UNIVERSITÉ
Concordia
UNIVERSITY

SOEN6841 : Topic Analysis and Synthesis Reprot

Distributed Teams Are Founded on Explicit Communication Channels

Advisor: Professor Pankaj Kamthan

By: Chetan Panchal (Student ID: 40227960)

November 21, 2023

Contents

Abstract

This case study, authored by Juan Pablo Buriticá, emphasizes the critical importance of explicit communication channels in managing distributed teams. As teams grow and spread across various locations, maintaining productivity and efficient management becomes a challenge. The study highlights the necessity of deliberate selection of communication types and channels, particularly in the context of the increasing popularity of remote work. The primary advantage of such explicit communication strategies is enhanced productivity, as it reduces time wasted in seeking information and minimizes unnecessary interruptions.

The study suggests the use of asynchronous communication channels, like collaborative documents, forums, and emails, for non-urgent information exchange. These channels are effective for situations where real-time interaction is not crucial, thus aiding in avoiding disruptions and facilitating better focus. Conversely, when real-time idea exchange is essential, synchronous channels like group chats, in-person meetings, or video calls are recommended.

Additionally, the study discusses the dual role of multichannel chats that can function both synchronously and asynchronously but warns against the expectation of constant availability. The case study also addresses the pitfalls of reliance on in-person communication in growing teams, advocating for a culture that prioritizes written communications and explicit communication protocols. This approach not only aligns with the dynamics of remote work but also prepares teams for scalable growth, as exemplified by the use of comprehensive onboarding materials like RFCs and checklists.

In summary, this case study underlines the significance of explicit communication in distributed teams and presents strategies to optimize productivity, align team members, and prepare for organizational growth.

1   Introduction

1.1   Motivation

- The shift towards remote work and the natural growth of companies necessitates effective management of distributed teams.

- Challenges in maintaining productivity, alignment, and management efficiency in teams spread across different locations.

- An increasing need to understand and implement explicit communication channels to cater to the changing dynamics of team structures and work environments.

- The evolution of communication technologies and their impact on team dynamics, especially in a remote or distributed setting.

1.2   Problem Statement

- Investigating the effectiveness of explicit communication channels in distributed teams, focusing on the impact on productivity and team management.

- Understanding the balance between asynchronous and synchronous communication and its role in minimizing disruptions and enhancing team focus.

- Addressing the challenges of reliance on in-person communication and the transition to more sustainable, scalable communication practices as teams grow.

1.3   Objectives

- To establish clear guidelines and best practices for communication in distributed teams, enhancing overall productivity and team cohesion.

- To provide a framework for choosing appropriate communication channels (asynchronous vs. synchronous) based on the team's needs and work nature.

- To benefit team leaders, managers, and members by providing insights into effective communication strategies, facilitating better management and faster growth.

- To prepare teams for scalable growth and change by advocating for a culture that prioritizes explicit communication and written mediums.

2   Background Material

2.1   Subject 1: Communication Challenges in Global Virtual Teams

- Global Virtual Teams (GVTs) face unique challenges due to cultural diversity, geographical dispersion, and reliance on electronic communication. The study by Daim et al. [7] highlights areas contributing to communication breakdown

in GVTs, including trust, interpersonal relations, cultural differences, leadership, and technology.

- The research by Fischer and Mosier [2] examines the impact of communication delay and medium on distributed team performance, emphasizing the importance of synchronous versus asynchronous communication.

- Shachaf's study [8] explores the effects of cultural diversity and information and communication technology on global virtual teams, indicating both positive and negative influences on team effectiveness.

2.2 Subject 2: Effective Communication Strategies in Distributed Teams

- The work by Al-Ani and Edwards [4] compares communication in distributed and collocated development teams, providing insights into the evolution of communication models in large-scale software projects.

- Lockwood's study [6] on virtual team management investigates the causes of communication breakdown in teams, highlighting the rapid organizational changes and the growing trend of offshore work.

2.3 Subject 3: Onboarding and Collaboration in Distributed Software Development

- The study by Britto et al. [7] discusses the challenges and strategies for onboarding software developers and teams in globally distributed legacy projects, offering practical insights for managing distributed teams.

- Sangwan et al. [3] focus on asynchronous collaboration in global software development projects, particularly examining the role of cognitive distance in team collaboration and communication.

3 Methods & Methodology

This section outlines the approaches used to investigate the problem of communication in distributed teams and the techniques employed for analyzing the results.

3.1 Approach 1: Investigating Communication Breakdown

- Method: Conducted a series of interviews and surveys with members of global virtual teams, focusing on identifying the key factors leading to communication breakdown.

- Analysis: Utilized Decision Models to analyze the collected data, particularly focusing on trust, interpersonal relations, cultural differences, leadership, and technology [1].

- Technique: Employed quantitative methods to validate the impact of identified factors on communication efficiency and team performance.

3.2 Approach 2: Examining the Effect of Communication Delay and Medium

- Method: Conducted an experimental study with teams assigned roles of space crewmembers or flight controllers, collaborating on computer-based tasks with varying communication delays and mediums [2].

- Analysis: Analyzed performance variables including time to repair system failures and the number of incorrect repairs, alongside transcriptions of voice communications and logs of chats.

- Technique: Applied statistical analysis to assess the impact of synchronous versus asynchronous communication and the effectiveness of different communication mediums under time-delayed conditions.

3.3 Approach 3: Assessing Asynchronous Collaboration in Software Development

- Method: Investigated asynchronous collaboration in global software development projects by examining project artifacts and email communication [3].

- Analysis: Performed a sentiment analysis on email content, established communication networks, and analyzed the volume of communication.

- Technique: Utilized qualitative analysis to understand the effect of cognitive distance on team sentiment/emotion and collaboration effectiveness.

4 Results Obtained

This section discusses the results obtained from the methodologies employed in the study, focusing on the conditions under which the results were obtained, the constraints encountered, and the quality of the results.

4.1 Conditions

- The studies were conducted under varying conditions: virtual team environments, delayed communication scenarios, and asynchronous collaboration settings in software development.

- In virtual teams, conditions included cultural diversity, geographical dispersion, and reliance on electronic communication [1, 8].

- Communication delay experiments were conducted under simulated space mission conditions with varying time delays and communication mediums [2].

- Asynchronous collaboration was studied within the context of global software development projects, focusing on cognitive distance and its impact [3].

4.2 Constraints

- Constraints included the limitations inherent in electronic communication, such as lack of non-verbal cues and potential for misinterpretation.

- Communication delays introduced challenges in real-time decision-making and coordination [2].

- Diverse cultural backgrounds and cognitive styles posed challenges in establishing a shared understanding and effective collaboration [1, 3].

- Limitations in the available technology and tools for facilitating virtual communication also acted as constraints.

4.3 Quality of Results

- The quality of results varied based on the study and the specific conditions. In general, results were adequate in highlighting the critical aspects of communication in distributed teams.

- Studies on communication breakdown in virtual teams provided significant insights but may not encompass all industries or team dynamics [1].

- The experiments on communication delay offered conclusive evidence about the impact of delay and medium, but their applicability might be limited to similar high-stakes, time-sensitive environments [2].

- Results from the study on asynchronous collaboration in software development were robust in understanding the role of cognitive distance, offering substantial implications for global software projects [3].

References

[1] "Exploring the communication breakdown in global virtual teams," *International Journal of Project Management*, [Online]. Available: https://www.sciencedirect.com/science/article/abs/pii/S0263786311000779.

[2] "The Impact of Communication Delay and Medium on Team Performance and Communication in Distributed Teams," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, [Online]. Available: https://journals.sagepub.com/doi/abs/10.1177/1541931214581025.

[3] "Asynchronous Collaboration: Bridging the Cognitive Distance in Global Software Development Projects," *IEEE*, [Online]. Available: https://ieeexplore.ieee.org/abstract/document/9247281.

[4] "A Comparative Empirical Study of Communication in Distributed and Collocated Development Teams," *IEEE*, [Online]. Available: https://ieeexplore.ieee.org/abstract/document/4638651.

[5] "A study of the effect of communication channel and authority on group decision processes and outcomes," *Decision Support Systems*, [Online]. Available: https://www.sciencedirect.com/science/article/abs/pii/S0167923698000487.

[6] "Virtual team management: what is causing communication break-down," in *Language and Intercultural Communication in the Workplace*, J. Lockwood, Ed. Routledge, [Online]. Available: https://www.taylorfrancis.com/chapters/edit/10.4324/9781315468174-15/virtual-team-management-causing-communication-breakdown-jane-lockwood.

[7] "Onboarding software developers and teams in three globally distributed legacy projects," *Software: Practice and Experience*, [Online]. Available: https://onlinelibrary.wiley.com/doi/abs/10.1002/smr.1921.

[8] "Cultural diversity and information and communication technology impacts on global virtual teams," *Information & Management*, [Online]. Available: https://www.sciencedirect.com/science/article/abs/pii/S0378720608000153.

[9] "Multi-channel Data Acquisition and Wireless Communication FPGA-Based System, to Real-Time Remote Monitoring," *IEEE*, [Online]. Available: https://ieeexplore.ieee.org/abstract/document/8241338.