Identification Of Communication Flows And Information Distribution In The Manufacturing Project Control Division Of PT XYZ

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Abstract.

PT XYZ has four divisions: sales, implementation, planning and evaluation, and finance. As time goes by, there is a recurring phenomenon/case, namely delays in the information distribution process in each division due to ineffective communication flow procedures. Each division has an ongoing distribution of information that is not integrated and can only be accessed by the respective division's personnel. This greatly affects the company directly and indirectly. In this research, the flow of communication at PT XYZ and stakeholders will be identified, as well as the roles and responsibilities of each division personnel at PT XYZ to improve effective and efficient work. The research results also emphasize the communication flow of each division so that each party fully understands the distribution of information to carry out ongoing project implementation at PT XYZ.

Keywords: *Communication flow, information distribution, project control, and communication management.*

I. INTRODUCTION

PT PT XYZ focuses on selling precast concrete, which is produced in 4 factories in the West Java area. PT Each division has a stake in the success of each project, and information distribution must be effective for each individual involved[1].

There is a phenomenon that occurs at PT XYZ, namely:

a. Limitations in Manual Monitoring: PT XYZ may rely on manual methods to monitor projects between divisions. This can involve spreadsheets, emails, or regular meetings, which are prone to errors, delays, and a lack of real-time visibility. [2].
b. Difficulty in Synchronizing Information: Project information is often spread across different platforms and documents. This can include project plans, progress reports, schedules, budgets, etc. Because of this, difficulties in unifying and synchronizing information can hinder a company's ability to make timely decisions [3].
c. Complexity of Inter-Divisional Projects: Projects involving multiple divisions are often more complex in terms of coordination, communication, and control [4]. Each division may have different interests, goals, and processes, which can lead to potential confusion and difficulty in ensuring projects run smoothly.

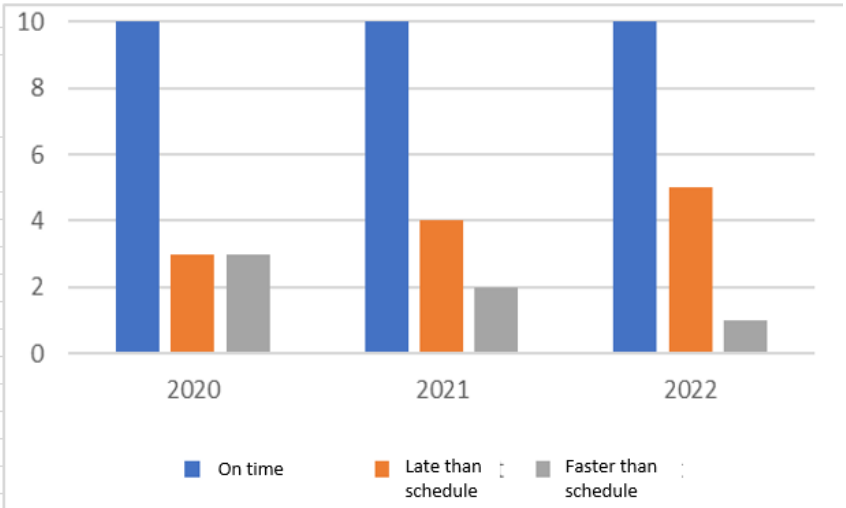

Fig 1. Percentage of project completion on time and late by PT XYZ from 2020 to 2022

These delays result from several factors that are difficult to predict, including the performance of individuals involved in the project, availability of resources, environmental conditions, level of stakeholder involvement, and the quality of communication relationships between the various contractually related parties. [5]. Delays in projects are caused by a lack of communication among the project team, a lack of resources, and delays in decision-making [6]. [7] also stated that field factors related to the project could cause delays, including the information delivery process. Poor communication processes between project owners, consultants, and contractors have a significant influence on delays in project completion [8]. Therefore, it is necessary to research the influence of the quality of communication management on ongoing projects between divisions at the information distribution stage of PT XYZ in project implementation until the closing stage of project administration. [9]. If this is left unchecked, the company will experience large losses. [10]. This research aims to identify the flow of communication and information distribution during the implementation of the PT XYZ project. This research is expected to better understand the importance of quality communication management in implementing projects between divisions. In addition, the results can provide recommendations for project management to improve the quality of communication management and optimize project implementation through developing effective and efficient strategies.

II. METHODS

Various methods can be used to solve the problems contained in the research. The problem formulation in this research is to determine PT XYZ's existing communication flow, which influences the distribution of information through literature studies, expert validation, and surveys. Data collection in the form of a questionnaire, then validated by discussion with 3 experts or APIP who are experienced in PT XYZ for at least ten years on construction projects, as can be seen in the flow chart in Figure 1

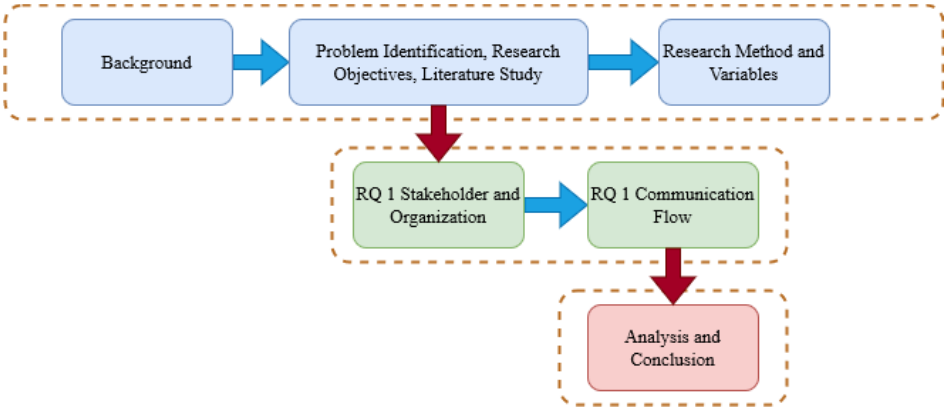

Fig 2. Flowchart of Research Stages

III. RESULT AND DISCUSSION

A literature study related to stakeholders and organizations in performance reporting in PT XYZ manufacturing project control has been carried out, and data collection has been carried out using a questionnaire to obtain expert validation. After that, discussions were held, and an analysis was carried out to obtain the stakeholders and organizational structure for controlling the PT XYZ manufacturing project. The result is that experts validate and agree that there are 18 communication channels for distributing information at PT XYZ, as shown in Table 2.

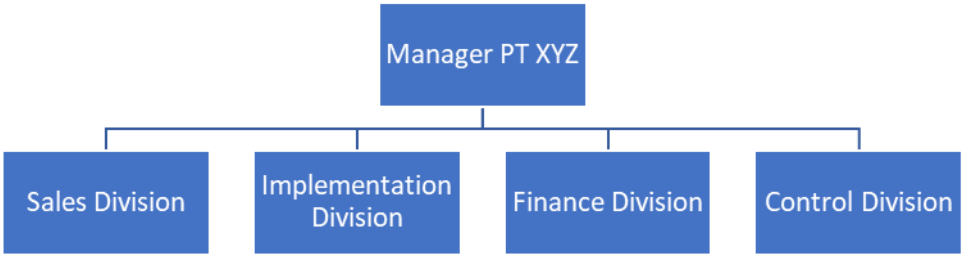

Fig 3. Organizational Structure and Stakeholders

a. Sales Division: is a division tasked with finding customers for the distribution of ongoing project information containing information on initial contracts, contract amendments, project implementation schedules, sales values [11].

Table 1. Activities, input and output of PT XYZ's communication flow before improvements

No	Activities in business processes	Form information as input	Form information as ouput
1	Get information on Request for Quote/Direct Appointment	a. Technical Specifications	a. Company information
		b. Administrative Requirements	b. Project requirements plan
		c. Letter requesting a price quote	c. Draft price offer
2	Review Customer Needs	a. Company information	a. Signature offer sheet
		b. Project requirements plan	b. Project requirements plan
		c. Draft price offer	c. Bid document approval sheet with signature
3	Delivery of prices to customers	a. Signature offer sheet	a. Monitor and evaluate bids
		b. Project requirements plan	b. Bidding document/signature price information
		c. Bid document approval sheet with signature	
4	Negotiation Process with customers	a. Monitor and evaluate bids	a. Contract Review Document
		b. Bidding document/signature price information	b. Winner determination document
			c. Bidding document/price information signed by both parties
5	PO/Contract is input into acquisition monitoring.	a. Contract Review Document	a. Acquisition monitoring review document (ms Excel)
		b. Bidding document/price information signed by both parties	b. Production request document
6	PO/Contract is distributed to the control division.	a. Acquisition monitoring review document (ms Excel)	a. Production request monitoring overview (MS Excel)
		b. Production request document	b. Production validation documents
7	The Control Division provides production orders to the factory.	a. Production request monitoring overview (MS Excel)	a. Document production orders to the factory
		b. Production validation documents	
8	Products are produced according to PO/contract specifications.	a. Document production orders to the factory	a. Overview of production process monitoring (MS Excel)
			b. Production completion monitoring review (MS Excel)
9	Issuance of production completion reports (BASP) to customers after production is complete	a. Overview of production process monitoring (MS Excel)	a. Production handover minutes document
		b. Production completion monitoring review (MS Excel)	b. Monitoring review of BASP production handover minutes (MS Excel)
10	Products are distributed to customers.	a. Production handover minutes document	a. Signature production handover document
		b. Monitoring review of BASP production handover minutes (MS Excel)	Monitoring review of BAST goods handover minutes (MS Excel)
11	Issuance of handover minutes (BAST) to customers to sign after the product has been distributed	a. Signature production handover document	a. Production handover minutes document signed by both parties
		a. Signature production handover document	
12	The signed BAST is submitted to the finance department for billing.	a. Production handover minutes document signed by both parties	a. Issuance of billing documents
			b. Billing monitoring overview (MS Excel)
13	Billing process	a. Issuance of billing documents	a. Billing document sheet (tax invoice, invoice, BAST) signed by both parties
		b. Billing monitoring overview (MS Excel)	b. Overview of customer receivable monitoring (MS Excel)
14	Payment process	a. Billing document sheet (tax invoice, invoice, BAST) signed by both parties	a. Document of issuance of payment by the customer

		b. Overview of customer receivable monitoring (MS Excel)	b. Overview of monitoring customer receivables updates (MS Excel)
15	Project completion	a. Document of issuance of payment by the customer	a. Completed project report
		b. Overview of monitoring customer receivables updates (MS Excel)	

b. Implementation Division: is a division that carries out projects from the production monitoring stage at the factory, coordinating with customers regarding the implementation schedule, to the distribution stage of precast concrete to the project site. Distribution of ongoing project information containing the progress of production implementation and improvement of handover of goods [11].
c. Control Division: is a division tasked with monitoring project implementation from the stage of project acquisition to payment [11]
d. Finance Division: is a division that monitors and collects production progress and implementation progress. Distribution of ongoing project information containing billing date, payment date, and receivable value, until settlement [11].

In the next step, data collection and expert validation are carried out for the communication flow to distribute information along with input-output documents, whether they are by PT XYZ's needs.From the results of expert validation part 1 above, it can be seen that there is an additional communication flow from 15 steps to 18 steps, namely after activity 10, 1 activity "Product has been distributed to customers" is added, after activity 13, 1 activity is added "Input for monitoring bad debts by the finance division ” and after activity 14 added one activity “Input monitoring of customer payments by the finance division.” The input/output items discarded are Steps 2. b 2. c because these steps are included in the previous step.

Table 2. Activities, input and output of PT XYZ communication flow after improvement

No	Activities in business processes	Form information as input	Form information as ouput
1	Get information on Request for Quote/Direct Appointment	a. Technical Specifications	a. Draft price offer
		b. Administrative Requirements	
		c. Letter requesting a price quote	
2	Review Customer Needs	a. Draft price offer	a. Signature offer sheet
			b. Project requirements plan
3	Delivery of prices to customers	a. Signature offer sheet	a. Monitor and evaluate bids
		b. Project requirements plan	b. Bidding document/signature price information
4	Negotiation Process with customers	a. Monitor and evaluate bids	a. Contract Review Document
		b. Bidding document/signature price information	b. Winner determination document
			c. Bidding document/price information signed by both parties
5	PO/Contract is input into acquisition monitoring.	a. Contract Review Document	a. Acquisition monitoring review document (ms Excel)
		b. Bidding document/price information signed by both parties	b. Production request document
6	PO/Contract is distributed to the control division.	a. Acquisition monitoring review document (ms Excel)	a. Production request monitoring overview (MS Excel)
		b. Production request document	b. Production validation documents
7	The Control Division provides production orders to the factory.	a. Production request monitoring overview (MS Excel)	a. Document production orders to the factory
		b. Production validation documents	
8	Products are produced according to PO/contract specifications.	a. Document production orders to the factory	a. Overview of production process monitoring (MS Excel)
			b. Production completion monitoring review (MS Excel)
9	Issuance of production completion reports (BASP) to customers after production is complete	a. Overview of production process monitoring (MS Excel)	a. Production handover minutes document
		b. Production completion monitoring review (MS Excel)	b. Monitoring review of BASP production handover minutes (MS Excel)

No	Activities in business processes	Form information as input	Form information as ouput
10	Products are distributed to customers.	a. Production handover minutes document b. Monitoring review of production handover minutes (MS Excel)	a. The minute's document has completed signature production b. Production completion monitoring review
11	The finished product is distributed to customers	a. The minute's document has completed signature production b. Production completion monitoring review	a. Monitoring review of goods handover minutes (MS Excel) b. Document of minutes of handover of goods
12	Issuance of handover minutes to customers to sign after the product has been distributed	a. Monitoring review of goods handover minutes (MS Excel) b. Document of minutes of handover of goods	a. Handover news document signed by both parties
13	The signed BAST is submitted to the finance department for billing.	a. Production handover minutes document signed by both parties	a. Issuance of billing documents b. Billing monitoring overview (MS Excel)
14	Billing process	a. Billing documents (tax invoice, invoice) b. Billing monitoring overview (MS Excel)	a. Billing document sheet (tax invoice, invoice) signed by both parties
15	Input monitoring of bad debts by the finance division	a. Billing document sheet (tax invoice, invoice) signed by both parties	a. Billing document sheet (tax invoice, invoice) signed by both parties
16	Payment process	a. Billing document sheet (tax invoice, invoice) signed by both parties b. Overview of customer receivable monitoring (MS Excel)	b. Overview of customer receivable monitoring (MS Excel) a. Document of issuance of payment by the customer
17	Input monitoring of payments from customers by the finance division	a. Document of issuance of payment by the customer b. Overview of monitoring customer receivables updates (MS Excel)	b. Overview of monitoring customer receivables updates (MS Excel) a. Document of issuance of payment by the customer
18	Project completion	a. Document of issuance of payment by the customer b. Monitoring review of customer update payments	b. Monitoring review of customer update payments

Note:

* Expert advice

In this study, there is a difference in perception between experts and respondents regarding the communication flow at PT XYZ. Experts have identified that there are 18 steps in the company's communication process. This difference is due to the fact that the information distributed in each division has more detailed intricacies after the questionnaire was developed.The experts' perception is likely based on their more comprehensive understanding of internal communication processes and the complexities involved at each stage.

They consider various aspects and variables that respondents might not be aware of. After the questionnaire was developed, it became clear that each division has additional steps or specific details that affect the overall communication flow.In this case, it is important to understand that the difference in perception between experts and respondents could be due to differences in knowledge and understanding of the actual communication processes occurring in the field. Therefore, the results from this questionnaire provide richer and more in-depth insights into the communication flow at PT XYZ, which might not have been fully recognized by the respondents initially.

IV. CONCLUSION

The research method with data collection and validation was carried out by distributing questionnaires as a research instrument and conducting discussions with experts who have experience at PT XYZ for more than ten years. The research results show that there has been a change from the previous 15 steps of communication flow to 18 steps of communication flow from obtaining information on requests for offers/appointments directly to project completion.Figure 3 shows a form of organizational structure where the relationship between lines of coordination and lines of responsibility between stakeholders is shown. In Table 1, details of the roles and responsibilities of each stakeholder are provided. The sales division is tasked with finding customers and disseminating project information, including contracts and implementation schedules[12]. The implementation division carries out projects from production to distribution of precast concrete and communicates implementation progress. The control division monitors project implementation from inception to payment[13]. The finance division monitors and collects payments based on production and implementation progress and manages information related to billing and payments.The results of this research include the identification of stakeholders, organizational structure, and communication flows at PT XYZ, as well as the input and output documents required in this process.

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REFERENCES

[1] A. L. Wulandari, “Pengaruh Faktor-Faktor Efektivitas Komunikasi Terhadap Kinerja Waktu Proyek,” 2013.

[2] Fikri Ramadhan Lubis, “Pengembangan Proses Manajemen Proyek Engineering Berbasis Pmbok Untuk Meningkatkan Kinerja Waktu,” 2018.

[3] G. B. R. D. S. R. A. Hoga Saragih, “PENGEMBANGAN SISTEM INFORMASI DISTRIBUSI INFORMASI SEKOLAH MELALUI SMS GATEWAY DENGAN ZACHMAN FRAMEWORK,” 2020.

[4] A. C. Campos, J. A. Silva, P. Pinto, J. Da, C. Mendes, and P. Oom Do Valle, “Critical success factors for a total quality culture: A structural model Critical success factors for a total quality culture: A structural model Fatores críticos de sucesso de uma cultura da qualidade total: um modelo estrutural.

[5] R. Mareno, C. Z. Oktaviani, and S. Husin, “Analisis Korelasi Faktor Komunikasi Proyek Terhadap Pencapaian Kinerja Waktu Di Kota Banda Aceh,” ***Jurnal Arsip Rekayasa Sipil dan Perencanaan***, vol. 5, no. 1, pp. 38–46, Mar. 2022, doi: 10.24815/jarsp.v5i1.25284.

[6] M. Muneer *et al.*, “A Quantitative Study of the Impact of Organizational Culture, Communication Management, and Clarity in Project Scope on Constructions’ Project Success with Moderating Role of Project Manager’s Competencies to Enhance Constructions Management Practices,” *Buildings*, vol. 12, no. 11, Nov. 2022.

[7] E. Kania, G. Sladowski, E. Radziszewska-Zielina, and B. Sroka, “Analysis of the impact of communication between the participants of a construction project on its completion time and cost,” *Archives of Civil Engineering*, vol. 68, no. 1, pp. 595–610, 2022, doi: 10.24425/ace.2022.140188.

[8] S. H. Al-Jibouri, “Monitoring systems and their effectiveness for project cost control in construction,” 2003.

[9] M. Lestari and D. Setiyadi, “Sistem Informasi Monitoring Perkembangan Proyek Dalam Bidang Kontruksi Berbasis Web Pada CV Jaya Makmur Bekasi,” vol. 3, no. 2, pp. 109–122, 2019.

[10] E. Kania, G. Śladowski, E. Radziszewska-Zielina, B. Sroka, and B. Szewczyk, “Planning and monitoring communication between construction project participants,” *Archives of Civil Engineering*, vol. 67, no. 2, pp. 455–473, 2021, doi: 10.24425/ace.2021.137179.

[11] Divisi Pengendalian, “Prosedur Pengendalian Penjualan,” 2022.

[12] H. DERMAWAN, “Evaluasi Manajemen Komunikasi Proyek Gedung Sekolah Di Yayasan X Untuk Mengurangi Keterlambatan Penyelesaian Proyek - Hans Dermawan,” 2016.

[13] F. Ardiansyah, “Pengembangan Sistem Manajemen Komunikasi Berbasis It Pada Tahap Pelaporan Kinerja Dalam Pengendalian Proyek Konstruksi Dengan Pendekatan Internet Web-Based Database Management,” 2013.