

***THE PROCESS & BARRIERS IN COMPUTER-MEDIATED COMMUNICATION
(A Case Study of Indonesian and Australian Students' Collaboration Project)***

**PROSES DAN HAMBATAN DALAM COMPUTER-MEDIATED COMMUNICATION
(Studi Kasus Pada Proyek Kolaborasi Mahasiswa Indonesia dan Australia)**

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ABSTRACT

This paper describes how university students from diverse cultural background and separated by geographical distance conduct communication process using computer-mediated communication (CMC). The purpose of our research is to examine the communication process and identify potential barriers that can disturb the collaboration. We also aim to find which cultural dimensions influence the communication process. The population is 15 Journalism students from UPH, Indonesia and 15 Journalism students from QUT, Australia who joined a collaboration project from October – November 2018. We use a qualitative case-study, with analytical descriptive method. We analyze multiple sources of evidence such as: logbook and recorded correspondence, Focus Group Discussions (FGD) and depth interview for data collection. Results show the students use mostly asynchronous communication such as chat text and Google Docs for their communication medium. The main barriers are language proficiency and slow internet connections. This study analyzes one case study involving students from two different nations. We find that Individualism, Masculinity and Power Distance cultural dimensions influence how they communicate to each other.

Keywords: *Computer Mediated Communication, Cross Cultural Communication, Hofstede*

ABSTRAK

Studi ini menjelaskan bagaimana mahasiswa dari latar belakang budaya yang berbeda dan dipisahkan oleh jarak geografis melakukan proses komunikasi dengan menggunakan *computer-mediated communication* (CMC). Tujuan dari penelitian ini adalah untuk menganalisa proses komunikasi dan mengidentifikasi potensi hambatan yang dapat mengganggu proyek kolaborasi. Kami juga ingin mengidentifikasi dimensi budaya mana yang mempengaruhi proses komunikasi. Populasi penelitian ini adalah 15 mahasiswa Jurnalistik dari UPH, Indonesia dan 15 mahasiswa Jurnalistik dari QUT, Australia yang mengikuti proyek kerjasama pada bulan Oktober – November 2018. Kami menggunakan studi kasus kualitatif, dengan metode deskriptif analitis. Kami menganalisis berbagai sumber bukti seperti: buku catatan dan korespondensi yang direkam, *Focus Group Discussions* (FGD), dan wawancara mendalam untuk pengumpulan data. Hasil studi menunjukkan bahwa mahasiswa lebih banyak menggunakan komunikasi asinkron seperti teks pendek dan *Google Documents* sebagai media komunikasi mereka. Hambatan utama dalam proses komunikasi adalah kemampuan bahasa dan koneksi internet yang lambat. Penelitian ini menganalisis satu studi kasus yang melibatkan mahasiswa dari dua negara yang berbeda. Kami menemukan bahwa dimensi budaya Individualisme, Maskulinitas, dan Jarak Kekuasaan mempengaruhi cara mereka berkomunikasi satu sama lain.

Kata Kunci: *Computer Mediated Communication, Cross Cultural Communication, Hofstede*

1. INTRODUCTION

In globalization era with rapid changes of technology, Computer-Mediated Communication (CMC) plays a larger role in supporting education environment (Rhoads, 2010). CMC is increasingly used for groups' communication and research (Campos-Castillo, 2017); (Mustafa & Poh, 2019). Some research shows the many benefits of CMC in learning enhancement, such as: increase

comprehension and opportunity to express opinion (Gillespie-Lynch et al., 2014); (Chen, 2012), enhance learning engagement through Peer feedback (Su Q, 2018); (Mellati & Khademi, 2014), improve computer and collaborative skills (Nguyen, 2011); (Parke et al., 2017); (Hinds & Payne, 2016) and improve team performance (Krancher et al., 2018).

However, contrary to this, other research shows that collaborative assignments using CMC proved to be frustrating and time consuming for the students and learning is not enhanced (Ragoonaden & Bordeleau, 2000). Students prefer traditional collaborative writing than online collaborative writing especially students with weaker English ability and little writing experience (Wu, 2015). Students also find CMC as ineffective because it lacked of human contacts and was difficult to establish relationships (Symeonides & Childs, 2015); (Mustafa & Poh, 2019). Another downside is the lack of cues in CMC that can lead to lack of trust, so the participants need to work harder to make themselves clear (Favotto et al., 2017). At the end, it takes more time and effort to process the online communication than in face-to-face communication (Haythornthwaite & Nielsen, 2007).

In respond to this debate, our research question then: What kind of barriers that appear in collaboration using CMC? How can we make the collaboration process using CMC more effective and enhance students learning experience?

This research centered around the collaboration project among 30 college students comprise of 15 Journalism students from Pelita Harapan University (UPH) Indonesia and 15 Journalism students from Queensland University of Technology (QUT) Australia. The course lecturer from UPH and QUT discussed the potential benefits of international collaboration and agreed to set up a collaboration project for their students. The project used blended learning method, combining online and face to face meeting. The duration of the project was 2 months from October to November 2018. Students communicated via computer medium (CMC) for one and half month before they met face to face in Indonesia for one week. The Australian students would visit Indonesia since they received the fund from the Australian government to cover their expenses. The students must collaborate to create a story package containing a news feature article complete with info-graphic and multimedia materials in English language, with the goal that their work is accepted and published by a respected news media online in Indonesia.

The purpose of our research is to examine their communication process and identify some potential barriers that can disturb the collaboration. The examination covers from the students' time preference to communicate, the type of messages used, by what kind of devices, and most importantly, what kind of barriers that appear in the communication process and how the students are dealing with the possible barriers that arise in this collaboration.

Misunderstandings can occur due to the failure of participants from diverse backgrounds to recognize cultural differences. Cultural background can significantly influence the way participants understand the message (Brantley, Clarice & Miller, 2002). Therefore, we also aim to identify which cultural dimensions influence the communication process. Since our participants come from two different nations, we analyzed the cultural differences based on six national culture dimensions by Hofstede.

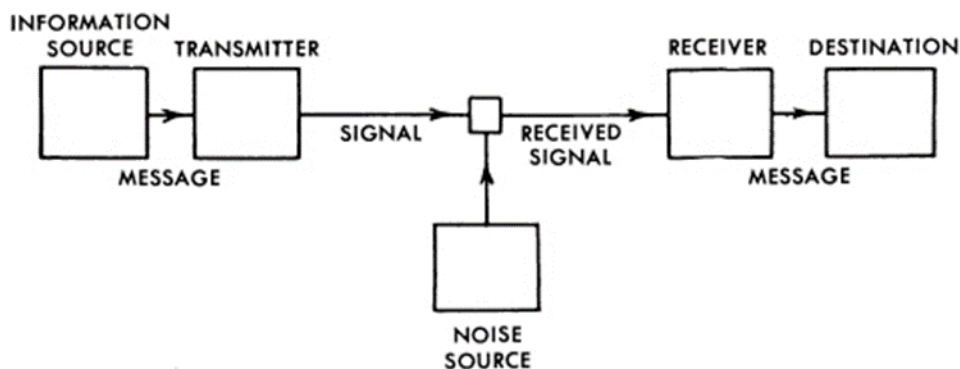
Several misunderstandings between Indonesia and Australia have occurred since Indonesia's independence in 1945 (Hardjono, 2013). One of the recent misunderstandings is the temporary suspension of military cooperation between Australia and Indonesia in 2017. There were insulting materials to both Indonesian military and the state's ideology of Pancasila at the language class in Australian teaching facility. The military cooperation was finally resumed after Indonesia accepted an official apology from Australia, represented by the Army Chief (BBC News, 2017).

Young people are believed as the digital natives and the ones who will inherit the world that the technology is now shaping (International Telecommunications Union, 2020). Therefore, the need to research and analyze, particularly empirical research on how young people collaborate effectively especially with people from other cultures using digital communication medium are areas that still needs special attention.

1.1. Theoretical Framework

Computer-Mediated Communication (CMC) is an umbrella term which refers to human communication via computers (Thurlow, 2004). Temporally, a distinction can be made between synchronous CMC and asynchronous CMC. Synchronous CMC is communication where interaction takes place in real time, includes several types of text-based online chat, computer, audio, and video conferencing. Asynchronous CMC is communication where participants are not necessarily online simultaneously, such as: email, discussion forums, and mailing lists. CMC can take place over local area networks (LANs) or over the Internet (Simpson, 2002). Even though CMC covers the wide range of areas such as e-commerce, online journalism, virtual learning, and new media (Ling, 2018); (Carr, 2020) this study is primarily focus on CMC as a process of human communication via computers and other digital devices such as lap-top, tablet or smartphone (Thurlow, 2004).

We analyse the communication process based on Shannon and Weaver's communication model (information source, message, transmitter, channel, receiver, and noise).



Source: The Mathematical Theory of Communication (Shannon and Weaver, 1971)

Figure 1. Communication Model by Shannon and Weaver

The information source sends and selects a desired message consist of text, audio, or video. The transmitter converts the message into a signal and send over a channel. In CMC, the transmitter is a selected device (e.g., a smartphone) and the channel is the application that delivers the message in the internet to the receiver. The communication process then repeats itself. The receiver of the message sends back perceived message or feedback to the destination (the conversation partner). Unfortunately, in the process of transmitting this message, there are several characteristics that can distort the communication process, which may not be intended by the information source. Shannon and Weaver use the term noise to describe this distortion (Shannon, Claude and Weaver, 1971). In this study we use the term barriers.

Here is what we would like to analyze in the communication process based on Shanon and Weaver communication model:

Table 1. What we analyze

Shannon & Weaver Communication model	What we analyze
Information source	Timing to communicate
Message	Type of messages selected
Transmitter & Channel	Device and application used
Receiver	Responds mode chosen
Noise	Barriers

Source: researcher's own analyses based on Shannon & Weaver Communication Model

Beside Shannon and Weaver's communication model, we also refer to Media Richness Theory to analyse the type of medium use in the communication process. Communication medium vary in the capacity to process rich information (Daft et al., 2008). In order of decreasing richness, the media classifications are: (1) face-to-face, (2) telephone, (3) personal documents such as letters or memos, (4) impersonal written documents, and (5) numeric documents. The reason for richness differences includes the medium's capacity for immediate feedback, the number of cues and channels utilized, personalization and language variety (Lea et al., 2001); (Postmes & Spears, 2002); (Xu & Liao, 2020). In message exchange processes, individuals observe and interpret cues from language styles, conversational contingency, emoticons and emojis, pauses, editing status, timing, and delay in response (Vandergriff, 2013); (Tang & Hew, 2019); (Kreniske et al., 2019).

According to Media Richness theory, use of synchronous media such as telephone and video call sessions are considered to have higher levels of media richness than asynchronous media such as email. Face-to-face is the richest medium because it provides immediate feedback so that interpretation can be checked (Daft et al., 2008). In CMC context, video call is the richest medium since it provides multiple cues via body language and tone of voice, and message content is expressed in natural language (Aljukhadar & Senecal, 2017).

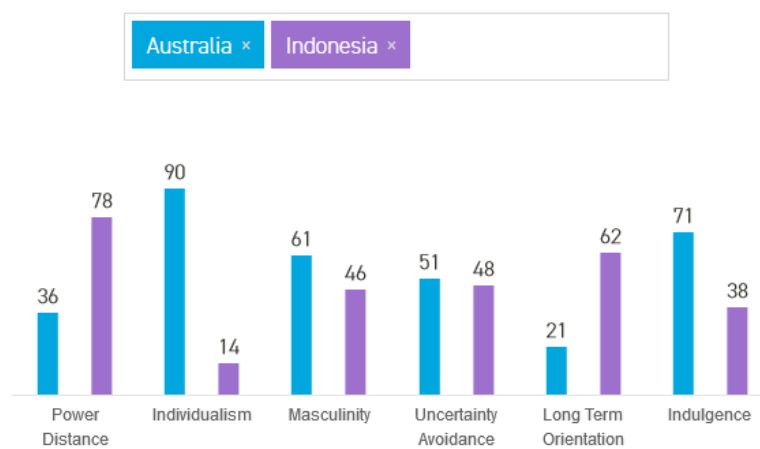
Text type communication is considered the least in medium richness because it does not provide immediate feedback and does not provide cues so that interpretation can be checked (Westbrook, 2014). Castillo argued that a decrease of visual cues availability increase bias (Campos-Castillo, 2017). Medium of low richness process fewer cues and restrict feedback and are less appropriate for resolving equivocal issues however it is effective for processing well understood messages and standard data (Daft et al., 2008).

Early researchers studying computer-mediated communication often compared CMC forms to more traditional face-to-face communication (FtF). However, the goal of this study is not to decide whether FtF communication is superior than CMC or vice versa. Each communication method has its own advantages and disadvantages. Instead, this paper aims to explore how university students from diverse cultural background conduct communication process using CMC and to examine how the students are dealing with the possible barriers that arise in this collaboration project.

From literature review, we found one common influence relevant in CMC context that could hinder the collaboration process. Cultural background can significantly influence the way audience understands the message (Brantley, Clarice & Miller, 2002). Hsu investigated helping behaviour in a CMC environment and identified that a lack of shared social identity – for example due to cultural differences may lead to distrust and therefore hinder willingness to help (Hsu et al., 2011). Ethnic cues also influenced the choice of words in E-mail responses, perceptions of the sender's personality and willingness to help (Hansen et al., 2015). Yang found that people present different preferences and styles when using CMC tools in their organizational communication, which may reflect their inherent cultural characteristics (Yang et al., 2011). Misunderstandings can occur due to the failure of participants from diverse backgrounds to recognize cultural differences.

1.2. Six National Cultural Dimensions by Hofstede

In social anthropology, 'culture' includes all patterns of thinking, feeling, and acting. The term "culture" does not only refer to those activities related to the mind such as: planning and decision making, but also the ordinary things, such as: greetings, eating, dressing, expressing feelings, touching, and maintaining health. Geert Hofstede wrote five basic dimensions of culture: Power Distance, Individualism, Masculinity, Uncertainty Avoidance and Long-Term Orientation (Hofstede, Gert ; Minkov, 2010). Based on Michael Minkov's research, Indulgence versus Restraint (IVR) has been added as the sixth dimension (Hofstede, Gert ; Minkov, 2010; Hofstede, 2019). Although not without criticism (Fougère & Moulettes, 2007), the Hofstede's cultural dimensions has become a reference for research on studies of national culture (Westbrook, 2014). The table below summarizes the cultural differences between Indonesia and Australia based on the national cultural dimensions by Hofstede.



Source: <https://www.hofstede-insights.com/country-comparison/australia,indonesia/>

Figure 2. The country scores for Indonesia and Australia

From Hofstede current report, Australia and Indonesia are significantly different in most cultural dimensions especially in Power Distance, Individualism and Long-term orientation with over than 40 score gap in these three dimensions (Hofstede, 2019).

a) *High Power Distance VS Low Power Distance*

Hofstede defines this dimension as the extent to which the less powerful members of institutions and society within a country accept that power is distributed unequally. It is unlikely for a subordinate to oppose or contradict their superior directly. In unequal societies (high power distance), ordinary people such as students, feel that they cannot aspire beyond their rank. In such system, the quality of learning is highly dependent on the excellence of the teachers. In more egalitarian societies (low power distance), where problems cannot be solved by simply showing someone's power, students stressed the importance of being flexible to achieve goals. Children learn to say "no" early on. Behavior towards others is not dependent on the age or status of the other person. Formal respect is rarely shown. Students are encouraged to take initiatives and are expected to find their own intellectual path. Students intervene in class and they are encouraged to ask questions when they do not understand something. The quality of learning depends on two-way communication and excellence of students (Hofstede, Gert ; Minkov, 2010).

b) Individualism VS Collectivism

In most collectivist cultures, the interests of the group are more important than the interests of the individual. Direct confrontation with others is considered rude and undesirable. Saying "no" is confrontational. In the collectivist classroom, the values of harmony and maintaining face are upheld. Personal relationships are more important than task and must be established first. In individualist cultures, on the other hand, expressing opinion is a virtue. Telling the truth about feelings is the characteristic of a sincere and honest person. Confrontation can be useful and differences of opinion are believed to lead to a higher truth. Completion of tasks are more important than personal relationships. The right to privacy is also a central theme in many individualist societies (Hofstede, Gert ; Minkov, 2010).

c) Masculinity VS Femininity

According to Hofstede, feminine culture values modest behavior and cooperation-oriented. Competitive behavior and promoting achievements will lead to jealousy and are ridiculed. Meanwhile, masculine culture values competitive behavior and achievement oriented. Students try to make themselves stand out in class and compete openly with each other. They also appreciate academic achievements in teacher. (Hofstede, Gert ; Minkov, 2010).

d) Uncertainty Avoidance

The extent to which members of this cultural society feel insecure by ambiguous or unknown situations. This society needs predictability, punctuality, and a need for written and unwritten rules. They favoured structured learning situations, detailed assignments, and strict timetables. They value accuracy and formalization in organization. Whereas, in countries with lower uncertainty avoidance, the members are more flexible. They accept unfamiliar risk such as job changes or engage in activities which there are no definite rules. They are comfortable with open learning situations with unclear objectives, broad assignments, and no timetable at all. They value originality and many literatures from this culture are dealing with fantasy worlds. (Hofstede, Gert ; Minkov, 2010).

e) Long Term vs short term orientation

Long term orientation society adheres to values that are oriented towards future rewards—in particular, perseverance and thrift. Children learn to be thrifty and delay immediate gratification for greater purposes in the future. They value knowledge and education. Society in short-term orientation adheres to tradition, preservation of "face" and fulfilling social obligations. Students attribute success and failure to luck. They tend to escape their share of responsibility for the future and putting it in the hands of God or the market. (Hofstede, Gert ; Minkov, 2010).

f) Indulgence vs Restraint

Indulgence is the tendency to allow gratification of natural human desires to enjoying life and having fun. The member of the societies are more likely extroverted individuals. They emphasize the importance of having friends and less moral discipline, such as loose norms concerning casual sex. Restraint culture reflects a conviction that such gratification needs to be limited and regulated by strict social norms. They set lower importance of leisure and having friends. They are a strict society with high moral discipline. (Hofstede, Gert ; Minkov, 2010).

2. RESEARCH METHOD

For this research we use a qualitative case-study, with analytical descriptive method. We use a descriptive case study within a single case study research method, compared to the other methods because: (1) the main research questions of our study are “how” questions. We aim to describe how university students from diverse cultural background conduct communication process using CMC; (2) we have little or no control over behavioral events, means we did not control the behavior of the students during the communication process; and (3) the focus of this study is a contemporary Computer-Mediated Communication (as opposed to entirely historical) phenomenon (Yin, 2009).

This study uses multiple sources of evidence for data collection. As primary data we gathered information from daily log-book and recorded email/chat correspondence provided by the participants during the collaboration project. To verify the data from the log book, we conducted four Focus Group Discussions (FGD) with the 30 participants in this collaboration. To increase data validity in our case study we conducted an in-depth interview with two key informants (QUT Lecturers), one in depth interview with Experts and two in-depth interviews with four participants. Our secondary sources were archival records. We took advantage of free public use files and other statistical data made available by governments or institutions.

All sources of evidence were reviewed and analyzed together. We summarized the data from the daily logbook filled in by the 30 participants. We summarized it by categories and presented it in the form of a table. We verify the data from the log book through focus group discussions. We asked the same questions from the log book into the focus group discussions and probe each question deeper to gain more insights and clarity. The results of the data analysis are then displayed in the form of tables and explanatory narratives. We then added information we got from in-depth interviews with lecturers and experts and from the literature reference to enrich the analysis.

3. RESULTS & DISCUSSIONS

The results of this research describe the communication process based on Table 1 page 4: from the student’s time preference to communicate (synchronous or asynchronous), the type of messages the student used (text, audio, video, or image), by what kind of devices (smartphone, tablet, laptop, or PC), to what kind of barriers that appear in the communication process. All informants’ names have been changed upon receiving approval (thus, below are not the real names of informants).

3.1. Timing to Communicate

Table 2. Time chosen (Morning, Afternoon, Evenings, After midnight)

Type	QUT(N=15)	UPH (N=15)
Morning	6 (40%)	1 (6,7%)
Afternoon	7 (47%)	6 (40%)
Evening	2 (13%)	8 (53,3%)
After Midnight	-	-

Source: Primary data

The student answers were varied and the time preferences to communicate were really depend on each member diverse personal schedule. The different time zones (around 3 hours) between Indonesia and Australia were another challenge for the group to find the time that every member is available.

Ani (Indonesia): I usually contact them around afternoon or late afternoon. Australia is 3 hours ahead of us, so the latest I contacted them is around 6pm my time or 9pm their time. I do not want to disturb them at night during their resting time.

The student's response above showed that she was considerate about the resting time of her team member. This was in line with collectivist values where the maintenance of harmonious relationship with the social environment is important. After we dig deeper, we found other interesting cultural differences in here. During FGD sessions, we found that most Australian students, besides study, also work part time or full time (as an accounting, lawyer assistant or medical receptionist) and most of them lived in an apartment independently from their parents. They were paying for their own car petrol, handphone and even their own apartment cost.

Heather (Australia): For me it was probably very early morning around 6 a.m. or like evenings. Cause I worked full time (in accounting) so all day work and I do not like to touch my phone.

Gwen (Australia): We also need to work for money to pay the bills to be able to go to the social things. So, I think hard work is also take balancing work, Uni, and internship kind of stuff.

During FGD sessions, we found that all UPH students were full time students and focus to study only. They were still living with their parents and most of their expenses were provided by their parents. Even if they are earning side money, all the basic expenses were still covered by the parents. Indonesian students admitted that is not easy to find proper part-time work in Indonesia.

Kirana (Indonesia): Not many part-time work opportunities for college students in Indonesia. Even Starbucks (Coffee shop) request a minimum age and degree (to become their employee). In Australia, students can easily work in places like McDonald (fast food restaurant), but here (in Indonesia), they do not accept students to work, they prefer full-timers.

Hughes stated one of the aspects of effective collaboration are students feel comfort and trust among fellow collaborators. Group collaboration, especially in the early stages of a project, also takes longer to get oriented (Hughes et al., 2017). In this project, the lecturer encouraged the students to initiate everything from contacting their group members to introducing themselves. The students admitted there was awkwardness during the first two weeks and there was almost no significant progress except saying 'Hi' to their fellow member. In the next question we will see the type of message the students preferred and how culture influenced their preferences.

3.2. Type of Messages Used*

Table 3. Type of Messages Used (Text, Audio, Video or Image)

Type	QUT (N=15)	UPH (N=15)
Text	15 (100%)	15 (100%)
Audio	-	1 (6,6%)
Video	2 (13,3%)	2 (13,3%)
Image	2 (13,3%)	1 (6,6%)

*) Students can choose more than 1 type of messages.

Source: Primary data

All (100%) students chose text as their main type of messages although for different reasons. Australian students reasoned that text was very time efficient.

Heather (Australia): I do not have time for calls. So, text was easier, and they could reply later in the day and after that I could reply again so yes... a bit more efficient

For Indonesian students, text type communication was helping them in dealing with the technical issues or the language barrier.

Jeni (Indonesia): I chose text because of language differences. I have more difficulties in following the video or audio call conversation, however in chat conversation I can read the chat over and over again before I answer. I can also use google translate to help me write my answer.

Basuki (Indonesia): I admit that my English is not really good, and I have difficulties in following the conversation especially when the group starts talking about the project because usually, they speak very fast and using difficult phrases. Glad I have one Indonesian mate that can translate for me. The language barrier is really a challenge for me.

If there were no language barrier, Indonesian students preferred to communicate via video chat where they can see their Aussie mates' face expressions and body language.

Rina (Indonesia): I prefer to do video chat to get to know my team member better, but my Aussie mate prefers text because it is more efficient. She does not like to have synchronous (real time) conversation or to discuss together. She prefers to do her part and I do my part separately and then we give feedback to each other work by text. If I can choose, I prefer to meet face to face or at least have synchronous conversation.

Ani (Indonesia): I prefer video call because you feel better when you already talk in person. I would like to see their face and their gesture.

In Collectivism society according to Hofstede, personal relationship should be established first before people working on a task (Hofstede, Gert ; Minkov, 2010). This explained why the Indonesian students were eager to start the relationship by initiating video call. You need to see the gesture and face expression of your communication partner. Social cues communicate a sense of status, power, and hierarchy. It can be static, such as clothing and hairstyles, or dynamic, such as facial expressions and gestures (Daft et al., 2008). Building trust is important for effective collaboration (Hughes et al., 2017). Indonesian students from collectivist societies needed cues to help them build trust, by observing voice intonation, gestures, or facial expressions of their QUT friends. On the other hand, for Individualism society, completion of task should take precedence over personal relationships. So, text type communication in this situation was very efficient for Australian students even though it was not always the most effective.

According to Media Richness theory, text type communication is the lowest type of communication because the communication participants do not get direct feedback or social cues so they cannot check each other interpretations (Daft et al., 2008). Medium of low richness are also less appropriate for dynamic communication process such as resolving issues or making decision (Westbrook, 2014). In this study, the students also experienced the downside of using text type communication.

Mirna (Indonesia): Respond comes in hours' time, ineffective discussion. I prefer group decision, so not only us (Indonesians) who decide. That is why we need face to face communication.

Basuki (Indonesia): We, Indonesians are 'paguyuban' (collectivist) people. We are not individualist. Even when I already know what is best, I will not dare making decision before I talk to my group.

Besides needing social cues, Indonesian students also feel the need to have group decision, a trait from collectivist society. They admit, to feel hesitate to make their own decision. They felt underestimated when their Australian mates made their own decision and just informed them later.

Ani (Indonesia): One thing that concerns me is that I feel my QUT mates seemed to under-estimate us. I can feel it. Why? Because whenever they make decision, they did not ask for our input. They just go ahead.

Desi (Indonesia): Yes, they (QUT mates) are more dominant. They feel that they are smarter (than us).

In an extreme case, by only using text communication, one of QUT student perceived their UPH mates as rude, not listening or have no real firm opinions. However, after she met them in person her perceptions changed and she can feel that her UPH mates are kind, generous and helpful.

Audrey (Australia): over messaging, it seemed that Doni (Indonesia student)) was rude and not listening to anyone's opinions but his own or if he were listening, not acting consistently with them. It also seemed that Erna (Indonesia student) was just willing to go with the flow with no firm opinions of her own. Through talking with them in person from Monday onwards, they have shown this not to be the case. Both Erna and Doni are very kind, generous and helpful.

Inaccurate perception of the other's personality in CMC can negatively influence cooperative behavior among communication participants (Epley & Kruger, 2005). To balance between building effective collaboration and efficiency, it would be better especially in the introduction phase or in situations where resolving issues or decision making are needed, students must intentionally try to use high richness media such as video call or at least audio call. Whereas in lower level of communication processing such as sharing information, exchanging research data, sending reports, uploading data in Google Docs, giving confirmation, or sending summary can be done by low richness media such as email or text chat.

However, conducting video or phone call were not always possible. Technical difficulties such as lack of bandwidth could distort the communication, interaction, and collaboration with distant partners (Ragoonaden & Bordeleau, 2000); (Earnshaw, 2017). In this study, the technical problems that occurred during the collaboration project affected the students. Slow internet connection influences the quality of sounds and image. It discouraged the groups from using synchronous communication such as video or audio call even though there are times when high rich communication medium is needed such as in resolving their group issues or in decision-making situation.

Gwen (Australia): We did a group call to discuss exactly what our topic was about, but the sound was difficult to understand.

Basuki (Indonesia): Our group planned to do a skype video call. But somehow our video screen is blank so we could not do the video call.

Mirna (Indonesia): The quality of WhatsApp video or audio call is really bad, especially if you are not using Wi-Fi connection.

Available technology, especially internet connection did not yet support CMC properly. One potential alternative to online communication is video interchanges. However, video-mediated communication still cannot be considered as a viable option in enhancing collaboration because there are a number of issues yet to be resolved (Shaw et al., 2020).

For the next questions we will see both Indonesian and Australian students agreed to use WhatsApp as their main communication app. However, they have different preferences regarding the applications used.

a) Type of Device Used

Table 4. Type of Devices (smartphone, tablet, laptop, or PC)

Type	QUT(N=15)	UPH(N=15)
Smartphone	15 (100%)	15 (100%)
Tablet	-	-
Laptop	3 (20%)	1 (6,6%)
PC	1 (6,6%)	1 (6,6%)

*) Students can choose more than 1 type of messages.

Source: Primary data

The question was: "What type of device do you mainly use in communication (smartphone/ tablet/ laptop/ PC)? Why?" Based on the FGD, all (100%) students chose smartphone as their main communication device because it is easier, practical and they carry the device almost every time and everywhere they go. They admitted that they can do almost everything with their smartphone.

Audrey (Australia): Eeee... Google Docs (I use) computer, WhatsApp (I use) phone, but sometimes I could do my Google Docs on my phone...

Basuki (Indonesia): Smartphone. Because it is easier, practical, mobile and with us all the time.

All participants admitted that they carry their smartphone all the time. Indonesian students even further admitted that they are addicted to their smartphone. They always check their mobile phone to see if somebody has texted them or posted something in social media. This study shows that culture did not affect the student's choice of device, rather, it is more generational issue and in line with the theory about media convergence. Various forms of analog media such as books, newspapers, radio, television, or films can now be accessed through one device such as a smartphone (Bettiga et al., 2013). Media convergence confirms that everything we do with computers is now available on smartphones.

Our result is also in line with a study conducted by Martínez on 420 young people in Spain. Their study showed that mobile phones has replaced the use of other technological medium including television. Smartphones do not only function as a means of communication but also as a means of recreation. Smartphone users especially young people have a greater tendency to develop dependence on their mobile devices (Martínez-Sánchez et al., 2020).

APJII (Asosiasi Penyelenggara Jaringan Internet Indonesia) reported more than 50% of Indonesia's population (over 130 million) owns smartphone/tablet (APJI Indonesia, 2017) and the number is growing. This could be an opportunity for future research to conduct studies on how to educate smartphone use for young people. How to avoid addiction and other problems from improper use of smartphone.

b) Applications Used

Table 5. Technology / Apps Used (email, skype, WhatsApp, FB messenger, etc)

Type	QUT(N=15)	UPH(N=15)
Email	1 (6,6%)	2 (13,3%)
Skype	1 (6,6%)	1 (6,6%)
Whatsapp	15 (100%)	15 (100%)
FB Messenger	2 (13,30%)	-
Line	-	4 (26,6%)
Google Docs	15 (100%)	15 (100%)

*) Students can choose more than 1 type of application.

Source: Primary data

All (100%) students chose WhatsApp chat and Google Docs as their main communication app with varied reasons and purposes.

Monica (Australia): So, our lecturer suggested we all get WhatsApp because that is what popular in here (Indonesia), so now we will have WhatsApp.

Australian students were instructed by their lecturer to install and use WhatsApp chat because this application is very common in Indonesia. During focus group discussions we found out that they prefer to use Facebook messenger in their daily life.

Gwen (Australia): We discussed what would be the better communication app. The (Indonesian) students preferred WhatsApp which was an adjustment because I never use it and it was an adjustment. But now that I am here (In Indonesia), I find it really easy cause even ...it is funny. academic stuff that we have been calling around use WhatsApp and I would be so lost without WhatsApp now.

Cowling stated that 50% of the country's population or 15,000,000 people in Australia are active users on Facebook. They access Facebook at least once a day (Cowling, 2019). This is aligned with

what we have observed in the collaboration project. The QUT students prefer using FB messengers because they find it as a comprehensive application.

Cheryl (Australia): WhatsApp but yes, If I had to choose, I would choose Facebook messenger. Because it is just what everyone uses in Australia and if you do not have Facebook, it is really odd.

Audrey (Australia): I really dislike WhatsApp as a communication tool and much prefer to use Facebook messenger as I feel, it has a better, easier to use interface.

Infographic report from APJII in 2017 showed that 54% internet users in Indonesia is using Facebook, followed second place by Instagram and third place by YouTube (APJI Indonesia, 2017). However, we found out from our focus group discussion, that UPH students were no longer using Facebook application as their main social media, in fact, they considered the app as outdated. UPH students preferred WahatsApp or LINE as their main communication app with their friends.

Vivi (Indonesia): I never use FB again because my friends do not use FB so when I open my FB home it is empty, so I do not feel motivated to use FB again.

Rina (Indonesia): We see FB as an 'oldies' application. We used to play with FB until we get bored and we need something new.

Goenawan stated that there are around 80% internet users or 72 million LINE monthly active users in Indonesia. They spend around 40 minutes per day using LINE. 41% from the total users are young people with age range around 18 – 22 years old. In Indonesia, the pattern of users for chat app is divided into two segments. LINE is used mainly for teenagers and young people and WhatsApp for older generation and professionals. This data aligned with our observation in this study. All Indonesian students using LINE daily (Pakar, 2018).

Mirna (Indonesia): It seems we do 'clustering' when we chat. For family we use WhatsApp, friends (we use) Line and Instagram. It would be very strange if a family member suddenly direct message me via Instagram.

Jeni (Indonesia): Instagram for sharing photos, and Line for chatting. I tend to chat with close friends using Line and for strangers I tend to use WhatsApp.

Vivi (Indonesia): For work or professional matters I always use WhatsApp

Even though Facebook is popular app in both Australia and Indonesia, this project does not use Facebook. The students agreed to use WhatsApp for this group main communication because it is the app that the lecturer has recommended. It is also the most common app that can reach both young and older generation in Indonesia. After WhatsApp chat, the students use Google Docs for their main communication process.

c) Response Mode

Table 6. The Response-Time Chosen (instant or delayed)

Type	QUT(N=15)	UPH(N=15)
Synchronous (Instant)	2 (13,3%)	15 (100%)
Asynchronous (delayed)	13 (86,6%)	-

Source: researcher's own data

The next question was: 'Did you receive instant feedback from your mates? How long do you consider still within instant feedback?' We see that there were different perceptions regarding instant feedback between Aussie and Indonesian students. All (100%) Indonesian students gave instant response and defined instant feedback as giving reply within minutes or at least less than an hour.

Mirna (Indonesia): Em.. minutes...

Eka (Indonesia): I always reply fast. I do not want to be perceived as rude if I already read the message but do not reply.

From the Indonesian students' response above, we see that she cares what others perceive about her, a trait from collectivist society. Whereas 86,6% Australia students gave delayed response and perceived that giving response within 3-4 days are still considered normal.

Jacob (Australia): I do not think we were really too concern with instant feedback, like we were very busy and we knew they probably would very busy too so there will be period when some messages do not get respond for 3-4 days and I think, it is pretty normal.

Australia lives in a culture that values time. People like projects to be completed in stages. Time is money. It is very important that each stage is completed in a timely manner. (Trompenaars, A. and Hampden-Turner, 1998).

Audrey (Australia): I had an exam that day worth 60%. That day I had to prioritize studying and working on preparing for that rather than working on this project, however, the group chat was still very active.

The QUT students realized that they give delayed response to their Indonesians mates compared to the Indonesians' response time. In the introduction phase of the project, they were in the middle of final exams and prioritized their exam first. After their exam weeks were finished then they start giving their attention to the collaboration project.

Trompenaars stated that Indonesians live in an elastic time culture. People see the past, present, and future as interconnected. People can do several things at once. Plans and deadlines are being flexible as time is interchangeable (Trompenaars, A. and Hampden-Turner, 1998). In addition to that, according to Hofstede, Indonesians also come from a Collectivism society, where personal relationships must be established first before working on a task. That is why Indonesian students were eager to start the communication with their Aussie mates to build relationship.

Vivi (Indonesia): I do not know about the other groups, but my Aussie mates were not responsive at all. Sometimes they took five hours to reply to my chat.

Unfortunately, in the introduction phase of the project, aside from their part/full time job, the Australian students had lots of assignments and exams from school. This really created the dynamic that most Indonesian students were more eager to start the communication process than their Aussie mates (at least in the beginning of the project). When their Aussie mates did not give immediate responds, the Indonesian students felt ignored.

3.3. Communication Process

Diverse personal schedule and different time zone (3 hours gap) between Indonesia and Australia students became the main factors to choose the timing to communicate. Despite they were all university students within the same age range (19-24 years old), they have significant differences in daily schedule. Indonesian students are all full-time students. Whereas all Australian students beside studying, are also working full/ part-time. All Indonesian students are still living with their parents and most of their expenses are covered by their parents. Meanwhile all Australian students are living in an apartment independently from their parents. They are paying their own car petrol, handphone and even their own apartment cost.

Even though text is considered the least richness medium for communication compare to video call, the technical problems discouraged the groups from using video or audio call. Slow internet connection influences the quality of communication. There were times when high rich communication medium is needed such as in resolving issues or in decision-making situation

however the available technologies especially internet connections did not yet support this group collaboration using CMC optimally.

Both Indonesian and Australian students chose text as their main type of messages although for diverse reasons. Australian students reasoned that text was very time efficient, a trait that is valued in Individualist culture. For Indonesian students, text type communication is helping them in dealing with their language limitations. English is not their mother tongue. If there were no language barrier, Indonesian students preferred to do the communication by video chat where they can see their Australian mates' face expressions and body language. Indonesian students from collectivism groups, needed cues to help them learn to build trust by observing voice intonations, body gestures, and facial expressions of their QUT mates.

All students used WhatsApp as their main communication app because it was instructed by the lecturer. However, Indonesian students preferred using Line and Instagram because it is what most of their friends' currently use. They considered Facebook app as outdated. Australian students preferred Facebook because it is such a comprehensive app and it is just what everyone use in Australia.

All students chose smartphone as their main communication device. Culture did not affect the student's choice of device type, rather, because it is easier, practical and they can do almost everything with their smartphone. They carry their smartphone almost every time and everywhere they go.

Indonesian students gave instant/ real time response (within minutes and less than 3 hours) because they did not want to be perceived rude. This is aligned with Collectivist trait, that value harmonious relationship and should be establish first before completing the task. Over 80% Australian students gave delayed response (12 hours to 3-4 days are still considered normal) because they prioritize more urgent task (in this situation, final exams, and work). After that, they start giving attention to the collaboration project. This is aligned with Individualist trait, that completing task is more important over personal relationship.

3.4. Collaboration Barriers (Technical and Language)

In this study, we found two barriers that clearly hinders the communication process:

1. Language barrier. For Indonesian students, English is not their mother tongue. To deal with the language barrier, Indonesian member with stronger English fluency automatically became the communication bridge (translator) for the Indonesian students with weaker English fluency. Some groups unfortunately had both Indonesian members with weak English fluency. Therefore, for the next collaboration project, it might be better to form group members not by their topic of interest but by their English fluency. It is important to have at least one Indonesian member with strong English fluency in each group to ensure a smoother communication in the collaboration.
2. Technical barrier. The available technology, especially internet connection, has not supported this group collaboration using CMC optimally. The students mostly used asynchronous communication (low richness medium) such as text chat and Google Docs for their communication medium. Communication via text was very time efficient and helped them overcome technical problems or language barriers. Technical problems such as slow internet connection distorted the quality of communication. This problem discouraged almost all groups to conduct synchronous communication (high richness medium) such as video or audio calls even in some situations where synchronous communication was very needed, such as when they needed to solve problems or made decisions.

3.5. Cultural Influence

From our analysis we found that culture influence how the students were thinking, feeling, and acting. It showed on how they are making decisions, sharing opinion, resolving conflict, showing

self-drive and competitiveness. There are still two cultural dimensions from Hofstede, which are: Uncertainty Avoidance and Long-Term Orientation, however, due to the short duration of this collaboration project, we did not yet see them and therefore could not analyze them in this study.

a) *Individualism VS Collectivism*

According to Hofstede, direct confrontation with another person is considered rude and undesirable in most collectivist cultures. The word “no” is seldom used because saying “no” is an act of confrontation. Confrontation and conflict should be avoided or at least formulated so as not to hurt anyone. It is very important to maintain a harmonious relationship and save someone’s face especially if that person is considered to have higher hierarchy.

Kirana (Indonesia): In my group, they (Aussie students) speak more bluntly. If they do not like something, they do not hesitate to confront. Here (in Indonesia) we speak more politely.

In individualist cultures, on the other hand, speaking your mind is a virtue. Telling the truth about how someone feels is characteristic of a sincere and honest person. Confrontation can be salutary; a clash of opinions is believed to lead to a higher truth. The right to privacy is also a central theme in many individualist societies.

Kirana (Indonesia): We were in the hotel room working on our assignment. It was very quiet, so I turned-on music in my Handphone (so others can listen and enjoy the music together). They (Aussie students) immediately said, “Could you please hear it (with earphone) by yourself?”

The Indonesian student wanted to share her favorite music and enjoy it together however, her Australian mate, prefer the quietness, did not hesitate to ask her to listen to the music by herself.

b) *Masculinity VS Femininity*

Hofstede stated that Feminine culture values cooperation oriented. Competitive behaviour and highlighting achievements will lead to jealousy and are ridiculed.

Mirna (Indonesia): Once the Aussie students arrived here (Indonesia), they immediately took control of the assignment. They make decision if they want to be the writer or also the video editor. Suddenly the assignment is complete without telling us. We (Indonesian students) became confuse.

Masculine culture values competitive behavior and achievement oriented. Students try to make themselves stand out in class and compete openly with each other. They appreciate academic performance.

Gwen (Australia): We know that all of us are doing a similar degree, we all wanted to have a job when we finished. So, we know that we need to work hard to be the best we can be because there are just so many of us that are competing for the same job, so you want to be better than the person next to you. Because you want the job and there are not so many jobs.

c) *Power Distance*

Hofstede defines this dimension as the extent to which the society within a country accept that power is distributed unequally. It is unlikely for a subordinate to oppose or contradict their superior directly.

In more egalitarian societies (low power distance), behavior towards others is not dependent on the age or status of the other person. Students are encouraged to take initiatives and are expected to find their own intellectual path. Students intervene in class and they are encouraged to ask questions when they do not understand something.

In this collaboration project, one of Australian student (from low power distance country) did not hesitate to express her disagreement to the lecturer’s decision regarding bylining system (a line in a newspaper naming the writer of an article). She sent protest email to the lecturer with wording

that Indonesian students would very unlikely to use. In essence, she wrote that the lecturers' decision as unwise.

Meanwhile, the lecturers never heard any protest or direct disagreement from all Indonesian students toward the lecturers' decisions or instructions. We summarize the cultural influence below:

Table 7. The summary

Indonesian Students	Australian Students
Considerate to others' feeling and thinking (collectivism)	Direct / straight forward (Individualism)
Group decision oriented (Collectivism)	Individual decision oriented (Individualism)
Needed social cues in communication (Collectivism)	Prefer efficient communication (Individualism)
Relationship oriented (Feminine)	Performance oriented (Masculine)
Cooperation oriented (Feminine)	Competitive oriented (Masculine)
Submissive to the Lecturer's authority (high power distance)	Did not hesitate to express disagreement to the lecturer's decision (low power distance)

4. CONCLUSION

Results show that the students use mostly asynchronous communication such as chat text and Google Docs for their communication medium. Weak English fluency and slow internet connection are the main barriers in this collaboration project and become the noise in the communication process.

We can see that culture influence how the members in the collaboration projects interact with each other. We find that Individualism, Masculinity and Power Distance cultural dimensions influence how they communicate to each other. However, despite the cultural influences, this collaboration project shows synergy where each member in the group contributed differently according to their strengths. The lecturers advised Australian students to write the articles because they are native English speakers and Indonesian students contributed in translating interviews, producing photography materials and infographics, and assisting with logistics as the project is being held in Indonesia.

The role of the lecturer shifts from simply preparing lectures to designing a learning environment including explaining the cultural differences. They interact closely with students to facilitate learning, mediate conflicts and evaluate progress. Meanwhile, students make their own discoveries regarding online journalism, CMC, and cross-cultural communication. They gained knowledge through active engagement, conflict management, problem solving and authentic experiences while also having fun.

Five out of eight students' articles have been accepted and published by one distinguished online news media in Indonesia and all students agreed that they received benefits from this collaboration project.

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