Types of informatics solutions offered by the groupware technologies

In the work „Practical Internet Groupware”, Jon Udell defines the informatics solutions offered by the groupware technologies thus:

- A way to use internet protocols and customer – server technologies

- A way to build applications based on web technologies to create, transform, organise, transmit, search and publish documents in electronic format.

- A way to manage a series of documents containing half-structural dates representing a considerable part of intellectual capital of a firm.

- A way to put in practice web services to support the mentioned excelsior activities.

- The groupware technologies can be split in many categories

depending on two dimensions: the time and the space. Thus:

- The groupware users work together in the same time – „real time” groupware, or in different periods of time – „offline” groupware

- Users work in the same place – „face to face” groupware, or in different places – „on distance” groupware

3.1 „Offline” groupware solutions

(a) The E-mail is the most known groupware application. Although, primary technology was designed to send a message between two persons, now even the simplest technology based on e-mail includes features such as: attaching files to messages, the preservations in safety of copies, creating mailing – groups, etc.

The more complex E-mail systems include: possibilities to process and sort messages and structural communications (messages asking for certain information).

(b) Mailing lists are similar to E-mails, teh most significant difference is that is addressed to important groups of persons in place of a community one-to-one.

As opposed to news-groups, who deliver the messages to a user when they are asked by this one, mailing lists offers the messages from the moment when these become available.

(c) Workflow systems allow to deliver documents in electronic format inside of an organization.

An example of an workflow application is the next one: an employee sends an expenditures report to his superior to be approved, and a copy is zipped; this one receives the document on electronic path, approves it, records

in the firm account and sends it farther to the accounting department.

Workflow systems allow a fast ascension of information from base of

operational pyramid to top-management and a downflow of decisions from top-management to inferior hierarchical levels.

	„in real time” groupware	„offline” groupware
„face to face” groupware	Presentation supports Vote system	Computers in network
„on distance” groupware	Chat Videochat	E-mail Workflow

Figure no. 1 Groupware technologies

(d)

) **Hypertext** is a system that binds text documents one to another – the most representative example: Web, based on this system. When many persons bind the documents and authorizes their circuation, the system becomes the support for an workgroup.

Some systems based on hypertext contain some facilities of the kind: the possibility to se who visited a page or a link, or at least how many persons visited a page or a link. An another multi-user feature of hypertext (that don't occures always) it allows to any user from a workgroup to create connections to certain pages created by the workgroup users.

(e) **Group calendars** allow associative programming of important stages of management projects and the coordination of groupwork tasks. It can be noticed if certain associative programming of execution of tasks is not coordinated to others or if certain meeting dates don't suit to all participants. Some group calendars allow certain participants to project localization. At large, the users of such applications must be aware of the fact that the time allocated to the creation of

calendars will be justified by the benefits offered by these.

3.2 „Real time” groupware solutions

(a) **Delivered documents** allow to two or more persons to view same documents in different places. It is the most used groupware application by the firms.

For example: the employees of the marketing department can have a quick access to reports made by accounting department which will help them to better substantiate the mix of marketing. Most advanced delivered documents systems allow the partition of design applications and graphics.

(b) **Video and audio communications systems** allow the collaboration in real-time to workgroup participants using multimedia technologies. Choosing the video communication system depends on the cost and the compatibility to other informatics technologies. Video systems are advantageous in case that are realized conferences on-line, but in most cases from the firms are expensive, being used audio communications systems.

(c) Interactive chat/dialogue systems allow participants to a workgroup to communicate in real-time. The message written by a person appears in a dialogue window and can be read in the same time by another group participant. There are often created channels and chat rooms depending to place, number of participants, chat subject, etc. in most channels and chat rooms the access is checked up and in one cases the chats are managed by an operator that has the role of moderator.

The advanced chat systems allow users to transfer images, sounds, voice and are less expensive than audio and video communications systems.

(d) Group decision support

systems are used to take the most efficient group decisions. They deliver assistance instruments for brainstorming sittings, to fashion some activities, to establish production of some events, voting, etc. At first, these systems were used to facilitate the business meetings: by time have become instruments that encourage the equal participation to chat and the anonymity.

We can say that adopting a groupware system causes an efficient management of projects, facilitation of communications, integration of an firm documents on a multimedia platform who, in ultimate will lead to the growth of satisfaction degree as for the firm employees as for clients.

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