Chapter 3

Project Communication Management in Industrial Enterprises (Step by Step)

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Additional information is available at the end of the chapter

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Abstract

Communication is the basis of everything and is thus the key to effective project management. The question is "What is the relationship between the project management and communication?" Effective communication is one of the main elements of project management. Communication is a critical part between people, information, and ideas, and communication is the basis for project performance in organization. This chapter will be focused on "project communication management step by step." The chapter deals with all steps of project communication management which are defined as a combination of logical-related communication methods, tools, and techniques for a successful initialization, planning, implementation, control and administrative closure of the project communication. In the chapter communication environment (communication strategy, organizational structure), communication channel (communication methods, tools, frequency, and support of communication), communication cognitive (communication differences and skills), and communication system (feedback system and system of sharing and distribution of information) will be described.

Keywords: communication, project communication, project, communication environment, communication channel, communication cognitive, communication system

1. Introduction

Communication is an essential process in our day-to-day life, and the entire world revolves around it [1]. What is communication? Communication is everything. Communication is the

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sharing of information. Communication is the giving and receiving of messages. Communication is the transfer of information from one or more people to one or more other people [2]. Lasswell's maxim defines communication as "who says what to whom in what channel with what effect" [1]. The ability to communicate is an essential life skill and one that can be continually developed [3]. The word communication comes from the Latin word communis, which means common. When we communicate, we are trying to establish "commonness" with someone. That is, we are trying to share information, an idea, or an attitude among the team involved in that particular project [1]. Communication is a vital part of our daily routines. Students sit in school and listen to teachers. People read books and magazines. They talk to friends, watch television, and communicate over the Internet. The workplace is no different. Experts tell that 70–80% of working time is spent in some kind of communication [4]. Communicating is also at the heart of all good management. You cannot be an effective manager unless you know how to communicate confidently in whatever circumstances; this can be either on a one-to-one basis, with your team, or indeed if you are a senior manager or a director, to the entire organization [5].

On the base of these definitions, we can say that communication is the basis of everything and is thus the key to effective project. Even in biblical times, the importance of project communication was contained in the chronicle of the Tower of Babel, whereby it was reported that God caused a construction project to fail by interrupting communication through the creation of multiple languages [6].

What is the relationship between communication and project management? The answer to this question is not simple, because these two concepts are interrelated. Effective communication is one of the main elements of project management, and therefore it is necessary to be constantly engaged with communication [7]. Nowadays, the projects have large dimensions. They need a lot of time and resources to implement. They use a lot of funds, and it is unrealistic that each employee drove by itself. Therefore, project managers are responsible for projects. Project managers spend at least 80–90% of their time communicating on projects [8]. By the use of communication skills, project managers help to plan, direct, control, and coordinate their operations throughout the project life cycle. Most of the communication activities of project managers involve interpersonal communication and project communications, sharing information with project team members, and other stakeholders [9].

What is the relationship between the project management and communication? The answer to this question is not simple, because these concepts are interrelated. Effective communication is one of the main elements of project management [10]. Communication is a critical part between people, ideas, and information. Communication is the basis for project performance in any organization. And, therefore, it is necessary to be constantly engaged with communication.

The "Triple C model" talks about it. The importance of Triple C model can be summarized by the diagrammatic relationship: **communication** – cooperation – coordination = **project success**. Other elements of "C," such as collaboration, commitment, and correlation, are embedded in the Triple C structure. Of course, the constraints of time, cost, and performance must be overcome all along the way. The Triple C approach incorporates the qualitative (human) aspects of a project into overall project requirements. Triple C model facilitates better

understanding and involvement based on foundational communication. The Triple C approach elucidates the integrated involvement of communication, cooperation, and coordination. Communication is the foundation for cooperation, which in turn is the foundation for coordination. Communication leads to cooperation, which leads to coordination, which leads to project harmony, which leads to project success [6].

If the project should be successful, a certain level of communication is needed that affects the success of the project. Underneath the level of communication, the **five main areas of project communication** can be seen in **Figure 1**: **communication environment** (communication strategy, organizational structure, project culture), **communication channel** (communication methods, communication tools, communication frequency, support of communication), **communication cognitive** (communication differences, communication skills), **communication system** (feedback system, system of sharing, and distribution of information), and **complementary part** (communication matrix and analysis of stakeholders).

Figure 1. Five main areas of project communication management (own processing).

2. Methods and results

In this section of the chapter, theoretical research and empirical research of project communication management in industrial enterprises will be characterized.

2.1. Theoretical research

As the first point, we analyzed the project communication in international standards and methodologies of project management. For the comparison we have selected standard ICB® (IPMA® Competence Baseline) issued by IPMA® (International Project Management Association®), methodology PMBOK® (Project Management Body of Knowledge®) issued by PMI® (Project Management Institute®), and methodology PRINCE2® (Project in a Controlled Environment®) issued by OGC (Office of Government Commerce) in the UK.

ICB® describes the qualifications of project management. There are technical competences, behavioral competences, and contextual competences. Communication should be useful, clear, and timely. Communication under this standard may take many forms: oral, written, static or dynamic, formal or informal, and volunteered or requested [11]. PMBOK® is the most engaged one in project communication. Project communication management includes the processes required to ensure timely and appropriate generation, collection, dissemination, storage, and ultimate disposition of project information [12]. PRINCE2® is the least engaged one in project communication. The area of project communication is described in the following part "processes": The communication management strategy addresses both internal and external communications [13].

In the following section of the paper, we compare the basic international standards and methodologies of project management. Comparison of standardized project management methodologies is very difficult. Their different conception is very difficult for objective comparing. They are original, and they have widely varying vocabulary. They have different areas of knowledge, tools, techniques, procedures, material presentation, and other aspects of project communication. For comparison, they were used as the main areas of project communication, which are imaged in **Figure 2**: communication environment, communication channel, communication cognitive, communication system, and complementary part.

2.2. Empirical research

The analytical part of this paper focuses on the analysis of the current status of project communication management in industrial enterprises in Slovakia. The analysis was realized through qualitative and quantitative research.

2.2.1. Qualitative research

Qualitative research of project communication management served as a pilot study. The aim was to analyze how project managers understand the problems of project communication management in practice. In the research three medium-sized industrial enterprises (number of employees from 50 to 249) and one large industrial enterprise (over 250 employees) were interviewed and selected. The main results of qualitative research are imaged in **Figure 3**.

Basis formulated on the base of qualitative research:

- In the written documents the prescribed templates that make easier and clearer work in the project are absent.
- In the management of project communications, project managers frequently understand the creation of the "communication matrix" and treatment of the "stakeholder analysis."
- Project managers are interested in the project management methodology of communication, which will take into account communication environment, communication channel, communication cognitive, and communication system.
- For the management of project communication, project managers do not follow international project management methodologies and standards.

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Monitored elements	PROJECT MANAGEMENT METHODOLOGIES OR STANDARDS		
	ICB®	PMBoK®	PRINCE2®
COMMUNICATION ENVIRONMENT			
Communication strategy	☒	☒	✓
Organizational structure	☑	☑	☑
Project culture	☒	☒	☒
COMMUNICATION CHANNEL			
Communication methods	☑	✓	☑
Communication tools	☑	✓	☑
Support of communication	☒	☒	☒
Communication frequency	☑	☑	☑
COMMUNICATION COGNITIVE			
Communication differences	☒	☑	☒
Communication skills	☒	☒	☒
COMMUNICATION SYSTEM			
Feedback system	☑	☑	☑
System of sharing and distribution of information	☒	✓	☒
COMPLEMENTARY PART			
Communication matrix	☑	☑	☑
Analysis of stakeholders	☑	✓	✓

Explanatory Notes:
☒ methodology or standard does not include a specific element
☑ methodology or standard describes the element only briefly
✓ methodology or standard describes in detail, what the specific element addresses

Figure 2. Comparison of project communication in international methodologies and standards of project management (own processing).

2.2.2. *Quantitative research*

Qualitative research of project communication management was chosen because it is very good and easily quantifiable. Information about the management of project communication was surveyed by questionnaire. The research consisted of 128 industrial companies which use

PROJECT COMMUNICATION MANAGEMENT - general information				
	Enterprise A	Enterprise B	Enterprise A	Enterprise B
Size of enterprise	Large (over 250 employees)	Medium-sized (50-249 employees)	Medium-sized (50-249 employees)	Medium-sized (50-249 employees)
Sector	Automotive industry	Engineering industry	Engineering industry	Chemical industry
Job position	Project manager	Project manager	Project manager	Project manager
Analysed project	Large project (minimum 12 months)	Large project (minimum 12 months)	Medium-sized project (minimum 3	Small project (minimum 2 months)
Methodology/standard of project management	Own methodology	Own methodology	PMBOK®	ICB®
Does your document – methodology of project communication management content following elements?				
COMMUNICATION ENVIRONMENT				
Communication strategy	✓	☒	☒	☒
Organizational structure	☒	✓	☒	☒
Project culture	☒	☒	☒	☒
COMMUNICATION CHANNEL				
Communication methods	✓	✓	☑	✓
Communication tools	✓	✓	☑	☒
Support of communication	☒	☒	☒	☒
Communication frequency	✓	✓	☑	✓
COMMUNICATION COGNITIVE				
Communication differences	✓	☒	☒	☒
Communication skills	☒	☒	☒	☒
COMMUNICATION SYSTEM				
Feedback system	☒	☒	☒	☒
System of sharing and distribution of information	☒	☒	☒	☒
COMPLEMENTARY PART				
Communication matrix	☒	✓	✓	✓
Analysis of stakeholders	✓	✓	☒	☒

Explanatory Notes: ☒ methodology or standard does not include a specific element
☑ methodology or standard describes the element only briefly
✓ methodology or standard describes in detail, what the specific element

Figure 3. Processing of qualitative research (own processing).

the project management. The survey was participated in 85 small, medium, and large industrial enterprises in Slovakia (128 respondents).

Basis formulated on the base of quantitative research:

- Industrial enterprises mostly do not have the written document, which deals with project communication.
- Managing of project communication can be considered as an important area within the project.
- Project management usually does not follow international project management standards and methodologies (ICB®, PMBOK®, PRINCE2®), but enterprises have increasingly developed its own methodology.
- Enterprises in the management of project communications take only a few into account elements such as multiculturalism, communication skills and communication strategy, and project culture.
- Industrial companies are interested in the developed project management communication methodology.

3. Results

Opportunities to improve communication within the project are numerous. The industrial enterprises can also create different communication models or different procedures for communication. In this contribution the scheme of **project communication management** is suggested. Project communication management is defined as a combination of logical-related communication methods, tools, and techniques for a successful initialization, planning, implementation, control, and administrative closure of the project communication (**Figure 4**).

3.1. Initialization of project communication

Initialization of project communication includes formulation of communication strategy and organizational structure of project communication.

3.1.1. Communication strategy

The goal of the **"communication strategy"** proposed by this contribution is to ensure effective sharing of information in the project. A well-processed communication strategy allows you to perform effective control of your work on the project. The communication strategy removes doubt, highlights planning, and includes all project stakeholders. The communication strategy should be elaborated by the project manager, together with the project promoter and the project team leader (if any). In the communication strategy, it is necessary to define:

(I) **Project environment**—the main goals of environmental research are to identify external opportunities and threats and identify strengths and weaknesses of the project. The study of the environment in terms of project communication is carried out through evaluation: the course of communication in past projects, the effectiveness of project communication in these projects, and perception of communication of stakeholders.

Figure 4. Scheme of the project communication management (own processing).

(II) **Project communication goal**—general objective (SMART: S, specific; M, measurable; A, assignable or acceptable; R, realistic or relevant; T, time-bound or trackable) and partial objectives of project communication.

(III) **Stakeholders involved in project communication**—it is very important to characterize all **internal stakeholders** (the executive director, the project manager, the project team leader, the project team, the quality department, the collaborators (e.g., the accountant, etc.)) and **external stakeholders** (key user (customer), key contractor, other stakeholders: environment (banks, offices, neighbors), experts (e.g., lawyer), etc.).

(IV) **Communication channel**—methods, tools, and communication support tools that will be used throughout the life cycle of a project.

(V) **Type of information**—the content of the information shared in the project is processed in the "communication matrix."

(VI) **Principles and rules of project communication**—contains project culture, stakeholders' requirements on communication, methods and tools, communication schedule, communication skills, control of project communication, and archiving of project communication.

(VII) **Sources of project communication**—within the framework of the strategy, it is necessary to define a project management budget and a system for sharing and distributing information in the project.

Regardless of the objectives of a project, defining a communication strategy shows attention to planning, an ability to carry out the work, and clear identification of the goal. The ability to communicate is essential to the success of any undertaking and an important factor in the achievement of its objectives. Communication does not just happen. It must be organized, developed, and built. A good communication strategy allows you to exercise better control over your work. A communication strategy removes doubt, emphasizes planning, and involves all the project participants [14].

3.1.2. Organizational structure of project communication

The goal of sub-process "project organization—**organizational structure of project communication**" is not designed as a new organizational structure of the project, but within the existing structures that industrial enterprises have established in their projects, they represent the organizational structure of project communication, in which the different types of communication are presented: formal communication, informal communication, and communication level (vertical, horizontal, and diagonal communication).

When managing a project, it is suitable to create a flat organizational structure that is much more flexible than hierarchical ones. The relationship between supervisor and subordinate is replaced by a wider range of communication, permitting for the use of new communication methods and tools within the project management.

3.2. Planning of project communication

Planning of project communication is an important process in the planning of the overall project. All stakeholders highlight about the importance and needs for project communication planning, but only 22% of them are concerned with these projects. The main reason for project communication planning is the success of the project.

Output of the planning of project communication process is the project communication management plan, which can be characterized as a tool for implementing the communication strategy of the project and answers the following questions:

- What information is needed for the realized project—the content of the communication
- When information is needed—frequency

- Who delivers information to anyone—responsibility and authority
- How information will be delivered—methods, tools, and support resources

Planning of project communication includes project stakeholders (analysis of stakeholders, list of stakeholders, stakeholder's expectations, responsibility matrix of project communication); methods, tools, and support of communication (identification of methods, tools, and support of communication, groupware matrix, and communication schedule); and content of communication (communication matrix).

3.2.1. Project stakeholders

In identifying stakeholders, it is necessary to define analysis of stakeholders, list of stakeholders, stakeholder's expectations, and responsibility matrix of project communication.

3.2.1.1. Analysis of stakeholders: the main project roles and responsibilities

In the project there are many groups of people involved in project management life cycles. The main project roles are project manager, project team member, steering committee, executive sponsor, customers, and stakeholders:

(I) Steering committee (project board)—steering committee is the highest appeal and decision-making body of the project. Its goal is to look at the progress of the project. The chairman is the executive director. The steering committee shall meet at the start and finish of the project and at the start and end of each milestone. In steering committee there are executive director, key user (main customer), and key contractor:

a. Executive director—it can be the project/program sponsor, referee, owner, executive sponsor, key user (main customer), and key contractor.

b. Key user (main customer)—key user represents the end users of the product or services from the project.

c. Key contractor—key contractor represents the suppliers (or subcontractors) for the project.

(II) Project **team**—project team is the group of people, who are responsible for planning and executing the projects. Project team consists of a project manager, project team leader, and a variable number of project team members:

a. Project manager—project manager is the person responsible for ensuring that the project team completes the project. A project manager is the person who has the overall responsibility for all the successful process groups: initiation, planning, design, execution, monitoring, controlling, and closure of a project.

b. Project team leader—project team leader is the person who leads the project team. Leader is responsible for contributing to overall project objectives and specific team deliverables. Project manager and project team leader can be the same person for small, medium, and large project.

c. Project team member—team members are people who actively work on the project, at same stage, during project management life cycle. Project team members are also responsible for contributing to overall project objectives and specific team deliverable. Team member may be able to cover multiple roles.

(III) **Project administrator**—project administrator or project coordinator is responsible for the maintenance of the project plan and maintenance and updating of a project web side.

(IV) Stakeholders—key stakeholders are individuals or organizations which are impacted by the outcomes of the projects.

3.2.1.2. List of stakeholders

The **"list of stakeholders"** is based on the organizational chart and is illustrated in **Figure 5**.

Project logo	**LIST OF STAKEHOLDERS**					
Project name and number:						
Function	**Name and surname**	**Phone**	**E-mail**	**Preferred method of communication**	**Preferred communication tools**	
					1.	**2.**
Statutory						
Executive director						
Key user – main customer						
Key contractor						
Project manager						
Project team leader						
Project team member (1 ….)						
Other stakeholders						
Drafted : (name + function):	Date:.....		Signature:.....			
Approved: (name + function):	Date:.....		Signature:.....			

Figure 5. List of stakeholders (own processing).

The list of stakeholders is as follows:

- Identification tool for all participants in the project
- Contact details secured by all project members
- Tool to ensure efficient and fast communication throughout the life cycle of the project
- Tool of mutually beneficial cooperation and communication between the project and its stakeholders

3.2.1.3. Stakeholder's expectations

After defining the roles and responsibilities of all stakeholders on the project and drawing up the list of stakeholders, it is necessary to develop a document named **"stakeholder's**

expectation" (**Figure 6**) within the project office management. The stakeholder's expectation document is a tool to identify stakeholders' expectations and their impact on the project.

Project logo	**STAKEHOLDER´S EXPECTATIONS**			
Project name and number:				
Function	**Name and surname**	**Stakeholder´s expectations**	**Impact on the project** supportive – S contradictory – C neutral – N	**Measures**
Drafted: (name + function):	Date:.....		Signature:.....	
Approved: (name + function):	Date:.....		Signature:.....	

Figure 6. Stakeholder's expectations (own processing).

3.2.1.4. Responsibility matrix of project communication

Individual roles, individual or group activities, and assigned responsibility must be redistributed among the parties involved. By incorporating these two elements, a **"responsibility matrix of project communication"** is created (**Figure 7**). Responsibility matrix of project communication displays the processes, threads, and their individual tasks in project communication. Developing the responsibility matrix of project communication is entrusted to the project manager, with the rows of the matrix showing the tasks and the columns of specific names of the persons (roles) responsible for the tasks.

Project logo	**COMMUNICATION MATRIX**					
Name and number of project:						
Role (Person) / **Task** (Process)	**Executive director**	**Key user – main customer**	**Key contractor**	**Project manager**	**Project team leader**	**Project team member 1**
Initialization of project communication						
Formulation of communication strategy						
Organization of the project						
.....						
Planning of project communication						
.....						
Drafted: (name + function):	Date:.....		Signature:.....			
Approved: (name + function):	Date:.....		Signature:.....			

Figure 7. Responsibility matrix of project communication (own processing).

3.2.2. Methods, tools, and support of communication

When planning project communication, it is necessary to define methods, tools, and support of communication, develop a groupware matrix, and process a communication schedule.

3.2.2.1. Identification of methods, tools, and support of communication

The **methods, tools, and support of communication** in **Figure 8** are arranged in order of their application in projects in industrial manufacturing enterprises.

Synchronous and asynchronous communication methods	Communication tools	Support of project communication
Synchronous – straight - Meeting - Personal interview - Phone call - Workshop - Conference - Social Activities **Synchronous - virtual** - E-conference *teleconferencing* *videoconferencing* *tele-videoconferencing* - Internet forum **Asynchronous** - Newsletter - Project documents - Letter - Board - Website	- E-mail - Telephone - Presentation - Video call - Fax - Paper - Unified communication - Chat - Internal chat - Social network - Video recording	- Microsoft Outlook - Microsoft Net Meeting - Calendar from company Google - Microsoft Office Communicator

Figure 8. Methods, tools, and support of communication (own processing).

3.2.2.2. Groupware matrix

"Groupware matrix" is used to capture and share information and knowledge, making work easier and faster. In case the information is to be sent and received in real time, synchronous groupware resources are used. In case real-time information is not required, asynchronous groupware resources are used. The matrix also uses distribution according to the segmentation of the team—receiving information in the same place (negotiation, meeting) or in different places (GARANT PARTNER PLUS, Všetečka—internal company material).

Groupware matrix:

- Is a tool facilitating multiparty communication and supporting collaboration, teamwork, and coordination
- Helps to work on common tasks
- Provides the information needed to perform the job tasks

3.2.2.3. Communication schedule

When managing and controlling a project, the project manager holds work meetings. Work meetings can be time-driven meetings and event-driven meeting [15]. The **"communication schedule"** shows all the meetings, workshops, conferences, newsletters, and more. Within the

communication schedule, it is necessary to define start-up workshop, assistance workshop, kickoff meeting, planning workshop (risk management workshop, effort estimation workshop, cost calculation workshop, and others), work meeting, status meeting, project closeout meeting, regular meetings, progress meeting, emergency meeting, and so on. In addition to these appointments, sessions and meetings that are relevant to the effective functioning of the project are included: management committee meetings, project manager meetings, project team meetings, and external customer and supplier meetings.

Communication schedule is:

- A tool for identifying all planned communication methods
- A tool for planning individual meetings or sessions

3.2.3. Content of the communication: communication matrix

Communication matrix must be a part of every realized project. The matrix of communication is a written document, which is processed in the form of a transparent table and contains the following elements:

- ID: the number used to identify the content of the communication.
- Content of communication: the content of what needs to be communicated.
- Sender: information creator/owner responsible for sending the information.
- Recipient: to whom the information is intended.
- Methods of communication: way of communication.
- Communication tools: means of communication.
- Supporting means of communication: the selection of suitable means of communication.
- Frequency (periodicity) of communication: when (how often) the information needs to be communicated.
- Internal/external communication: this field indicates whether the communication is internal/external (I/E) or internal and external (I, and E) at the same time. The field is listed in the communication matrix to prevent the sending of messages to unauthorized persons.
- Comments: the way to capture responses to a message sent and delivered or the way to implement a message, e.g., in meetings it is possible to enter who is the facilitator of the meeting.

3.3. Implementation of project communication

The **implementation of project communication** is the third proposed process. Within the process, it is necessary to define communication skills and a system of sharing and distributing information.

3.3.1. Management skills: communication skills

In a part of implementation project communication process, rules of communication skills are designed which are necessary to be followed in project management to make the communication process as effective as possible.

3.3.1.1. Verbal communication

Within verbal communication, that is to a great extent affected by communication skills especially those of project manager, it is necessary to define the **rules of personal meetings**:

- Identifying one complex problem of the encounter
- Inviting to meeting only those people which are really needed
- Determining the time frame of the meeting to be followed
- To be interested in different views of all attendees (active listening)
- Use of a terminological dictionary
- Recapitulation of specific tasks arising from the meeting
- Building mutual positive relationships with all participants in the meeting

In verbal communication, it is necessary to deal not only with the rules of personal meetings but also with the **phone call policy**. These are the following rules:

- Determining who makes a short written record from a phone call
- Determining the person responsible for archiving the record
- Determining who gets written record from a phone call and who will distribute it
- Making a phone call written record

3.3.1.2. Written communication

In the context of written communication, it is important for the implemented project to establish the **rules of email communication**:

- Specify the persons who respond to the message (only the addressee or the persons mentioned in the copy answers).
- Determination of the persons to be indicated in a BCC copy and in a copy (CC) to BCC. The project address is given, e.g., projekt@projekt.sk.
- Specifying the priority of the message (e.g., answering important messages on the same day, responding to less important messages within 2 days, etc.).
- Determining who is responsible for archiving of the e-mail communications.

3.3.1.3. Nonverbal communication

Nonverbal communication can include, for example, visual contact, gesture, mimic, and so on. These areas are of major importance in every communication, but their greatest importance is growing in the implementation of multicultural projects.

3.3.2. Sharing and distributing information

The system of sharing and distributing of information serves to collect, store, process, and distribute information in the project. Project information must be relatively easily available to all participants in the project. A very efficient way is a **project website** that can be placed on a company website, or it can be a separate page. The website serves to share all the information about the project. The project manager will designate a person (internal or external) who will be responsible for the website of the project, whilst this person will be sending all outputs from the project in electronic form. The role of the project manager is to notify all project members about who is the person(s) responsible for the website, their e-mail addresses, and telephone contact. Project information will be stored on the page, such as organizational chart, project charter, stakeholder table, communication matrix, up-to-all meeting minutes, etc., so that all participants in the project have access to it.

3.4. Control of project communication

Control in project communication is very important. The aim of the project communication control is to develop the **report about the management of project communication**, which is part of a comprehensive project status report.

Report about the management of project communication includes the following particulars:

- The objective of control: whether project communication is taking place as proposed in the project communication management methodology
- Subject of control: verification of the efficiency of the processing of individual procedures and tools for project communication management
- The results of control: establishing corrective measures
- Identification data: the name of the implementer of the control, the processor of the report about the management of project communication, and the name of the authorizing officer who approve the report about the management of project communication

The principles of control of documents in a permanent organization are typically described in an internal directive in accordance with ISO 9001 standard. As every organization has the right to prepare its own standards of document control, it is necessary when planning a particular project to arrange an agreement with stakeholders on the adoption of standards. The rules of controlling documents are typically specified by the investor. In cases where it is appropriate and beneficial, the investor can decide on adopting the standards of another

stakeholder, e.g., a supplier, if they have a well-prepared directive for the project management, etc. [15].

3.5. Administrative closure of project communication

The **administrative closure of project communication** is the final process. Administrative closure is important due to the creation of a large number of documents (written, spreadsheet, picture, audio, etc.) throughout the life cycle of the project.

For a purposeful processing of documents of the projects, it is necessary to draw up the document **control of documents**, which includes the following information:

- Document identification (assignment of registration number)
- Distribution of documents (sending of documents to project stakeholders)
- Document archiving (long-term storage of documents)
- Access and concealment of documents (identifying only those who have access to documents)
- Restoring documents (creating newer versions)
- Document destruction (destruction of unnecessary documents) (GARANT PARTNER PLUS, Všetečka—internal company material)

4. Conclusion

The world economy is changing with knowledge now being the primary value of an organization [16]. Enterprises perceive project management as a way to improve their competitiveness [17]. At the present time, many organizations do not want or do not consider important to train and to develop their own employees [18]. Communication is an integral part of any project, whether small- or medium-sized but especially large-sized projects. Communication influences most project activities and areas because managing any aspect of the project involves communicating within the project team or with external stakeholders [19]. Without effective communication, each project is convicted to be a failure; therefore, it is necessary to deal with project communication constantly. The most effective way is to manage project communication from the very start of the project—initialization of project until its completion and administrative closure of project. Project communication management is not an automated process because each project is different and needs different project communication managements. In small projects, project management is very simple and does not need to be planned and managed in detail. In medium-sized and large-sized projects, the number of team members and also the number of teams disproportionately grow over small-sized projects. Therefore, the project communication management is the necessary condition for the project. In **Figure 9** is shown, which part of project communication management are important during management of small-sized, medium-sized, or large-sized projects.

Project size	Small project	Medium-sized project	Large project
Main characteristics of the project:			
Number of team members	< 5	5 – 9	> 9
Number of teams in the project	1 – 2	2 – 3	> 3
Project duration	min. 2 months	min. 3 months	min. 12 months
PROJECT COMMUNICATION MANAGEMENT			
Initialization of project communication (3.1)			
Communication strategy (3.1.1)	☑	☑	☑
Organizational structure of project communication (3.1.2)	-	✓	☑
Planning of project communication (3.2)			
Project stakeholders (3.2.1)			
Analysis of stakeholders	✓	☑	☑
List of stakeholders	✓	☑	☑
Stakeholder´s expectations	✓	✓	☑
Responsibility matrix of project communication	-	✓	☑
Methods, tools and support of communication (3.2.2)			
Identification of methods, tools and support of communication	✓	✓	✓
Groupware matrix	-	✓	☑
Communication schedule	-	✓	☑
Content of the communication (3.2.3)			
Communication matrix	☑	☑	☑
Implementation of project communication (3.3)			
Management skills (3.3.1)			
Verbal communication			
- **Rules of personal meetings**	✓	✓	✓
- **Phone call policy**	-	✓	☑
Written communication			
- **Rules of email communication**	-	✓	☑
Non-verbal communication	-	✓	✓
Sharing and distributing information (3.3.2)			
Project website	-	✓	✓
Control of project communication (3.4)			
Report about the management of project communication	-	✓	☑
Administrative closure of project communication (3.5)			
Control of documents	☑	☑	☑
Explanatory Notes: ☑ **compulsory** ✓ **recommended** - **optional**			

Figure 9. The use of individual parts of project communication during management of small-sized, medium-sized, and large-sized projects in industrial enterprises (own processing).

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