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Impact of Unified Communications on Communication, Relationship Building and Performance

Research-in-Progress

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ABSTRACT

Unified Communications (UC) integrates multiple communication and multimedia services such as voice, email, fax, voice messaging, video conferencing and chat into a unified user experience. In this research, we study the use of UC in global virtual teams in a multinational corporation. Specifically, we conduct a case study to examine how the use of UC enhances individuals' ability to communicate, helps them create and build relationship, and then how such relationship building in turn improves their performance. This research will contribute to the theoretical understanding of the use of UC in organizational settings. This research also has practical significance as it can help organizations to make better decisions in regards to their investments in and usage of communication technologies in a global environment.

Keywords

Unified Communications, Communication, Relationship, Performance, Virtual Teams

INTRODUCTION

Unified Communications (UC), evolved from Instant Messaging (IM) and Unified Messaging (UM), integrates multiple communication and multimedia services such as voice, email, fax, voice messaging, video conferencing and chat into a unified user experience (Pleasant and Jamison, 2008). With an emphasis on presence management and collaboration, UC merges multiple message types across multiple communication points and allows for synchronous and asynchronous, one-on-one and one-to-many communication via a single interface (Evans, 2004). It can facilitate the sharing, transferring and documenting of information and knowledge (Carol et al., 2010), and enhance communication, interaction and collaboration with other team members (Glass and Li, 2010). This can help team members, especially those in geographically dispersed teams, create and build relationship (Hulme, 2003) and boost team members' performance (Jones et. al., 2006).

This research studies the impact of UC on communication, relationship building and performance in virtual teams that require team collaboration to complete task. Specifically, we conduct a case study on members from global virtual teams in a multinational corporation to examine how the use of UC enhances individuals' ability to communicate, helps them create and build relationship, and improves their performance. This research taps into the role that UC plays in facilitating communication and building relationship to improve performance. This will contribute to the understanding of the use of UC in workplace. This research also has managerial significance as it will show how UC features are used and perceived in organizations where UC is becoming increasingly popular.

The remainder of the paper is organized as follows. First, we discuss related literature and the research framework that guides this study. This is followed by a description of methodology detailing research site, sampling, and data collection and analysis. Finally, we conclude by summarizing contribution and limitation.

RELATED LITERATURE

UC integrates real-time, near real-time and non-real time communication and enables the communication recipients to manage their availability and willingness to engage in communication at a particular point in time. The use of UC in workplace has been growing in popularity (Pleasant and Jamison, 2008). For instance, mobile workers use UC to have the same communication capability when they are on the move as when they are in their office. Virtual teams rely on UC to interact and collaborate. The use of UC in the workplace has been transforming how people work in organizations (Martinez and Smith, 2010).

The use of UC in workplace has been linked to increased productivity and better performance (Hedgebeth, 2007; Hulme, 2003; Hills et. al., 2006; Pleasant and Jamison, 2008). For example, Mahowald and Perry (2010) found that UC saved time and money for service desk operations. However, the literature is largely silent on how the use of UC contributes to better performance. This study aims to close this gap by examining the link between the use of UC and improved performance through the lens of communication and relationship building, as shown in Figure 1.

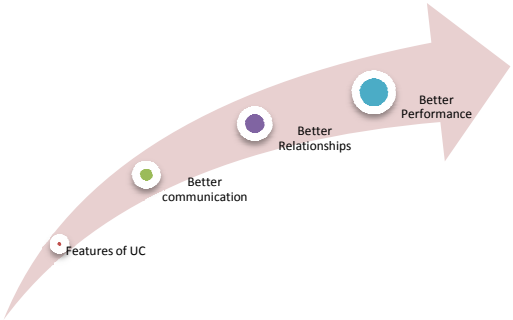

Figure 1: Research Conceptual Framework

Relationship is critical in teams and communication plays a key role in creating and developing relationship (McGrath and Hollingshead, 1994). Communication serves four major functions: information, motivation, control and emotional expression (Blair and Culnan, 1983), as listed in Table 1. Research has shown that UC contributes to forming and maintaining relationship (Lancaster et al., 2007; Lee and Sun, 2009). In this research, we use the relationship influencing factors developed by Dillon and Montano (2005) to examine how UC facilitates communication and relationship building. According to Dillon and Montano (2005), two sets of factors – performance factor and human factors – affect relationship. Performance factors focus on the technologies employed for communication, which can affect relationship in terms of convenience, informativenss and relevance. Human factors focus on people involved in communication, and can be further categorized into unifying and distinguishing factors. Unifying human factors concern about how an individual relates to his/her group or the organization as manifested in connection, friendship and entitlement. Distinguishing human factors describe the distinctiveness of an individual, group, and organization through differentiation and customization. Summarized in Table 2 are the factors that influence relationship.

Function	Description
Information	Provide factual or technical data to ensure rational decision making or routine administrative task
Motivation	Influence others or elicit cooperation and commitment
Control	Clarify duties and/or establish responsibilities
Emotional Expression	Express feelings, establish credibility, or fulfill social needs

Table 1: Functions of Communication (Blair and Culnan, 1983)

Category	Dimension
Performance Factors	Convenience - the degree to which a technology makes communication easier and requires less effort
	Informativeness - the degree to which a technology is capable of providing the desired information
	Relevancy - the degree to which a technology is pertinent to the relationship
Unifying Human Factors	Connection - the degree to which a technology causes an individual to feel linked to his/her group or the organization
	Membership - the degree to which a technology prompts an individual to feel a part of his/her group and the organization, with a focus on the individual as part of the group or organization
	Entitlement - the degree to which an individual feels he/she has a right to something because of his/her relationship to a group or to the organization
Distinguishing Human Factors	Differentiation - the degree to which a technology enables an individual to be recognized as important and treated as unique
	Customization - the degree to which a technology is tailored to the needs of the organization

Table 2: Relationship Influencing Factors (Dillon and Montano, 2005)

This study is guided by following research questions (RQ).

RQ1: How do the features of UC help team members facilitate communication for information, motivation, control and emotional expression?

RQ 2: How does communication enhanced by UC facilitate performance factors, unifying human factors and distinguishing human factors in building relationship in teams?

RQ 3: How does relationship building as supported by better communication via UC affect individual performance in teams?

RESEARCH METHOD

We will conduct a case study to answer these research questions, as case study is particularly useful in answering the "how" and "why" type questions (Yin 2009). Specifically, we will study 28 members from 6 virtual teams which use UC but vary in team characteristics to answer our research questions.

Research Site

The research site is a multinational corporation (Corporation) headquartered in the US with about 300,000 employees around the world. As a major global IT player, Corporation rolled out UC recently. It has now implemented Chat, Click to Talk, Ad Hoc Conferencing, Video, PC Phone, and scheduled Conferencing features and functions of Microsoft Office Lync. All office phone numbers are Lync numbers, conferencing is scheduled through Lync, and the IM feature of Lync is used to facilitate instant chat sessions. Lync is also used for ad hoc conferencing. Through Lync, individuals have a profile loaded, and if that profile includes a picture, the picture is displayed when speaking with or chatting with that individual. The synchronous Lync video feature also allows visual contact between team members. In short, the only official internal means of communications at Corporation, outside of face to face interaction, is now via Microsoft Lync. Figure 3 shows a snapshot of the Lync interface. User name is crossed in Figure 2 to protect privacy.

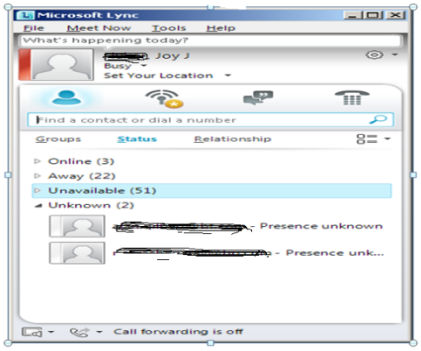

Figure 1: UC Interface

Sampling

Global Telecom department is one of the first to receive the full rollout of UC at Corporation. It is primarily responsible for voice and telecommunication engineering in Corporation. At the time of this study, Global Telecom consists of approximately 140 employees. Within this department, we look at five teams including voice engineering, data engineering, voice and data program management, telecom expense and management, and telecom applications engineering. Members of the five teams reside in different regions in the US as well as in different countries. Many of them work from home, and have never met face-to-face, or have only met once or twice.

Global Telecom collaborates closely with other departments, such as Global Real Estate IT, and Global Procurement. We choose to sample from Global Real Estate IT, because it is structurally similar to Global Telecom. Like Global Telecomm, Global Real Estate IT has multiple teams with geographically dispersed members. It works in conjunction with Global Telecom to deliver services and applications such as LAN and WAN infrastructure upgrades. Specifically, we choose to include a Global Real Estate IT team called MADO in our sample because it is a global virtual team with seven members that are located in the US, Asia Pacific and Europe and that rely on Lync for communication and interaction.

Individuals from the six teams are chosen to include in this study on the basis of their intense involvement in global projects and interactions with various teams in and outside of their departments. They all work from home and rely on UC for interaction and collaboration. Information on the teams and team members to participate in this study is presented in Table 3. The six virtual teams from two departments all have limited face to face interaction with their team members and need to use UC on a daily basis in order for communication and collaboration. On the other hand, they vary in size, work in different areas, and deal with different clients. Such variation in task structures and team properties help us to obtain a broader base of data to reduce the likelihood of idiosyncratic findings (Yin 2009).The virtual teams represent a literal replication strategy meaning that similar results are expected in each team (Yin, 2009).

Team	Work Responsibility	Team Size	Number of Members Participated in the Study
Voice engineering	the voice communication infrastructure	21	6 with 3 in the US and 3 in Asia Pacific
Data Engineering	the LAN and WAN connectivity	12	5 with 2 in the US, 1 in Europe, and 2 in Asia Pacific
Data Program Management	projects related to voice and data engineering	25	4 with 3 in the US and 1 in Asia Pacific
Telecom Expense and Management	service management, billing, IT procurement	16	3 with 2 in the US and 1 in Europe
Telecom Applications Engineering	contact center applications	22	3, all in the US
MADO	Corporation's endeavors in mergers, acquisitions, divestitures, and outsourcing	7	7 with 2 in the US, 3 in Europe, and 2 in Asia Pacific

Table 3: Information on Teams and Participants

Data Collection and Analysis

Interview will be the primary data source. We have developed an interview template, which is shown in the Appendix. Interview questions on the template follow general rather than highly specific a priori topical structure and will allow interviewees to provide rich interview content (Denzin 1989; McCracken 1988). Guided by the interview template, we will conduct semi-structured interviews with members from the six virtual teams. In addition, we will also access the Corporation's internal website for information on team mission, service, and projects. These secondary data will increase the overall understanding of the work context of the teams.

After interviewing, we will transcribe all interviews. In the data analysis, we will follow the process suggested by Eisendardt (1989). We will first read the interview transcripts several times to become immersed in the data, and then highlight comments pertaining UC features, communication functions, relationship building factors, and performance. Then we will use matrices to organize and analyze the corroborated data (Miles and Huberman, 1994). To answer the first research question, a matrix will be constructed. The matrix contains interviewees' comments on UC features, and how each feature affects communication functions (i.e., information, motivation, control and emotional expression). To answer the second research question, we will construct one matrix containing interviewees' comments related to effects of better communication enabled by UC on performance factors, unifying human factors and distinguishing human factors.

To answer the third research question, we will first use open coding technique (Strauss and Corbin, 1990) to capture improved individual performance. Open coding is the process of breaking down, comparing, conceptualizing and categorizing data. In open coding, we will label similar interview text segments from the transcribed interviews, and group them to form codes. Then we will put the coded data back together by grouping codes that are conceptually similar, a process known as axial coding (Strauss and Corbin, 1990). Axial coding will result in the classification of data into categories that reflects the impacts on individual performance.

CONTRIBUTION AND LIMITATION

This study can contribute to the literature in the use of UC in the workplace in at least two ways. First, it will show empirically in virtual work environment how material features of UC are appropriated to facilitate communication, and how communication enabled and enhanced by UC help relationship building, and how relationship building affect individual

performance. Therefore, this study will improve the theoretical understanding of the impact of UC on communication, relationship and performance for individuals working in virtual teams that require collaboration.

Based on this theoretical understanding, organizations can configure UC features and functions that are used as intended to streamline communication, build relationship, and improve performance. Organization can also identify unintended consequence of the implementation of UC. In this sense, this research has also practical contribution as its findings help understand the complexity of the use of UC in organizations, and facilitate the management of IT-induced behavioral and perceptual changes in organizational work.

Like any study, ours has limitations. First, the extensive usage of UC by our research participants may not be typical for other members in the same organization. Working in different locations across the globe, participants in this research rely extremely heavily on UC for communication and collaboration. This may not be the case for other organizational members who share office spaces and have frequent face-to-face interaction. So our findings only reflect the impacts of UC on individuals whose work is enabled by UC.

Second, our data come from employees of one organization. Our study is conducted on a multinational corporation which is a global leader in the IT industry. The wide usage of IT by our research participants at their work may not be typical for other organizations in different industries. Samples drawn from other settings might reveal varying impacts of UC on communication, relationship building and performance.

Finally, this study examines the impact of UC on individuals, specifically, individuals' perception of communication, relationship and performance. In the future, research is needed to assess the impact of UC in quantitative terms. Future research can use team and organization as the unit of analysis and investigate the impact of UC on teams and organizations.

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APPENDIX: INTERVIEW TEMPLATE

A: General information about interviewees

- What is your job/position? How long have you been on this job/position?
- Where are you located? How do you communicate and interact with your team members?
- Can you describe your typical work?

B: Use of UC

- What are the UC features do you use?
- How often do you use these UC features? Rank your usage level from 1 to 6. 1 means not much and 6 very much.
- What percent of your time do you use UC in your work versus face-to-face interaction?
- What is your favorite UC feature? Why?
- What is your least favorite UC feature? Why?

C: Communication

- Do you feel your communication with those in your team and outside of your organization has remained the same, improved, or worsened since communicating via UC? Please provide examples.
- How would losing the ability to communicate via UC impact your work? Please provide examples.

<u>Communication for information</u>

- How do you use UC, specific UC features in particular, to gather and collect information? Please provide examples.

<u>Communication for motivation</u>

- How do you use UC, specific UC features in particular, to influence others or elicit cooperation and commitment? Please provide examples.

<u>Communication for control</u>

- How do you use UC, specific features of UC in particular, to clarify duties and/or establish responsibilities? Please provide examples.

<u>Communication for emotional expression</u>

- How do you use UC, specific features of UC in particular, to express feelings, establish credibility, and/or fulfill social needs? Please provide examples.

D: Relationship Building

- Do you feel your interpersonal relationships with colleagues / team members has remained the same, improved, or worsened since communicating via UC? Please provide examples.
- How would losing the ability to communicate via UC impact your relationship with your colleagues? Please provide examples.

<u>Performance Factor</u>

- Does the use of UC make communication easier and effortless? Please provide examples.
- Does the use of UC provide the desired information? Please provide examples.
- Does the use of UC help you maintain the relationship with your team members? Please provide examples.

Unifying Human Factor

- Does the use of UC make you feel linked to your team and organization? Please provide examples.
- Does the use of UC prompt you to feel a part of your group and the organization? Please provide examples.
- Does the use of UC make you feel that you have a right to something because of your relationship to your group or to the organization? Please provide examples.

Distinguishing Human Factors

- Does the use of UC enable you to be recognized as important and treated as unique in your team and organization? Please provide examples.
- Does the use of UC fulfill your specific needs in the team and organization? Please provide examples.

E: Performance

- How do enhanced communication and better relationship building, as enabled by the use of UC, affect your individual performance in the team? Please provide examples.