

**Social Media and Collaborative Information Behaviour
Intergenerational Difference in a Multinational Company Setting**

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The candidate confirms that the work submitted is her own and that appropriate credit has been given where reference has been made to the work of others.

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ABSTRACT

This research explores the collaborative information behaviour (CIB) of different generations and their social media use in a multinational company (MNC) setting. Academic scholars and practitioners have recognised that globalisation has engaged organisations in increasingly complex supply chains and the impact of the digital era has challenged organisations with complex issues in various ways, such as the collaborative information-intensive environment, the adoption of evolving technology (social media), intergenerational difference, and the influence of cultural difference in organisations. The literature highlights there is a lack of research on the totality of influences and the interplay between these issues as they affect complex settings. Thus, this research analyses the overall complex issues of CIB in an MNC and the interplay of the issues of CIB, social media, intergenerational difference, and cultural difference, and how these issues influence each other in the MNC setting. To address these research questions, this research takes an interpretive approach using activity theory (AT) as a theoretical and analytical framework. Document analysis, non-participant observation, focus group discussion and semi-structured interviews were conducted in a multinational company in Thailand as a case setting. This thesis produces a collaborative information behaviour (CIB) model in the MNC context: an integrative model to shed light on the process of CIB in the MNC and the interplay of significant issues discovered in the complex setting, including the issues of CIB, the colonisation of an organisation by technology, the role of evolving technologies as CIB tools, the intergenerational difference, and the interplay between the national and organisational cultures. This thesis contributes to the fields of CIB, social media, generational difference and cultural difference in terms of investigating the totality of issues and the complexities around the interplay of these issues influencing CIB in the complex organisational setting. The contributions have organisational implications for policy making and management practice.

TABLE OF CONTENTS

Acknowledgements	i
ABSTRACT	ii
ABBREVIATIONS	x
GLOSSARY	xi
CHAPTER 1: INTRODUCTION	1
1.1 Introduction	1
1.2 Research motivation	1
1.3 Research aims	5
1.4 Research questions	5
1.5 Research contributions	6
1.6 Thesis structure	8
CHAPTER 2 LITERATURE REVIEW	10
2.1 Introduction	10
2.2 Collaborative information behaviour (CIB)	11
2.2.1 Definition of CIB	13
2.2.2 Conceptual perspectives of CIB	16
2.2.3 Models of collaborative information behaviour (CIB)	23
2.3 Social media and collaborative information behaviour (CIB)	28
2.3.1 Definition of social media and types of social media	30
2.3.2 Related work on social media and CIB in organisations	37
2.3.3 Using social media in the MNC	42
2.4 Intergenerational difference	45
2.4.1 Defining the ‘generational difference’	46
2.4.2 Characteristics of digital natives and digital immigrants	48
2.4.3 Classification of generational difference	49
2.4.4 Related work on generational difference in the workplace	50
2.4.5 Generational difference and CIB	54

2.5 Conclusion	56
CHAPTER 3: METHODOLOGY	61
3.1 Introduction	61
3.2 Epistemology and ontology	61
3.3 Qualitative research	63
3.4 Theoretical frameworks	64
3.4.1 Activity theory	64
3.4.2 Introduction to activity theory (AT)	65
3.4.3 Elements of activity systems	68
3.4.4 Principles of activity theory	71
3.4.5 Tensions and contradictions of AT	73
3.4.6 Alternative frameworks	75
3.4.7 Rationale behind using activity theory	78
3.4.8 The implication of AT in this study	81
3.5 Research design	83
3.6 Data analysis	94
3.7 Triangulation	100
3.6 Ethical considerations	101
3.7 Conclusion	103
CHAPTER 4: CULTURAL-HISTORICAL DEVELOPMENT OF THE ACTIVITY SYSTEMS	105
4.1 Introduction	105
4.2 The period before social media use, from the 1990s to 2013	109
4.3 The shifting process towards the adoption of social media	125
4.4 Conclusion	131
Chapter 5: SOCIAL MEDIA USE AND ACTIVITY SYSTEMS	133
5.1 Introduction	133
5.2 Social media use and activity systems	133
5.2.1 Activity systems	134
5.2.2 Motivation	136

5.2.3 Subjects involved.....	139
5.2.4 Object.....	141
5.2.5 Shared object/outcome	143
5.2.6 Tools	147
5.2.7 Rules and norms.....	152
5.2.8 Community.....	156
5.2.9 Division of labour	160
5.3 Conclusion	161
CHAPTER 6 INTERACTING ACTIVITY SYSTEMS AND CONTRADICTIONS	163
6.1 Introduction	163
6.2 Interacting activity systems	163
6.2.1 Activity 1: Collaboration	166
6.2.2 Activity 2: Information sharing.....	169
6.2.3 Activity 3: Team building.....	170
6.3 Actions and operations.....	172
6.4 Tensions and contradictions.....	176
6.5 Conclusion.....	183
CHAPTER 7 DISCUSSION	186
7.1 Introduction	186
7.2 CIB and the intergenerational difference in the MNC.....	190
7.2.1 CIB in the MNC setting	190
7.2.2 Tool familiarity.....	201
7.2.3 Level of comfort	204
7.2.4 Attitudes towards technology	207
7.2.5 Contribution 1: The colonisation of an organisation by technology	211
7.3 Barriers and differences influenced by the intergenerational differences in the use of social media	215
7.3.1 The modality of use	215
7.3.2 Language barriers	221
7.3.3 Cultural issues	226

7.3.4 Contribution 2: The interplay between the national and organisational cultures	231
7.4 Managing CIB and the intergenerational difference in the MNC	233
7.4.1 Tool preference	233
7.4.2 Communication barriers.....	235
7.5 Conclusion.....	236
CHAPTER 8 CONCLUSION	239
8.1 Introduction	239
8.2 Theoretical contributions	241
8.3 Practical contributions	254
8.4 Limitations.....	256
8.5 Future research	257
8.6 Concluding remarks.....	258
REFERENCES.....	261
APPENDICES	279

LIST OF TABLES

Table 1 Conceptual perspectives of CIB and the existing literature	17
Table 2 Triggers leading from IIB to CIB.....	20
Table 3 Types of social media	32
Table 4 Social media affordances by Treem and Leonardi (2012)	35
Table 5 Social media use types in organisations	36
Table 6 Characteristics of digital natives and digital immigrants.....	49
Table 7 Different generations and their different approaches to technology	52
Table 8 Elements of activity theory	68
Table 9 Principles of activity theory and its implications for the study.....	71
Table 10 Comparison of alternative frameworks.....	78
Table 11 Rationale for using activity theory.....	79
Table 12 The classification of age groups	86
Table 13 Data collection procedures.....	88
Table 14 Eight-step model (Mwanza, 2002).....	93
Table 15 Themes from field notes and document analysis	95
Table 16 An example of a translated excerpt from a focus group interview	96
Table 17 Ungrouped words.....	97
Table 18 Theme searching	98
Table 19 Thematic analysis based on AT analysis	99
Table 20 Triggers causing an individual to collaborate in the MNC	196

LIST OF FIGURES

Figure 1 Reddy and Jansen’s (2008) CIB behaviour model	24
Figure 2 Karunakaran et al.’s (2010) model of CIB in organisations	26
Figure 3 Conceptual lens of the literature review	57
Figure 4 Activity, actions and operations.....	66
Figure 5 First generation of activity theory (Vygotsky, 1978), as reformulated by	66
Figure 6 Second generation of activity theory	67
Figure 7 Third generation of activity theory.....	67
Figure 8 Four levels of contradictions	73
Figure 9 The implication of activity theory in this study	81
Figure 10 The participant recruitment process	87
Figure 11 Synopsis of findings through AT – 1	108
Figure 12 Synopsis of findings through AT-2.....	109
Figure 13 Organisational structure of the MJCD (regional).....	111
Figure 14 Collaborative information-intensive and routinised intensive domains	115
Figure 15 Organisational tools prior to social media	116
Figure 16 Tool adoption timeline	117
Figure 17 The colonisation of an organisation by technology	130
Figure 18 Pre- and Post-activity systems of the MJCD	135
Figure 19 Reasons behind using social media	137
Figure 20 Organisational chart at the MJCD.....	141
Figure 21 Company populations	141
Figure 22 Activity systems of the MJCD.....	143
Figure 23 The three channels of social media use at the MJCD	148
Figure 24 Interacting activity systems between two domains.....	164
Figure 25 Interacting activity systems in the CIB-intensive domain.....	165
Figure 26 Actions and operations of different generations	173
Figure 27 Tensions and contradictions	177
Figure 28 An outline diagram of the key findings and contributions	187
Figure 29 Model of CIB in the MNC context	192
Figure 30 Reddy and Jansen’s (2008) CIB model (Reddy and Jansen, 2008, p. 266).....	193
Figure 31 Karunakaran et al.’s (2010) model of CIB in organisations.....	193

Figure 32 Generational heritage in the MNC company context	209
Figure 33 The colonisation of an organisation by technology	212
Figure 34 The interplay between the national and organisational cultures with the intergenerational difference approach.....	227
Figure 35 CIB in the MNC context: an integrative model.....	253

ABBREVIATIONS

ANT	Actor Network Theory
AT	Activity Theory
CIB	Collaborative Information Behaviour
CIR	Collaborative Information Retrieval
CIS	Collaborative Information Seeking
ESM	Enterprise Social Media
IB	Information Behaviour
IIB	Individual Information Behaviour
IR	Information Retrieval
IS	Information Systems
MJCD	Major Japanese Car Distributor
MNC	Multinational Corporation(s)
MNE	Multinational Enterprise(s)
SNT	Social Network Theory

GLOSSARY

Digital immigrant: This term has the opposite meaning to digital native. According to Prensky (2001), digital immigrant refers to older generations who were introduced to technology later in life. They are more likely to resist technology and have a difficult time accepting technology.

Digital native: This is a term used by Prensky (2001) that describes young generations who were born and grew up in the digital era. They are those who are proficient with using technology. In this thesis, digital native and technology-driven generations are used interchangeably.

Head office: This term is used to describe the country headquarters of the multinational company in this research. The terms country headquarters and head office are used interchangeably throughout the thesis to describe a wholly-owned subsidiary of the parent company where it oversees the manufacturing of Japanese cars in Thailand and supplies cars to a number of dealer offices across the country.

Internal efficiency, in this context, refers to when internal communication and collaboration become collaborative and enhance teamwork and communication within teams across generations. This could also increase team performance if managed properly.

Major Japanese car distributor or MJCD refers to the fieldwork where this research was conducted. The MJCD is used as the case setting. It is a branch company which has a dealership contract under the head office to operate and cater for the market in the north-eastern region of Thailand.

Multinational company: This term refers to the case setting in this study. It is defined as an organisation which carries out its business operations and activities across many countries (Godiwalla, 2016; Scheffknecht, 2011; Vlad, 2018). It can also be used interchangeably with multinational enterprise (MNE) or multinational corporation.

Older generations: This term is used to refer to digital immigrants in this study. It consists of two generations in this study, Baby Boomers and Generation X, who were born before 1980.

Parent company: This term refers to a company that manages and controls companies which are its subsidiaries, based on its policies and management. In this research, the parent company is an automaker in Japan that has subsidiaries operating worldwide.

Respect of the elders: This term refers to the cultural value found in this study. It refers to a culture in which one who is younger should respect one who is older or who is in a position of higher authority in the social setting, for example, their boss. This means the younger people are expected to behave in a certain way. Younger people should pay respect and listen to the older people, which includes the way they address someone who is older than them, the way they communicate and interact with older people, and that the language they use with older people has to be spoken and written in a formal, respectful and appropriate manner in the social setting.

Technology-driven generations: This term refers to Generation Y or Millennials and Generation Z in this study. It is used interchangeably with digital natives and younger generations throughout this thesis. They are those who were born from 1980 onwards.

CHAPTER 1: INTRODUCTION

1.1 Introduction

Collaborative Information Behaviour (CIB) is a growing area of research as the nature of collaborative work is complex, and collaboration and interaction are often crucial in organisations (Hertzum and Reddy, 2015; Karunakaran et al., 2013; Reddy and Jansen, 2008; Widén and Hansen, 2012). In recent years, digital technologies have brought more complex issues to organisations, for example, the global phenomenon of social media use (Appel et al., 2020; Kapoor et al., 2018; Leonardi, 2017), the issue of technology-driven generations and their technology adoption in the workplace (Colbert et al., 2016; Ghobadi and Mathiassen, 2020; Kesharwani, 2020), and the influence of cultural difference as a result of globalisation impacts on organisations (Vlad, 2018). This research recognised the research gaps within these complexities in the literature. As such, the research investigates these issues from a holistic viewpoint, in particular, focusing on the process of collaborative information sharing in a multinational company (MNC) and the complexities around the interplay of multiple issues, such as the issues of CIB, social media, intergenerational difference, and cultural difference, and how these issues may affect and/or influence the collaborative information behaviour in the MNC setting.

This chapter begins with the research motivation of this study to establish why this area of study is chosen for investigation and states the gaps in the literature. It then moves on to identifying the research aims and research questions posited in this study. After that, it underlines the research contributions made in this study, including theoretical, methodological and practical contributions. The last section outlines the structure of the thesis.

1.2 Research motivation

Technology plays a pivotal role in organisational communication and performance in today's organisations. Technological inventions are continually appearing, and organisations have to be able to respond to the rapid technological advances, increasingly complex supply chains, and complex issues in terms of organisational communication and collaboration. One major issue causing concern for today's organisations is managing the intergenerational difference in the workforce, especially in terms of the younger generations, who are technology-driven, like Millennials (Magni and Manzoni, 2020; Myers and Sadaghiani, 2010; Twenge et al., 2010). Many studies have reported issues of generational difference in organisations, such as the technology-driven generations have different work expectations, attitudes and characteristics to their older

colleagues (Becton et al., 2014; Colbert et al., 2016; Magni and Manzoni, 2020; Stewart et al., 2017; Vodanovich et al., 2010), and the issues around the digital competencies and digital influence between the technology-driven generations and the older generations (Culp-Roche et al., 2020; Shtepura, 2018; Thompson, 2013; Venter, 2017). These issues are ongoing and will continue to be a problem (Culp-Roche et al., 2020). Therefore, they are worth looking at, yet the existing literature seems to overlook the totality of their influence.

Research on CIB that deals with understanding how people collaborate and interact during information activities (seeking, searching, retrieving, sharing and using information) (e.g. Hansen and Järvelin, 2005; Hertzum and Reddy, 2015; Karunakaran et al., 2013; Karunakaran et al., 2010; Reddy and Jansen, 2008; Reddy and Spence, 2008; Spence et al., 2005) has recognised the role of technologies in supporting collaborative information activities. Historically, the traditional information technologies that facilitated collaborative information activities include printed media, face-to-face meeting, email, intranets, desktop videoconferencing and collaborative data mining (Huang et al., 2013; Kanfer et al., 2000). Several CIB researchers also developed IR (information Retrieval) technologies and features to support collaboration during their information activities in organisations, e.g. SearchTogether (Morris and Horvitz, 2007), Coagmento (González-Ibáñez and Shah, 2011), MUSE, and Ariadne (Twidale and Nichols, 1998). However, after social media was invented, people shifted towards using it instead.

Social media has gained its popularity in modern society and organisations since its emergence. A recent statistic from We Are Social (2020) estimates that there are 4.14 billion active global social media users out of a total world population of 7.81 billion, and the number of users has grown by 12.3%. Social media use is rising and has proliferated in many organisations around the world. It has attracted interest among scholars as it has shifted the way organisations communicate and collaborate, both internally and externally (Huang et al., 2013; Razmerita et al., 2014; Van Osch et al., 2019). This is evidenced by several studies of social media use in organisations, as discussed below.

Research into social media in organisations, or often referred to as Enterprise Social Media (ESM), has largely explored how companies implement social media for external use. The external social media use includes how organisations communicate and interact with external members like customers, suppliers and stakeholders (Leonardi et al., 2013), for example, the use of social media in marketing activities to create or increase brand awareness with customers and stakeholders (Kietzmann et al., 2011; Kietzmann et al., 2012; Salo, 2017), and customer relationships (Choudhury and Harrigan, 2014; Culnan et al., 2010; Fong and Yazdanifard, 2014). Increasingly,

researchers have also shown interest in internal social media use, which organisations use to facilitate firm performance, and to manage and improve organisational activities such as communication, collaboration, knowledge sharing, information sharing and employee relationships (Chen and Wei, 2020; Jarrahi and Sawyer, 2013; Kane, 2015; Leonardi et al., 2013; Razmerita et al., 2014; Schlagwein and Hu, 2016). The majority of extant research primarily focuses on the adoption of social media and the impact of social media on organisational activities, whether it be opportunities or challenges to organisations (Naim and Lenka, 2017; Pitafi et al., 2020; Sun et al., 2019; Van Osch et al., 2015). Still, to date, there are limited studies of social media as there are different aspects to explore in terms of the effect on organisational practice relating to actual work, employee satisfaction and firm performance (Leonardi and Vaast, 2017).

According to the generational difference literature, most research has stressed the considerable attention to the digital influence on technology-driven generations and the digital gap between different generations (e.g. Bencsik et al., 2016; Correa, 2014; Kapoor and Solomon, 2011; Vodanovich et al., 2010). Research has described the technology-driven generations as those who grew up using technology and who tend to be precocious users of social networking technologies (Ghobadi and Mathiassen, 2020). Most research refers to generations that belong to this “technology-driven” category as “Generation Y or Millennials”, who were born between 1980 and 2000, and “Generation Z”, who were born after 2000 (Stanton, 2017); they can also be referred to as “Digital Natives” (Prensky, 2001). Due to the digital environment in their upbringing, the technology-driven generations are different from the older generations in the workforce – Baby Boomers (Born 1943 – 1963) and Generation X (Born 1964 – 1979), or “Digital Immigrants” (Prensky, 2001), who were introduced to technology later in their adult life; thus, they are not comfortable using new technologies and have a hard time accepting them (Barak, 2018; Bencsik et al., 2016; Bennett et al., 2008; Kapoor and Solomon, 2011; Vodanovich et al., 2010). This also leads to issues in organisations, where a multigenerational workforce is common since Baby Boomers, Gen X, Millennials and Generation Z dominate the current workforce¹. Their differences in how they use technology could affect firm performance, which can generate opportunities or challenges during their collaboration and communication using technology as a tool. The existing research has explored the generational differences in work attitudes, work values and expectation, and personality traits (Becton et al., 2014; Magni and Manzoni, 2020; Myers and Sadaghiani, 2010; Twenge et al., 2010), and their differences in information-sharing activities and technology use (Culp-Roche et al., 2020; Naim and Lenka, 2017; Widén et al., 2017).

¹ Statista (2021) reports that four generations occupied the global workforce in 2020: Baby Boomers (6%), Generation X (35%), Generation Y (35%), and Generation Z (24%).

Source: Statista. 2021. *Employment Worldwide 2020, by generations*. [Online]. [Accessed 8 August 2021] Available from: <https://www.statista.com/statistics/829705/global-employment-by-generation/>.

Still, extant generational difference literature is limited (Magni and Manzoni, 2020), while the issue of intergenerational difference is contributing to a complex problem in organisations when newer generations like Generation Z are becoming more prevalent in the workforce and will soon make up the majority of it. Another point is that most existing generational research focused on age difference to understand the multigenerational workforce (Becton et al., 2014; Culp-Roche et al., 2020; Magni and Manzoni, 2020; Myers and Sadaghiani, 2010; Naim and Lenka, 2017; Twenge et al., 2010; Widén et al., 2017), while some researchers have criticised that focus, especially as technology-related experience should also be considered (Helsper and Eynon, 2010; Joshi et al., 2011; Joshi et al., 2010; MacKenzie Jr and Scherer, 2019). It is therefore important that both age-related factors and technology-related experiences should be considered in this research to understand the issue of generational difference in organisations and that both age-related factors and technology-related experiences may challenge and change the way organisations use evolving technology to communicate and collaborate.

In the MNC literature, particularly in terms of cultural difference, research has demonstrated the influence of national culture and organisational culture on MNCs in different nations drawing upon the key scholars' cultural difference theories and frameworks (e.g. Hall, 1989; Hofstede, 1997; House et al., 1999; Trompenaars and Hampden-Turner, 1997). Generally, previous studies seem to focus on the influence of either the national culture or organisational culture in MNCs (Harada, 2017; Swierczek and Onishi, 2003; Purwohedi, 2017), while paying little attention to the interplay between the national culture and organisational culture. Some literature on social media has looked the impact of the cultural issues (see Gibbs et al., 2015; Pirkkalainen and Pawlowski, 2014; Schlagwein and Prasarnphanich, 2014), but the issues are still understudied.

After reviewing the extant literature on CIB, social media, intergenerational difference and cultural difference, it is of interest that, although most existing studies have acknowledged the importance of these issues, little attention has been paid to studying the overall complex issues concerning the totality of influence and the interplay between them in an organisational context. Some studies have explored the combination of these issues, but not in the context of dynamic totality, for instance, CIB and social media (Ng et al., 2017; Nisar et al., 2019), the impact of cultural difference on social media (Gibbs et al., 2015; Pirkkalainen and Pawlowski, 2014; Schlagwein and Prasarnphanich, 2014), workplace information sharing and generational difference (Widén et al., 2017), and the impact of cultural difference and CIB activities (Yfantis et al., 2012). Additionally, it seems that the existing studies focus on simplistic views of these issues,

which does not seem to represent the complexities and how the interplay of the issues influences the organisational settings.

Therefore, this research is motivated by the complexities around the interplay of multiple factors influencing how people collaboratively share information in organisations including social media use, intergenerational difference and the cultural difference in organisations, as it is identified in the literature that these issues are important for understanding CIB. The focus in this research is to investigate the overall complex issues in the process of collaborative information sharing in the MNC setting, and seek to identify how the interplay of different issues affects and/or influences the situations in the MNC in terms of how social media is used as a collaborative information-sharing tool inside the MNC, how different generations use social media to communicate, collaborate and share information internally, and how social media and the collaborative information behaviour of people of different generations may influence information practice and organisational activities in the MNC.

1.3 Research aims

This study aims to understand the totality of complexities in the collaborative information behaviour (CIB) of employees from different generations using social media as a business communication tool and a source of information in the MNC. This study explores how employees from the technology-driven generations (e.g. digital natives) and the older generations (e.g. digital immigrants) use social media to collaboratively share information in the MNC, and what barriers and differences may be influential in their information activity and in communication between the technology-driven generations and the older generations. It also intends to examine how to manage and develop social media use among different generations effectively to improve the collaborative information activities for internal efficiency in the MNC.

1.4 Research questions

In order to accomplish the research aims, the research sets out to explain and answer the following three research questions:

Research question 1: How do generations differ in their use of social media as a business communication and collaborative information tool internally in a multinational company setting?

Research question 2: What barriers and differences in such a setting can be influenced by different generations' use of social media as a collaborative business communication tool?

Research question 3: How can such barriers and differences be managed and developed to improve collaborative information behaviour for internal efficiency²?

1.5 Research contributions

This thesis makes significant contributions to knowledge. First, this study makes theoretical contributions to the fields of CIB, social media, generational difference and cultural difference.

- The process by which technology, in this case social media, was adopted in the organisational setting was highlighted as *the colonisation of an organisation by technology* (see figures 14 and 30). This phenomenon is a key issue contributing to the complexity of the problem in the MNC setting: that social media was not formally adopted and approved due to the cultural constraints in the organisation. It was the younger generations who brought social media into the company as they already used it in their personal life, and used it extensively with colleagues, which caused the widespread use of social media and shifted the way the organisation communicated and collaborated, regardless of the well-established rules and norms and cultural constructs in the organisation.
- The interplay between the national culture and organisational culture is a key factor that influences the barriers and differences in the collaborative information behaviour of generations and their use of social media in the MNC. The influence of the culture is seen in the language use between the younger and older workers in the sense of formality and informality and tone when they collaboratively share information on social media, and in the hierarchical structure of the organisation and social setting. The cultures also shape how generations use social media to interact and collaboratively share information in the MNC.
- The CIB in the MNC context: an integrative model is proposed (see Figure 32) to conceptualise the overall complexities of CIB in the MNC context and the interplay of

² Internal efficiency: this research refers to internal efficiency as internal collaboration and communication becoming more collaborative and effective. This internal efficiency can also help to reduce barriers in communication and collaboration between teams across generations, as a result of better teamwork/CIB. If managed properly, it could also increase team performance.

multiple issues found from investigating the totality of influence in this research; that is, the issues influence the process of collaborative information-sharing activities and the ability of the organisation to effectively and collaboratively share information. These key issues include the issues of CIB in the complex nature of the MNC setting, the role of evolving technology as the CIB tool, the intergenerational difference, and the interplay between the national culture and organisational culture.

In addition, this study presents some practical advantages, as described below:

- It could be valuable in helping organisations, managers or policy makers in multinational organisations to understand and educate themselves about social media, the role of new technologies, and the issues of intergenerational difference in the workplace. Currently, social media is extensively used in organisations; however, it should be taken into consideration that technology is evolving and shifting, thus there will be new tools replacing the traditional technologies, as happened when social media shifted the communication and collaboration in organisations.
- This study contributes to practice in that organisations, managers, and policy makers should gain insight into the technology, especially the shift towards new technologies, and formally train themselves and their employees to use such technologies. It could be an investment in knowledge management in organisations and/or part of the training packages for employees and managers.
- New technology should be officially adopted in organisations so that they can stay informed about the current business environment. Understanding the issues of intergenerational difference also provides a significant advantage for organisations to manage different generations because the existing workforce is already multigenerational and newer generations are also entering the workforce, e.g. Generation Z, and they are generations that were born to “a highly developed digital era” (Bencsik et al., 2016, p. 93). This study suggests that managers and organisations should be aware of their differences from previous generations in their approach to technology and their attitudes.
- Also, this study investigated the context of a multinational company, which could be valuable for managers and employees who work for other multinational companies to learn and try to understand about the national and organisational cultures in their

organisations to improve internal efficiency by understanding the underlying issues influenced by the cultures.

1.6 Thesis structure

This thesis is organised into eight chapters:

Chapter 1: the first chapter is the introduction chapter, which introduces the topic of this research and the background of this topic. Research objectives and research questions are included, and the chapter also discusses the significance of this study.

Chapter 2: the second chapter is the literature review chapter. It reviews the existing literature in three key main areas. The first section of the chapter reviews the current body of knowledge on collaborative information behaviour (CIB). It describes the definitions of collaborative information behaviour and how related work on CIB can separate CIB into two main streams of study: social and technical perspectives. It also explains the two mainly cited models of CIB to provide insight into how collaborative information behaviour has been investigated over the past years. The second section reviews the literature on social media use in organisations. It also discusses the existing knowledge of social media and collaborative information behaviour, and social media use in MNCs and the cultural difference in MNCs. The third section is about the intergenerational difference. It presents the terms “digital natives” and “digital immigrants”. It discusses what previous studies have addressed in terms of the issues of intergenerational difference and the different generations’ approaches to technology. It also reviews the previous literature regarding intergenerational difference in the workplace. This chapter ends with a discussion of the research gap existing in the extant literature identified after the review.

Chapter 3: the third chapter is the methodology chapter. This chapter begins by re-stating the research objectives and research questions. It then introduces the philosophical positions underpinning this research (epistemology and ontology), and the research methodology undertaken in this study. Then, it discusses the theoretical frameworks and rationale behind choosing the theoretical framework in this study as well as providing a justification of the chosen research design and methods. This chapter also discusses the ethical consideration for this study.

Chapter 4: chapters 4, 5 and 6 are the findings and data analysis chapters. These chapters include the discussion of the findings collected during the fieldwork and the data analysis is conducted through using activity theory (AT) as a theoretical lens. The fourth chapter outlines the findings

of the overall cultural-historical background of CIB in the MNC in the period from 1990s to 2013 before social media was adopted. It describes the nature of work and the organisational structure of the MNC and organisational tools used in that period. It also features the shifting stages towards social media use in the organisation, addressing when and how social media was brought in and the reaction of employees in the MNC.

Chapter 5: the fifth chapter analyses the social media use and the components of activity systems in the MNC. This covers motivation, subject, object, shared object/outcome, tools, rules and norms, community and division of labour.

Chapter 6: the sixth chapter delves into the interacting activity systems and tensions and contradictions found in the activity systems when social media was the collaborative information-sharing tool in the MNC. It also points out the key themes arising from the analysis to be addressed in answering the research questions in Chapter 7.

Chapter 7: this chapter is the discussion chapter. It mainly discusses key findings related to the research questions and key issues underpinning the contributions of this study. Three models arising from the research findings are presented and discussed.

Chapter 8: the final chapter is the conclusion chapter. It provides a summary of the key findings and contributions of this study, including theoretical, methodological and practical contributions. It also discusses the limitations of the study and recommendations for future research. This chapter ends with some concluding remarks.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

The focus of this research is collaborative information behaviour (CIB) and social media use by different generations in a multinational company (MNC). The research aims to investigate the overall complex issues influencing CIB in the MNC setting. This chapter addresses previous literature on four key disciplines: collaborative information behaviour (CIB), social media, intergenerational difference, and cultural difference in the MNC. The purpose of this chapter is to review existing literature on the disciplines related to this research to identify what is known in the current body of literature and to elaborate on key issues existing in the literature that connect to the research questions. The review also helps in structuring how the research will contribute to the extant literature on CIB, social media, intergenerational difference, and MNCs.

This chapter is divided into four sections. The first section begins with a discussion about collaborative information behaviour (CIB) by looking at the definitions of CIB, which will guide the definition that this research refers to when mentioning CIB. Then, the review moves on to the conceptual perspectives of CIB, including the social and technical perspectives of CIB along with what studies of CIB in both perspectives have previously looked at in various domains and settings. This review aims to identify the CIB perspective it should be focused on, and what key topics and issues connect to explore CIB in an MNC setting, such as triggers to collaborate, and the role of CIB tools (Reddy and Jansen, 2008; Reddy and Spence, 2008; Karunakaran et al., 2013). Two existing models of CIB are also described and reviewed. The models by Reddy and Jansen (2008) and Karunakaran et al. (2010) are reviewed because these are extensively cited models of CIB in an organisational context in the discipline of CIB. Since this research aims to investigate CIB in the MNC context, these two widely cited models are the basis for understanding the process of CIB activities.

The second section is about social media and CIB. The review begins by describing definitions of social media and types of social media to obtain a clearer view of the definition and types of social media referred to in this research. After that, research into social media and CIB is reviewed to understand what and how previous studies have explored the adoption of social media for collaborative information activities, particularly in an organisational context. The section also reviews how previous studies found the impact of social media in organisations – how the adoption of social media offers a positive or negative effect on CIB activities in organisations. This is to elaborate on key influencing factors affecting the complex issues of CIB and social media use

in an organisational context. This section also highlights the related work on social media use in the MNC setting as CIB in the MNC is the focus of this study. It addresses the existing research on how MNCs use social media, and the cultural differences in the MNCs are discussed regarding how cultural issues are a powerful influence that shapes people's behaviour and attitudes. It is also a critical issue to consider in MNCs to understand CIB and social media in the MNC setting.

The third section provides a review of the current knowledge about the intergenerational difference. The review aims to explore the issues of intergenerational difference in the workplace and the different generations' approaches to technology usage. The terms digital natives and digital immigrants are introduced, which describe the differences between the younger and older generations and their characteristics. The section explains that digital natives are proficient with digital technologies and cannot live in the world without technology because they were born in the digital environment, whilst digital immigrants are resistant to technology as they were not introduced to technology until their adult life. Then, the classification of generational difference is included to explain the approach used for differentiating intergenerational difference in this research. After that, the review moves on to provide a view on the controversy regarding the intergenerational difference and the approach to technology – how the older generations and younger generations differ in behaving and interacting with technology. This review provides a background to understanding the intergenerational difference related to the research questions. Research into the intergenerational difference in the workplace is also reviewed in terms of how younger and older generations are different in organisations, such as work behaviour and attitudes, traits, work style, information-sharing behaviour and technology use, and the review identifies what were found to be the issues of intergenerational difference in existing research.

Finally, the chapter ends with a conclusion addressing the research gap in the literature.

2.2 Collaborative information behaviour (CIB)

In the field of information behaviour (IB), researchers primarily studied information behaviour by focusing on individual activity. For instance, IB scholars explored an individual aspect of information behaviour, such as information seeking, searching, usage (Wilson, 2000), sharing (Pilerot, 2012; Talja and Hansen, 2006), and retrieving (Belkin et al., 1995; Ingwersen and Järvelin, 2005). The research on IB involves understanding the relationship between people's behaviour and information. Information behaviour is defined, according to Wilson (2000, p. 25), as *“the totality of human behavior in relation to sources and channels of information, including both active and passive information seeking and information use”*. It is how individuals interact with

information (Bates, 2010), including how they need, seek, give and use information in a variety of contexts (Pettigrew et al., 2001). It is not only the study of human behaviour but also focuses on the communication process, and how it affects human beings (Bates, 2010). IB researchers have developed and worked on models and theories of human information behaviour, for example, Ellis (1989) on a behavioural model of information searching strategies, Kuhlthau (1991) on an information search process, Dervin (1998) on a sense-making model, and Wilson (1997) on a problem-solving model. Their studies reflect the overall theory of information behaviour, model of information behaviour, and human interaction with information, but these are individual-based studies where they investigated the topic at the individual level.

One root of the collaborative information behaviour research has developed from the information behaviour research, whereas CIB researchers focus on the collaborative aspects of information behaviour. The current body of CIB literature has attracted increasing interest among academic scholars. Research into CIB has looked at the collaboration in the activity of information seeking and retrieval to advance the understanding of collaboration and information activities to facilitate the flow of information and knowledge at work (Talja and Hansen, 2006). CIB research has been explored in various settings, for instance, education (Hyldegård, 2006), healthcare (Hertzum and Reddy, 2015; Reddy and Jansen, 2008; Reddy and Spence, 2008), the military (Sonnenwald and Pierce, 2000), and other collaboration-intensive organisational settings. This is because it is normal that an individual collaborates with other people when he or she is driven by a difficult task that cannot be completed by one person (Shah, 2014), especially for organisational work.

In CIB research, the complexity of the nature of the collaborative work environment has been widely discussed. A collaborative work setting is characterised as complex, fast-paced and highly collaborative (Reddy and Jansen, 2008). In organisations, collaboration is common to the nature of work, which involves working together towards similar goals (Shah, 2014). The majority of cooperative and collaborative work usually occurs in an information-intensive environment (Reddy and Dourish, 2002). The work environment in today's organisations has become more information intensive and technology-driven recently due to the digital environment and the overload of information. As both collaboration and information are important elements and are often required, especially in information-intensive environments (Reddy and Dourish, 2002), this is why the collaborative aspects of information behaviour have received a great deal of attention. However, there are still gaps regarding the issues of CIB for this study to fill. This section will review the literature on CIB and its definition, as well as the important discoveries and challenges found in the extant CIB literature.

2.2.1 Definition of CIB

A key challenge for literature on CIB is defining the term (Reddy and Jansen, 2008), as it can be defined in several ways. CIB researchers use different terminologies interchangeably to also draw on collaborative aspects of information behaviour, such as collaborative information seeking (CIS) (Hertzum, 2008; Shah, 2008, 2014), collaborative information seeking and retrieval (Foster, 2006), collaborative information retrieval (CIR) (Fidel, 2000; Hansen and Järvelin, 2005), collaborative search (Morris and Horvitz, 2007), collaborative information sharing (Widén and Hansen, 2012), and collaborative information behaviour (Karunakaran et al., 2013; Reddy and Jansen, 2008). It is important to unpack these definitions to understand how they are defined and used in this study.

CIB is the umbrella concept covering the collaborative aspects of information activities (e.g. information seeking, retrieving and using) (Hyldegård, 2006; Karunakaran et al., 2013). While information behaviour, as mentioned, has focused on the individual activity, CIB covers a wide range of information activities in the group-based setting and conceptualises the constitutive activities contributing to CIB activities, such as information seeking, retrieving or sharing (Hyldegård, 2006; Karunakaran et al., 2013; Widén and Hansen, 2012). According to Karunakaran et al. (2013), CIB is defined as:

The totality of behavior exhibited when people work together to (a) understand and formulate an information need through the help of shared representations; (b) seek the needed information through a cyclical process of searching, retrieving, and sharing; and (c) put the found information to use (p.2438).

This definition has been developed based on the definition of information behaviour by Wilson (2000). It highlights the overall context of CIB and a set of sub-activities within the CIB activities as well as how collaborative information activities are manifested into practice. Additionally, CIB researchers have addressed different perspectives of collaborative information activities and referred to them differently.

One of the early definitions that laid the ground for the CIB literature was the study of the collaborative information retrieval (CIR) activities of design teams in Boeing and Microsoft (Fidel, 2000; Poltrock et al., 2003). Poltrock et al. (2003) defined CIR as “activities that a group or team of people undertakes to identify and resolve a shared information need” (p. 239), relating “activities” to information retrieval. Poltrock et al. (2003) emphasised communication, sharing

and coordination within the collaborative environment. Communication is necessary for a team to understand needed information, and to share the information among the team to coordinate effectively. Fidel et al. (2000) also referred to CIR, when they conducted a CIR project studying “situations where team members collaborate during various processes of information retrieval” (p. 236). They proposed CIR as seeking, searching and using information collaboratively (p. 235). Their definition focused on identifying information need, retrieving, evaluating and using information to adapt to information need in the aspect of collaboration. Along the same lines, Hansen and Järvelin (2005) used CIR as the definition in their study. In their definition, they refer to CIR as an information activity that aims to solve a specific problem/task that involves the interaction of individuals with others through the uses of tools (documents, notes, figures) as the sources of information to seek and retrieve work task-related information in an organisational setting.

Hertzum (2008) also pointed out a problem in that, in the collaborative context, the flow of information is usually incoherent when it is disseminated across people, and they might understand and interpret the information differently when they receive it. Helping the receivers understand the meaning and making sense of the found information across people are what make collaborative information seeking, as the process requires the aspect of collaboration. Then, Hertzum (2008) defined the information-seeking activities carried out in a group-based setting as collaborative information seeking, and combined the information-seeking and collaborative-grounding activities in the definition:

The information-seeking activities performed by actors to inform their collaborative work combined with the collaborative-grounding activities involved in making this information part of the actors’ shared understanding of their work (Hertzum, 2008, p. 958).

The information-seeking activities normally are carried out in the collaborative context; the activities involve making sense of and identifying information needs, and finding sources of information. The notion of ‘collaborative grounding’ is introduced here because Hertzum considers it to be important for individuals to establish a shared understanding and maintain core information during collaborative work. Successful CIS activities require collaborative-grounding activities to maintain shared understanding and information throughout the collaboration process.

In addition, Shah (2014) proposed the most recent definition of CIS, which is developed from past CIS literature and related work; that CIS is:

An information-seeking process that takes place in a collaborative project (possibly a complex task) among a small group of participants (potentially with different set of skills and/or roles), which is intentional, interactive, and mutually beneficial (Shah, 2014, p. 219).

Shah (2008) noted that CIS accounts for information seeking, searching, retrieving, browsing, sharing, evaluating and synthesising information to accomplish goals or to solve problems, and developed the notion and model of collaboration. Foster (2006, p. 330) refers to the collaborative aspect of information behaviour as the collaborative information seeking and retrieval that is “the study of the systems and practices that enable individuals to collaborate during the seeking, searching, and retrieval of information”. Information seeking and retrieval coincide in this concept (Widén and Hansen, 2012).

Reddy and Jansen (2008) studied the collaborative information behaviour of two healthcare teams that adopted Poltrock et al.'s (2003) definition of CIR as mentioned earlier. By this definition, Reddy and Jansen (2008) highlighted the two key concepts of the CIB definition – collaboration and information need – that can be explained as follows: in collaborative work, people work together to resolve and satisfy information need through seeking, retrieving and using information.

Collaborative information sharing is also an important term for CIB. Widén and Hansen (2012) discussed that information sharing is often carried out in cooperative and collaborative activities in an organisational context, which means that the nature of information sharing is collaborative. Talja (2002) studied collaborative information seeking in document retrieval among scholars, and, through empirical observation, she identified that information sharing can be classified into five types of sharing: 1) Strategic sharing, 2) Paradigmatic sharing, 3) Directive sharing, 4) Social sharing, and 5) Nonsharing.

Karunakaran et al. (2013) also addressed that information sharing occurs throughout CIB activities and emphasised that information sharing is the central role within the context of CIB, which is along similar lines as many CIB researchers (e.g. Gorman et al., 2000; Hertzum, 2008; Poltrock et al., 2003). Information sharing takes place to ensure the seekers or receivers receive the found information and use it to solve problems and satisfy information needs in the

collaboration process. Thus, CIB can be studied from both a broad perspective and a more focused task-based perspective, for example, how CIB researchers have looked into the perspective of collaborative information seeking, collaborative information retrieval and collaborative information sharing.

However, this section highlights that many CIB researchers have proposed a definition and investigated the collaborative aspects of information behaviour, and seeks to unpack the commonalities and differences of the existing definitions of CIB to be referred to in this research. In a review of all these definitions, this research adopts the definition of CIB based on Karunakaran et al. (2013): that CIB is the umbrella concept to define the overall context of CIB. Since this research aims to capture the overall context of CIB, this definition by Karunakaran et al. (2013) provides an insight into the collaborative aspect of the information activities from identifying information need, understanding and making sense of information need, to seeking, searching, retrieving and sharing information, and using the information. It is also the latest definition of CIB, as Karunakaran et al. (2013) synthesised the definition from previous CIB studies in the organisational context, and the definition considers the constitutive set of information activities that are made up of the CIB activities, which makes it applicable to this research. Subsequently, CIB, in this research, means the collaborative aspect of information behaviour with the set of information activities to satisfy information needs including seeking, searching, retrieving, sharing and using.

The following section describes how CIB is conceptualised in the current literature. The review aims to locate the stream of CIB in this research to the proper concept.

2.2.2 Conceptual perspectives of CIB

Previous researchers have explored the conceptual perspectives of CIB to better understand the collaborative information activities among people in different organisational settings (Reddy and Jansen, 2008). The extant CIB research suggests that there are two main conceptual perspectives of CIB that researchers have previously studied to address the key issues of the collaborative information behaviour that arises in different domains: social and technical perspectives (Hertzum and Reddy, 2015). The differences between the two form the context of these studies. This section will explain what previous studies have investigated the social and technical perspectives of CIB. Table 1 illustrates the focus of these studies and the conceptual perspectives in the extant CIB literature. Each CIB perspective will be described next.

Table 1 Conceptual perspectives of CIB and the existing literature

Authors	Focus of study	Domains/Settings	Conceptual perspectives
Bruce et al. (2003) Fidel (2000) Poltrock et al. (2003)	Collaborative information retrieval of two design teams.	Organisational	Social
Hyldegård (2006)	Extended Kuhlthau's ISP model to understand CIB.	Educational	Social
Reddy and Dourish (2002)	Collaborative information seeking and the role of work rhythms in an intensive care unit.	Medical work	Social
Hertzum and Reddy (2015)	Collaborative activity in the emergency department (ED).	Medical work	Social
Hansen and Järvelin (2005)	Collaborative activities within information seeking and retrieval in the patent domain.	Patent office	Social
Sonnenwald and Pierce (2000)	Collaborative aspects of human information behaviour in command and control, situational awareness in the dynamic work situation.	Military	Social
Prekep (2002)	Collaborative information seeking	Military	Social
Reddy and Jansen (2008)	Triggers leading from individual information behaviour to CIB, tools supporting CIB, and building a CIB model.	Medical work	Social
and Reddy and Spence (2008)	Triggers leading from individual information behaviour to CIB, and identify information needs in the CIB work setting.	Medical work	Social
Spence et al. (2005)	Triggers leading to CIB, tools supporting CIB, and benefits of CIB activities.	Educational	Social
Karunakaran et al. (2013)	Synthesised CIB literature, and proposed a CIB model.		Social
Twidale and Nichols (1998)	Developed a system to support collaboration (Ariadne).	Library Information System (LIS)	Technical
Krishnappa (2005)	Designed features in information-seeking and retrieving tool to support collaboration (MUSE).	System	Technical
Morris and Horvitz (2007)	Designed SearchTogether prototype to support synchronous or asynchronous collaboration via searching the web.	System	Technical
González-Ibáñez and Shah (2011)	Designed Coagmento to support collaborative information-seeking activities via web-based and mobile systems.	Laboratory and field studies	Technical

1) Social perspective of CIB

Much of the research focusing on the social perspective of CIB has used qualitative methods and concentrated on the study of how people collaborate in organisations and other settings (Prekop, 2002). The work of previous researchers (e.g. Hertzum, 2008; Karunakaran et al., 2013; Reddy and Jansen, 2008; Reddy and Spence, 2008; Shah, 2008; Sonnenwald and Pierce, 2000) suggests various emphases to investigate how people perform CIB activities, for instance, information needs, triggers shifting individuals to collaborate, and the role of technology or tools supporting the CIB activities. Early researchers at the University of Washington (i.e. Bruce et al., 2003; Fidel, 2000; Poltrock et al., 2003) outlined the understanding of CIB and explored how team members seek, retrieve and use information to solve information problems. In their analysis of the collaborative work setting, the researchers examined the information needs and how the team members identified their information needs and collaborated to solve problems. They found that addressing the information needs collaboratively with teams is important in collaborative work as it is essential that all team members understand what their tasks are and what the needed information is, in order to work together and solve the problems. This is an important point for CIB researchers to understand: that the information needs in the nature of the collaborative work environment are usually complex.

Many CIB researchers have also recognised the complexity of the information needs and the nature of collaborative information behaviour. For example, Hyldegård (2006) investigated collaborative information behaviour in a group-based educational setting of two groups of students during their project assignment. In this study, the author emphasised the roles of team members and their motivations when they carry out information activities, such as seeking, selecting, assessing or using information, in order to complete the assignment. To understand the characteristics of CIB, Hyldegård examined the physical activities and cognitive and emotional experiences of group members by employing Kuhlthau's Information Search Process (ISP) model. In accordance with (Kuhlthau, 1991, 1994), there are six stages of the information search process (initiation, selection, exploration, formulation, collection and presentation). As listed, the first stage is 'initiation', which is to identify and acknowledge information needs before carrying out the information-seeking activity. This model was originally developed to understand the individual information behaviour and consider the emotional, cognitive and physical experiences of the information seekers at these six stages of the information-seeking activity. However, Hyldegård discovered the model should be further developed to understand CIB as it is quite complicated when the work task is carried out in a collaborative setting. This showed that collaborative information activities are more complicated than individual information activity.

In a medical setting, Reddy and Dourish (2002) attempted to understand the collaborative information-seeking activities in an information-intensive work environment in which they conducted their ethnographic research into healthcare work. The focus of their study was the role of work patterns or work rhythms of collaborative information-seeking activities in an intensive care unit. They found that the work rhythms provide team members with information about other team members, which allows them to understand the rhythms of their work and acknowledge information need; then they can collaborate to accomplish their work according to the work rhythms. They also highlighted the difficulties of using technologies to facilitate collaborative information-seeking activities. Additionally, Hertzum and Reddy (2015) also explored the collaborative information-seeking activities of healthcare providers. They studied how healthcare providers achieve CIS activities in two emergency departments and how the impacts and challenges shape effective CIS activities. Even though they found procedures shape successful CIS activities, it is still a challenge for clinicians in an emergency department during CIS activities due to the uncertain and external factors affecting the department's work environment.

Hansen and Järvelin (2005) analysed collaborative aspects of information activities in a patent office. They examined the characteristics of collaborative information retrieval (CIR) activities and how individuals handle information, and seek and retrieve information collaboratively. They highlighted that awareness of the work activities of each team member is essential in the success of the collaborative information activities, and how people directly interact with each other and/or through accessing information sources, such as document, figures, notes, etc., in the process of seeking and retrieving information to solve specific problems. In a hierarchical work domain, Sonnenwald and Pierce (2000) studied human information behaviour in dynamic group work contexts in military command and control. They focused on situational awareness to understand the complexity in the nature of the work environment; they investigated how team members maintained awareness of information about the work situation as well as how information was exchanged during work operations. Prekep (2002) investigated information seeking in a collaborative environment in a command and control exercise. The author applied a grounded theory approach to identify contexts, roles and patterns of interaction from the CIS activities in a military domain to understand the collaborative information-seeking patterns in the domain.

Similarly, Reddy and Jansen (2008) and Reddy and Spence (2008) supported the view that the information needs can be complex for CIB activities; they stated that, if the information is too simple, collaboration will not be required as it will be easy for individuals to find the needed information. In the CIB activities, the complexity of information needs means that different

individuals in a team might be required to take on different responsibilities or tasks to satisfy the information needs. In both of these studies (Reddy and Jansen, 2008; Reddy and Spence, 2008), the authors aimed to better understand CIB activities through identifying triggers causing people to collaborate and whether their information needs acted as triggers. They discovered the specific triggers leading from individual to collaborative information behaviour, and complexity of information need is one of the triggers; in fact, it is the typical trigger, while other triggers might arise in the course of organisational work, as illustrated in Table 2 below.

Table 2 Triggers leading from IIB to CIB

CIB researchers	Triggers leading individual to CIB
Reddy and Jansen (2008)	<ul style="list-style-type: none"> • Complexity of information need • Fragmented information resources • Lack of domain expertise • Lack of immediately accessible information
Reddy and Spence (2008)	<ul style="list-style-type: none"> • Complexity of information need • A lack of expertise • A lack of immediately accessible information

(Adapted from Reddy and Jansen, 2008; Reddy and Spence, 2008)

Aside from concentrating on how individual information behaviour differs from CIB, there is a growing body of literature focusing on the role of technology in CIB activities, specifically stating how people employ technology in collaborative information-seeking or -sharing activities. Shah (2014) addressed that the majority of collaborative information activities have moved beyond the conventional ways to the adoption of digital technologies; thus, CIB literature is increasingly motivated to study the role of technology when people collaborate in CIB activities. Reddy and Jansen (2008) indicated that technology plays an important role in facilitating team members when performing information activities collaboratively, and Reddy and Spence (2008) also suggested that information systems or tools should be designed to assist team members during their CIB activities. Their findings were quite similar: that the role of technology and tools is crucial for individuals during CIB activities because team members communicate and collaborate constantly when they seek and find the needed information, and tools allow them to collaboratively share information and solve problems in the collaborative work environment. The findings of Spence et al. (2005) supported the role of the tool in CIB activities: they explored CIS in the daily work of academic researchers and found that researchers adopted multiple tools from e-mail to video-conferencing to facilitate their collaboration during their information

activities. This is because team members were not physically co-located when they sought information: technology like 'virtual' technical support enabled them to collaboratively seek and share information when they were unable to have face-to-face communication. Karunakaran et al. (2013) also articulated that technologies act as the supporting tools in CIB activities to assist individuals to understand the fragmented information together.

Research into the social perspective of CIB has mainly emphasised understanding the complexity in the nature of the collaborative activity and how people collaborate when sharing information in different organisational domains. The complexity is in the nature of a problem that cannot be solved by an individual, and this triggers the individual to seek collaboration with other people for a solution. Reddy and Jansen (2008) identified this scenario as a complex information need. They stated that CIB activities arise when information need is "highly complex" (p. 264), and collaboration is initiated by an individual involving other team members and dividing the tasks to find the needed information. Reddy et al. (2010) recognised from their research and extant CIB research that, in a collaborative activity, people may require tools and technology to support team communication. For example, Reddy and Jansen (2008) explored how two different teams in different settings – a surgical intensive care unit and an emergency department – collaborate through adopting medical information resources to satisfy information needs. From reviewing CIB research (Hansen and Järvelin, 2005; Hertzum and Reddy, 2015; Reddy and Jansen, 2008; Reddy and Spence, 2008), other researchers have found that the key aspects of CIB research are to identify information needs, the triggers influencing an individual activity to become a collaborative activity, the role of team members, and the role of technology in the collaborative activity.

2) Technical perspective of CIB

It has been addressed that, in collaborative activity, communication is a significant element for CIB activities as, when team members constantly collaborate, they communicate to find the needed information and to solve problems together (Reddy and Jansen, 2008; Reddy et al., 2008; Reddy et al., 2010; Reddy and Spence, 2008). The existing research on the technical perspective of CIB researchers particularly has studied the way to design technical tools to support CIB activities (Hertzum and Reddy, 2015), particularly micro-level information activities, such as seeking, retrieving and sharing activities. These task-based activities are considered an element under the umbrella concept of CIB. Twidale and Nichols (1998) aimed to build an information retrieval (IR) system to help people collaborate in the search process. They designed an IR

interface, Ariadne³, to support CIR activities by providing visualisation of the search process that allows users to handle and discuss the system. They also highlighted the importance of using an IR system to support collaboration in the search process: that it can enhance the people's learning and understanding of the system and the search process.

Morris and Horvitz (2007) designed SearchTogether for collaborative web searches that allow people to collaborate on a web browser when they are performing web-searching tasks. The SearchTogether system was developed because a survey showed that the majority of respondents were willing to collaborate with friends, relatives and colleagues during their online or web-searching activities. The aim of developing the SearchTogether system was mainly to produce a collaboration tool which allows users to search, plan and make decisions together, either synchronous or asynchronous collaboration. Krishnappa (2005) also designed a prototype – MUSE (Multi-User Search Engine) – to support communication and collaborative information-seeking and -retrieval activities. She inspected the impact of features used in collaboration and highlighted the importance of the chat function: that it is the key feature supporting the seeking and retrieving process for team members.

Along the same lines, González-Ibáñez and Shah (2011) developed Coagmento as a tool to support collaborative information-seeking activities. Coagmento is a system supporting the information search process for both individual and team users, and the system was improved to support an online presence and allow people to collect, share and visualise information quickly. It can also be accessed on a web-based system and a mobile app, which enables users to access their work tasks or project data on their smartphones (Android app). González-Ibáñez and Shah (2011) suggest that Coagmento provides support to users who work in collaboration for information-rich projects.

To conclude, there are two streams of conceptual perspectives of CIB that CIB researchers have already investigated. In the social perspective, the focus is particularly on how people collaborate during information activities to find the needed information to accomplish common tasks or goals (e.g. Fidel, 2000; Hertzum and Reddy, 2015; Hyldegård, 2006; Karunakaran et al., 2013; Poltrock et al., 2003; Reddy and Jansen, 2008; Reddy et al., 2010; Reddy and Spence, 2008; Shah, 2014; Sonnenwald and Pierce, 2000; Spence et al., 2005). In the technical perspective, previous researchers have mainly developed and designed technologies or information systems to support

³ Ariadne is an IR interface developed by Twidale and Nicholas (1996) which “visualises the search process as a manipulable digital object” (Twidale and Nicholas, 1996, 180), and facilitates information users to collaborate with experts by connecting via their university library.

users in CIB activities (González-Ibáñez and Shah, 2011; Krishnappa, 2005; Morris and Horvitz, 2007; Twidale and Nichols, 1998).

In terms of all the studies reviewed in this section, this research is situated within the social perspective of CIB because it aims to explore the process of CIB activities in the MNC setting to understand how people collaboratively share information, which is aligned with the social perspective considering the conceptual perspectives of CIB discussed in this section. It is not the intent of this study to develop or design technical mechanisms to support CIB activities. Moreover, the previous CIB literature presents the gap in the social perspective. The extant CIB literature has not investigated the complex CIB issues in the MNC context or the interplay of different issues affecting the issues of CIB, such as social media, generational difference, and cultural difference in the MNC. The stimulus of this research is driven by the complexity of the MNC setting and the interplay of different issues in the real-life MNC setting. Therefore, this research addresses the gap by exploring CIB in the MNC setting, specifically how different generations use social media to share information in the performance of collaborative activity in the MNC.

The next section reviews two existing models of CIB. Previous CIB scholars have proposed and developed models and frameworks of CIB based on their empirical findings to conceptualise the context of CIB to lay the background for future CIB research. This review aims to understand how they conceptualised CIB in an organisational context, and to structure and produce a new summative model – CIB in the MNC context, presented at the end of this thesis (Figure 32).

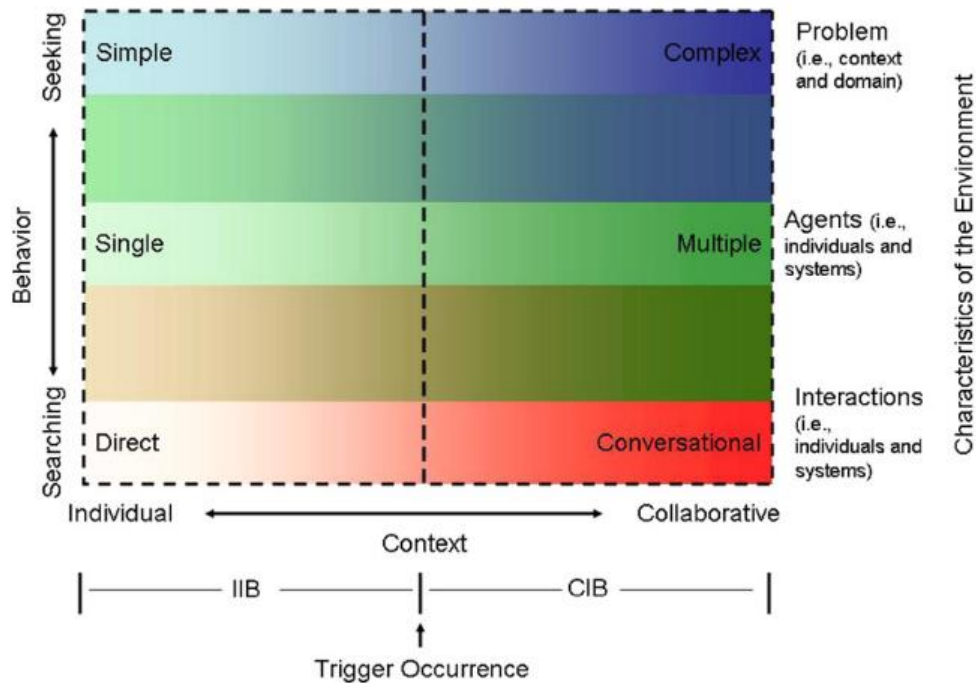
2.2.3 Models of collaborative information behaviour (CIB)

Two models of CIB by Reddy and Jansen (2008) and Karunakaran et al. (2010) are reviewed in this section to draw out the key factors of CIB in an organisational context. This research reviews these models because they are extensively cited and discussed in CIB literature. The models aim to understand the social perspective of CIB – how people collaborate and the collaborative aspects of information behaviour in an organisational and group-based setting.

1) Reddy and Jansen's (2008) collaborative information behaviour model

Reddy and Jansen (2008) present a model of CIB based on the findings of their empirical studies and previous work, as shown in Figure 1 below. This model is developed from a specific domain, where they conducted their ethnographic field research in two healthcare teams, one in a surgical

intensive care unit and the other in an emergency department, but they provide a generic perspective that the model is applicable for other contexts and domains. Their model explains the distinction between IIB and CIB, and the triggers leading an individual to collaborate.



**Figure 1 Reddy and Jansen's (2008) CIB behaviour model
(Reddy and Jansen, 2008, p. 266)**

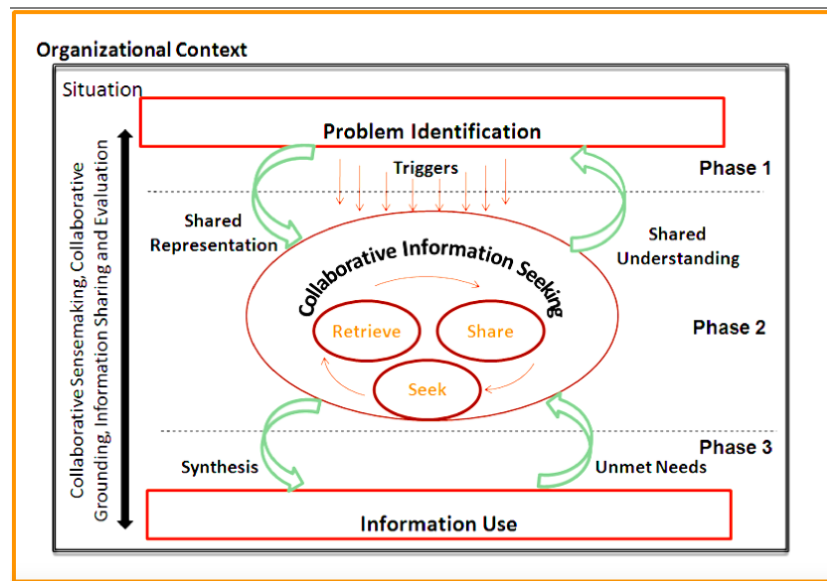
As illustrated in Figure 1, the model consists of two axes: behaviour axis and context axis. In their discovery, they highlighted the relationship between the individual and collaborative information behaviour and the information environment based on these two dimensions of behaviour and context. According to Reddy and Jansen (2008), the behaviour axis is a spectrum ranging from information searching to information seeking and use, and the context axis is a spectrum ranging from IIB to CIB. These two axes influence the characteristics of the environment of interactions, agents and problems, and there is an interplay across problems, agents and interactions (Reddy et al., 2010). Through this model, Reddy and Jansen (2008) explain the nature of IIB and CIB. They found the shift from individual information activity to collaborative information activity is caused by triggers based on the interaction between the behaviour and context and the influence of the environment. The triggers include the complexity of information need, fragmented information resources, lack of domain expertise, and lack of immediately accessible information (Table 2). At the individual level, the information problem is simple, while it is more complex at the collaborative level.

Complexity in the information problem triggers a movement from individual work to collaboration, as it requires expertise in multiple areas to solve the information problem. The interactions are also different. In the IIB, the interactions between an individual or people or information system are direct, whereas the collaborative interactions are conversational, for instance, “query/question – response from agent – refinement of query/question” (Reddy et al., 2010, p. 79). This is because, when the problem becomes complex, there is an increase in the number of agents including human and information systems in the activities, which makes the interactions more conversational in terms of exploratory search, problem-solving and decision making (Reddy and Jansen, 2008). This model also highlighted the importance of communication in the CIB activities, and Reddy and Jansen (2008) discussed the role of technologies supporting CIB activities.

In reviewing the model of CIB by Reddy and Jansen (2008), it is clear that this model is suitable for analysing the factors influencing people to collaborate and the differences between individual activity and collaborative activity. The focus of this thesis is CIB in the MNC, and this model helps to consider significant factors of CIB, such as the concept of the complex nature of a collaborative work situation, complexity of information need, communication, and the role of technologies, to understand the process of CIB activities in the MNC. However, this model is limited with regard to other different and complex aspects of CIB in the MNC, for instance, the issues of cultural difference in the MNC.

2) Karunakaran et al.’s (2010) model of CIB in organisations

The model of CIB by Karunakaran et al. (2010) was developed based on a review of previous CIB research from both social and technical perspectives and integration of the core findings. The purpose of their model is to describe the broad set of activities contributing to CIB in an organisational context. The model consists of three phases that form CIB activities: problem formulation, collaborative information seeking, and information use, as displayed in Figure 2.



**Figure 2 Karunakaran et al.'s (2010) model of CIB in organisations
(Karunakaran et al., 2010, p. 3)**

Phase 1: Problem formulation

The first phase begins with problem formulation. According to Karunakaran et al. (2010), the first step in CIB activities is identifying the information problem. Prior to information activities, such as information searching, retrieving and sharing, it is important to identify a problem and collaboratively develop a shared understanding of the situation and problem. This phase initiates at the individual level and transitions to the collaborative level when the individual acknowledges the problem and tries to identify it collaboratively through shared representation to articulate and make sense of it within their collaborative team. Shared representation is a significant tool for collaboration. It can be a conversation, verbal communication or other representations through artefacts (Karunakaran et al., 2010, 2013).

Through this phase, Karunakaran et al. (2010) point out that there are triggers which shift the individual level to the collaborative level. Those triggers are identified as: 1) complexity of information need, 2) fragmented information resources, 3) lack of domain expertise, and 4) lack of immediately accessible information, based on the findings of Reddy and Jansen (2008).

Phase 2: Collaborative information seeking

After the triggers initiating a transition from individual to collaborative activity, this then leads to the second phase – collaborative information seeking. Karunakaran et al. (2010) define

collaborative information seeking (CIS) as an activity when two or more individuals work together to seek and find the needed information to achieve a common goal. Collaborative information seeking consists of three micro-level activities, as shown at the centre of the model, which are searching, retrieving and sharing.

They suggest that CIS discloses in a cyclical “search-retrieve-share” fashion (Karunakaran et al. 2013, p. 2455). In phase 1, a problem is identified and it transitions from individual to collaborative level because of the triggers mentioned above. In phase 2, individuals interact with each other as well as with systems or technology tools of their choice to search for the needed information through searching, retrieving and sharing activities. Individuals begin to search for information, and this can be through the help of experts via shared representations and different sources of information. Then, individuals retrieve information from different sources and share it within the team to collaboratively make sense of and understand the retrieved information before using it in phase 3.

Phase 3: Information use

The final phase is information use, which is the output from phases 1 and 2. Information use involves evaluating, synthesising and incorporating the information to achieve mutual understanding among the team members (Spence and Reddy, 2012). In this phase, Karunakaran et al. (2013) suggest that the use of information can be completed at the individual level, while the evaluation and synthesis of information are at the collaborative level.

When information is evaluated and synthesised among teams, it can be used to satisfy the information need. If the information need is not met, the process will return to phase 2 again to carry out CIS activities until the teams find the answers and solutions to the needed information. Karunakaran et al. (2010, 2013) conceptualise the three phases that constitute CIB activities and claim that this is how an individual performs CIB activities in an organisation. The model highlights the importance of identifying information need or problem, information sharing and evaluation within CIB activities, and collaborative sensemaking to represent the perspective of collaborative information behaviour.

Both of the models discussed here support the belief that there is a relation between IIB and CIB in terms of how an individual realises the information problem and need and that leads them to CIB. These models have identified the key triggers for collaboration, and how people carry out CIB activities. Reddy and Jansen’s (2008) model emphasised the distinction between IIB and CIB

and triggers leading an individual to CIB, the role of team members (team members have different expertise), and the role of IR technologies as CIB tools (i.e. agents – users, technology). Karunakaran et al.'s (2010) model integrated past CIB research to conceptualise the processes of CIB in organisations, which gives a clear picture of CIB by sequencing the collaborative activities in the organisational setting through phases and stressing the 'shared representation' – verbal communication or artefacts as supporting CIB activities. Together, both models were developed based on research conducted in hospital settings, even though the concept of CIB has been studied in a variety of organisational contexts. Yet, activities, sets of rules, and forms of interactions may vary from organisation to organisation, especially in the MNC setting. Therefore, the models of CIB need further development.

To summarise this section, previous CIB literature has focused on understanding CIB in a variety of domains and settings from both social and technical perspectives and highlighted the differences between IIB and CIB, which analysed the triggers and motivations driving individuals to seek, search, use and share information during collaboration. Researchers have developed models and frameworks to provide a clear picture and process of CIB. However, there are still limitations with the existing models of CIB as they seem not to unfold all aspects of CIB in other organisational settings. As some CIB researchers have suggested, existing models of CIB need further development and the introduction of a new alternative model to advance the understanding of CIB in a different context (Karunakaran et al., 2013; Reddy and Jansen, 2008; Reddy et al., 2010; Shah, 2014). This research will fill the gap in contributing to the CIB literature by exploring the overall complexity of CIB in the MNC setting and the interplay of various factors influencing the issues of CIB in terms social media use, intergenerational difference, and cultural difference in the MNC, and an alternative model will be developed to explain CIB and these interacting factors in the MNC.

In the next section, the existing literature related to the topic of social media and CIB will be reviewed.

2.3 Social media and collaborative information behaviour (CIB)

Social media has gained tremendous popularity among global users. In 2020, the number of active global social media users had reached almost 4.14 billion users (We Are Social, 2020). The emergence of social media has completely changed and transformed how individuals communicate and interact with others (Bashir et al., 2017) as well as how they behave with information, such as how they look up information, build online communities to communicate

and maintain relationships, and create and share content online across the internet (Kaplan and Haenlein, 2012).

In recent years, social media use in organisations has received interest from academic scholars, and social media has been adopted in several organisations (Kaplan and Haenlein, 2012; Leonardi and Vaast, 2017; Pitafi et al., 2020; Treem and Leonardi, 2012). As Kaplan and Haenlein (2010) suggested a decade ago, social media is a new trend that organisations, either working online or offline, should pay close attention to. It has the potential to bring new patterns of interaction and communication, collaboration and knowledge sharing through the use of social software (Razmerita et al., 2014). Van Osch et al. (2019) claim that around \$100 billion worldwide has already been spent on social media, and about 80% of organisations have adopted a social media platform for enterprise or so-called enterprise social media (ESM); however, there are still gaps to fill in social media literature which can support or guide organisational implications in various aspects.

Within the existing social media literature, Leonardi et al. (2013) highlighted that social media in an organisational context seems to be adopted in two patterns. Firstly, there has been the investigation of social media as a marketing-oriented activity that expresses social media as a vehicle of external communication with consumers and stakeholders to manage a company's customer relationships (e.g. Choudhury and Harrigan, 2014; Culnan et al., 2010; Fong and Yazdanifard, 2014). For example, the research on how social media has transformed the way companies communicate with their customers (Fong and Yazdanifard, 2014), how social media can be used to maintain organisational communication with external parties (customers, vendors and the public) (Leonardi et al., 2013), and how celebrities or influencers are used as an endorsement to create content related to certain brands or products on their social media platforms (Appel et al., 2020).

Secondly, there is also a growing interest in social media use internally in organisations (Forsgren et al., 2016). Much of the literature on internal social media use pays particular attention to how social media is used as an internal communication mechanism and collaborative tool among employees in organisations to enhance internal communication and social interaction within the enterprise (Hanna et al., 2017; Leonardi et al., 2013; Robertson and Kee, 2017). Leonardi and Vaast (2017) noted that, when social media is introduced into an organisation, it shifts the traditional patterns of how people communicate, collaborate and share knowledge. For instance, social media offers features that allow people to experience a new pattern of communication,

collaboration and knowledge sharing in organisations, which is not available with the older mode (computer-mediated communication).

Having said that, there are still not enough studies to understand social media in organisations concerning the effect on work activities, organisational performance, collaboration and employee satisfaction (Leonardi and Vaast, 2017). There are also various aspects of social media use in organisations that have organisational implications relating to the fields of communication, management and information systems that have not been investigated. Hanna et al. (2017) called for future research to further investigate internal social network communication in companies.

The focus of this study is to investigate CIB in the MNC and the interplay of different factors influencing the issues of CIB, such as social media, intergenerational difference, and cultural difference in the MNC. This section reviews the literature on social media and CIB to address the research gap and evaluate what scholars have discussed regarding the issues of CIB and social media in an organisational context. The definition and categories of social media are presented to provide a fundamental understanding of what social media or online platforms this research will be referring to. Then, the section reviews the existing literature on how social media is implemented in CIB. It also reviews social media use in a multinational company, drawing upon the extant literature on social media and multinational companies, to explicate the complexity of the interplay in the MNC.

2.3.1 Definition of social media and types of social media

According to existing social media literature, academic scholars have proposed several definitions of social media. They tried to define the concept of social media and differentiate the meaning from other related terms, Web 2.0 and User Generated Content (Kaplan and Haenlein, 2010). This research includes three definitions from key authors that are the most cited in social media literature (Boyd and Ellison, 2008; Kaplan and Haenlein, 2010; Kietzmann et al., 2011). Boyd and Ellison (2008, p. 211) refer to social network sites (SNS) and define them as:

Web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system.

This definition is problematic as it has been addressed that not all social media can be referred to as social networking sites, which makes this definition lack clarity in the social media literature (Carr and Hayes, 2015). The term social network site is also too broad and more likely to serve as one type of social media platform (Beer, 2008). The second definition is extensively cited in most of the social media literature, and this is the definition by Kaplan and Haenlein (2009). They defined social media as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content” (p. 61). In their paper, they clarified that Web 2.0 forms the evolution of social media as Web 2.0 is the platform where content and applications are created and modified not by individuals but in a collaborative fashion that allows software developers and end-users to interact and collaborate in a virtual community; the examples are blogs, wikis and collaborative projects in Web 2.0.

The third definition is provided by Kietzmann et al. (2011, p. 241). They suggest that social media is the application of “mobile and web-based technologies to create highly interactive platforms via which individuals and communities share, co-create, discuss, and modify user-generated content.” However, there is an argument against these definitions: that they are rather simple and are quite problematic because they can be misinterpreted as including other digital technologies like email (Carr and Hayes, 2015).

The most updated definition is offered by Carr and Hayes (2015, p. 50):

Social media are Internet-based channels that allow users to opportunistically interact and selectively self-present, either in real-time or asynchronously, with both broad and narrow audiences who derive value from user-generated content and the perception of interaction with others.

They claimed that their definition of social media will remain applicable in 2035 as they developed it from the existing social media literature. Of all the definitions mentioned here, the key theme drawn from the definitions is that a social media site is an online platform which allows people to create and share information, build online communities, and interact and maintain a relationship with other people. It might be possible to say that social media was created mainly for the purposes of communication and interaction, but it could also act as one source of information where individuals seek, search, use and exchange information via social network sites or any internet-based channels.

Regarding types of social media, in academic literature, it is quite a broad term and cannot be considered as a single technology approach (Schlagwein and Hu, 2016). It can be confusing to understand what type of social media is being referred to as there are many types and categorisations of social media. Kaplan and Haenlein (2009) categorised social media into six types based on their technological features and applications, and companies can adopt one or more of these social media applications to benefit their organisational requirements; for example, creating a social media strategy. The six types are: collaborative projects, blogs, content communities, social networking sites, virtual game worlds, and virtual social worlds. More recent attention to the types of social media was offered by the work of Aichner and Jacob (2015), where they added seven more types of social media to the existing types proposed by Kaplan and Haenlein (2009). Thus, there are 13 types of social media, which are displayed in Table 3 with descriptions and examples.

Table 3 Types of social media

Types of social media	Description	Examples
Blogs	A blog (from 'web' and 'log') is a chronological list of postings, which can be read and commented upon by visitors. Blogs are run by both individuals and companies, which post news or other informational material, such as product tests.	<ul style="list-style-type: none"> • The Huffington Post • Boing Boing
Business networks	Individuals use business networks to establish and maintain professional contacts. Registered users create a personal profile and share personal details such as the type and duration of their education, professional experience and expert knowledge. Companies use professional networks primarily to position themselves as an employer and to search for new employees or experts.	<ul style="list-style-type: none"> • LinkedIn • XING
Collaborative projects	Collaborative projects bring together internet users with a common interest and/or certain knowledge in order to plan, develop, improve, analyse and/ or test technological, academic, scientific or fun-oriented projects. The results (e.g. programs, codes, findings, results, games) are usually distributed as open source and made available to the public for no charge. Enterprise	<ul style="list-style-type: none"> • Wikipedia • Mozilla

Enterprise social networks	Enterprise social networks are open for registration only to employees of a specific company or group, offering similar features as social networks, including personal profiles, profile pictures, etc. Companies want to ensure that their employees know one another and exchange experiences and ideas. This helps to increase the efficiency of knowledge management within the firm.	<ul style="list-style-type: none"> • Yammer • Socialcast • IBM Social Blue (Beehive) • Chatter
Forums	A forum is a virtual discussion platform where users can ask and/or answer other users' questions and exchange thoughts, opinions or experiences. Communication here does not happen in real time, like in a chat, but is time delayed and usually visible to the public.	<ul style="list-style-type: none"> • Gaia online • IGN boards
Microblogs	Microblogs restrict the length of postings to approximately 200 characters, which may be the major reason for their popularity. Postings may include pictures or weblinks. Users can subscribe to news from other users, companies, brands or celebrities	<ul style="list-style-type: none"> • Twitter • Tumblr
Photo sharing	Photo-sharing websites offer services such as uploading, hosting, managing and sharing of photos. Often, the photos can be edited online, organised in albums and commented upon by other users.	<ul style="list-style-type: none"> • Flickr • Photobucket
Product/services reviewing	Product and service reviewing websites sell and provide information about products. Customers can evaluate products or certain attributes (e.g. product quality) and write or read product reviews.	<ul style="list-style-type: none"> • Amazon • Elance
Social bookmarking	Social bookmarking describes the concept of saving and organising internet bookmarks at a centralised platform in order to share them with friends and other users. Social bookmarks are a valuable indicator for popular websites and other web.	<ul style="list-style-type: none"> • Delicious • Pinterest
Social gaming	Social games are online games that allow or require social interaction between players, e.g. card or multiplayer games.	<ul style="list-style-type: none"> • World of Warcraft • Mafia Wars

Social networks	Social networks connect people that know one another, share common interests or would like to engage in similar activities. Users have an individual profile; they can be found by other users using their full name, and they upload pictures and videos. Companies use social networks by creating a corporate profile in order to position certain brands and to inform and support existing or to win new customers.	<ul style="list-style-type: none"> • Facebook • Google+
Video sharing	Video-sharing platforms allow users to upload and share personal, business or royalty-free videos and to watch them legally. Most websites offer the opportunity to comment on specific videos. Companies use these social media to share commercials, to test unconventional promotional videos or to save costs, which are much lower compared to TV advertising.	<ul style="list-style-type: none"> • YouTube • Vimeo
Virtual worlds	Virtual worlds are populated by many users who can create a personal avatar, and simultaneously and independently explore the virtual world, participate in its activities or communicate with others. In contrast to computer games, time continues even when the user is not logged in. Virtual worlds often use virtual currencies, which have an actual value, and allow companies to sell virtual or real products.	<ul style="list-style-type: none"> • Second Life • Twinity

**(Adapted from Aichner and Jacob, 2015, pp. 259-260;
Razmerita et al., 2014; Van Osch and Coursaris, 2017)**

These social media types are classified based on technological features, and organisations will adopt the relevant social media applications and platforms for their business (Aichner and Jacob, 2015) and organisational uses. For example, a company may use collaboration projects (Wikipedia) and social bookmarking (Delicious) to create “group-based collection and rating of Internet links or media content” (Kaplan and Haenlein, 2010, p. 62). Treem and Leonardi (2012) also proposed four affordances to understand the role of social media use in organisations: visibility, persistence, editability and association (Table 4). In their study, they found the links between these four affordances and the social media features that affect the organisational processes, including socialisation, information sharing, and power processes. Treem and Leonardi (2012) argued that these affordances were identified to differentiate organisational communication from the older modes of technologies as social media bring new forms of interaction and behaviour in organisations based on the four affordances.

Table 4 Social media affordances by Treem and Leonardi (2012)

Affordances	Definition
Visibility	The ability of social media to make users' behaviors, knowledge, preferences, and network connections that were once invisible (or very hard to see) visible to others.
Persistence	The ability of social media to allow for content previously created and published to remain permanently accessible.
Editability	The ability of social media to enable users to amend, add to, revise and change collaboratively, content published on the Internet.
Association	The ability of social media to create and sustain relationships between people and between people and information (the author and his/her content).

(Adapted from Van Osch and Coursaris, 2017, p. 103)

It is argued that the social media affordances suggested by Treem and Leonardi (2012) are developed from the individual human user aspect not the organisational use aspect (Schlagwein and Hu, 2016), and concentrated on the "artifact" dimension (Van Osch and Coursaris, 2017, p. 104). In the work of Schlagwein and Hu (2016), they adopted the argument from previous scholars that social media use types should be considered more than "technological features or generalised affordances" (p.195) and should focus on actual use. They then developed and conceptualised social media types based on actual use. According to them, social media use types can be categorised into five use types: broadcasting, dialogue, collaboration, knowledge management and sociability (Table 5).

Table 5 Social media use types in organisations

Social media use types	Description
Broadcasting	<p>The use of social media for the unidirectional broadcasting of information.</p> <ul style="list-style-type: none"> • Internal broadcast is used for internal communication, e.g. executive-level staff may adopt blogs to broadcast the company's vision to members to make it more 'accessible' to the team, or employees can use social media to broadcast information and share articles of interest and news. • External broadcast aims at communicating the organisation's vision and important decisions to stakeholders, such as using Twitter to announce company news and general communications with customers and consumers.
Dialogue	<p>The use of social media for multi-directional dialogue and communication.</p> <ul style="list-style-type: none"> • Internal dialogue is use of social media for internal communication, e.g. organisations use social media to interact and communicate with people from different departments. • External dialogue is use of social media for external communication with customers and consumers. This allows organisations to communicate and engage with customers and consumers, to collect feedback from customers and consumers, and organisations can start the external communication through social media forums and group discussions, for example LinkedIn or Twitter.
Collaboration	<p>The use of social media to facilitate the co-creation of a particular, defined outcome.</p> <ul style="list-style-type: none"> • Internal collaboration: organisations use social media to collaboratively work and create content, and communicate to share idea and solve problems. • External collaboration: many organisations adopt social media to collaborate with other organisations. For example, an organisation uses external social media like wiki to join in collaborative work with another organisation, or the organisation may also use social media to solve any issues related to certain products or services with their customers.
Knowledge management	<p>The use of social media for the storage, maintenance and retrieval of knowledge. Many organisations use social media to store knowledge, e.g. wiki, forum, or any formal knowledge-management systems.</p>
Sociability	<p>The use of social media for generating fellowship, loyalty and social relations.</p> <ul style="list-style-type: none"> • Internal sociability is to create feelings of cohesiveness and fellowship among organisational members through social media. Organisational members use social media to build and maintain relationships, for example, they can use internal social media to engage with their colleagues through commenting on their timelines. That is how relationships are developed at a distance. • External sociability is to build and improve customer and consumer relationships through social media. This is how organisations build trust and connections with their customers, which is more related to a long-term oriented goal of organisations than a short-term commercial purpose. Organisations may select a topic that is an issue at the time, and post on social media to open up a discussion to connect with their customers.

(Adapted from Schlagwein and Hu, 2016, p. 199 -200)

Overall, these are what extant literature extensively suggests for the definitions of social media and proposed types of social media applications and how social media should be categorised, based on their discovery and argument. The goal of this study is to explore social media and CIB in the MNC setting, specifically to understand how people adopt social media during their CIB activities. In this research, the type of social media use or social media platform as well as how

social media is used for CIB activities in the MNC will be investigated regarding the internal social media use – how social media is adopted in CIB activities in the MNC. The next section will review related work on social media and CIB in organisations to recognise what previous studies on this area have already conducted and discovered.

2.3.2 Related work on social media and CIB in organisations

The emergence of social media has brought a new form of interaction and changed the way people communicate in organisations from conventional channels (e.g. email, face-to-face interaction, printed media) to organisation web-based channels (Huang et al., 2013). This could also potentially move the current literature of CIB forward towards a shift in the role of technology, because technology in collaborative information activities is crucial in supporting these activities in organisations, as discussed in section 2.2.2. The existing CIB literature, especially the technical perspective of CIB, studied information retrieval (IR) technologies, for instance, Ariadne (Twidale and Nichols, 1998), SearchTogether (Morris and Horvitz, 2007), MUSE (Krishnappa, 2005) and Coagmento (González-Ibáñez and Shah, 2011). Yet, social media offers various features that are not available in other communication technologies or platforms used in organisations, and social media can bring a new phenomenon to organisations (Leonardi and Vaast, 2017).

Internal social media usually refers to Enterprise Social Media (ESM) (Wang and Kobsa, 2009). Leonardi et al. (2013) suggest that organisations adopt ESM for internal communication and interaction with organisational members, and they consider social media for enterprises as the integrated ESM platform and do not distinguish it from tools like microblogging and other types of tools because these tools are part of ESM. They also define ESM as:

Web-based platforms that allow workers to (1) communicate messages with specific coworkers or broadcast messages to everyone in the organization; (2) explicitly indicate or implicitly reveal particular coworkers as communication partners; (3) post, edit, and sort text and files linked to themselves or others; and (4) view the messages, connections, text, and files communicated, posted, edited and sorted by anyone else in the organization at any time of their choosing (Leonardi et al., 2013, p.2).

While the CIB literature focuses on the process of information activities, collaboration, and tools supporting collaborative activities for effective collaboration (Foster, 2006; Hansen and Järvelin, 2005; Hertzum and Reddy, 2015; Karunakaran et al., 2013; Karunakaran et al., 2010; Reddy and

Jansen, 2008; Shah, 2014), the literature on internal social media use has concentrated on the implementation of social media and the effects of social media on organisational performance (Van Osch et al., 2015; Van Osch and Yi-Chuan, 2017). There is a link between CIB and social media because researchers aim to understand the adoption of tools or digital technologies in organisations. Researchers highlight that organisations use social media to facilitate communication, collaboration and knowledge sharing (Chen and Wei, 2020; Leonardi and Vaast, 2017; Nisar et al., 2019; Razmerita et al., 2014; Schlagwein and Hu, 2016; Sun et al., 2019).

Communication visibility in social media allows users the ability to be aware of a person they are communicating with and the mutual relationship they have with that particular person because of the message transparency and network translucence Leonardi (2014). Kane (2015) refers to it as network transparency as it is the fundamental feature of any social media platforms that users can see other people's information and their circle of friends on, for example, their Facebook profile. The same feature applies to how it is used in organisation for communication, whether it be an enterprise social media platform or any public social media platform. Subramaniam et al. (2013) studied the enterprise social media interactions and their impact at a global telecommunications company in Europe. They introduced the concept of virtual co-presence to understand the digital presence of enterprise social media users and to understand the influence caused by the virtual co-presence and relationships on the interactions between employees at different locations. Their findings indicated that the virtual co-presence of enterprise social media users has an impact on users' interactions and task completion and enterprise social media allows the employees to work and collaborate through social media functionalities (e.g. virtual meeting). It provides employees with a sense of presence and they build a relationship during their interactions due to the virtual co-presence of social media.

This new form of social media interaction affects the way people communicate and work in organisations. Some studies have reported a positive impact of social media on organisational activities and performance. Chen and Wei (2020) recently studied the role of social media use for internal communication on employee performance. They found that social media has a positive effect on both vertical and horizontal communication, which results in increasing employee performance. Razmerita et al. (2014) explored the dimensions of knowledge (personal and collective) and social media use in organisations. In their study, they classified social media tools based on the level of control (individual and collective) and interaction (high and low). They found that social media is an effective tool to support work tasks and communication as well as support the knowledge sharing in the organisation. They noted that there was a high level of

interaction among employees on the collective social media type (wikis), which is how knowledge is externalised, created and shared.

The work of Nisar et al. (2019) also investigated the impact of social media use on knowledge sharing. They analysed knowledge sharing in the knowledge management (KM) system discussion groups, KMDGs, which is “social media-induced knowledge management systems or KMDGs generate information richness and informal and social communication” (Nisar et al., 2019, p. 265). They used the content analysis method to analyse information richness and informal communication, which found that this particular social media, KMDG, has a positive effect and is the most effective tool in knowledge sharing in the organisation, and the employee interaction and engagement on social media positively enhance organisational performance.

Some researchers have examined internal communication and employee relationship. In the early studies, researchers investigated IBM's Beehive (DiMicco et al., 2009; Steinfield et al., 2009), and HP's Watercooler system (Brzozowski, 2009). DiMicco et al. (2009) found differences in the patterns of users and motivation between enterprise social media (Beehive) and other social networking sites like Facebook: that IBM employees are motivated to use internal social media to connect and build a relationship to approach new people rather than their colleagues. Brzozowski (2009) discovered that the enterprise social media use at HP, Watercooler, allowed employees to build a relationship and engage with their colleagues, and users reported that they were more connected to their colleagues and company through this channel, which had also changed their perspective towards the organisation. Liang et al. (2020) also explored the impact of the use of different social media platforms on employee job satisfaction and work efficiency. They examined two types of social media: enterprise social media and private social media. They found positive impacts of enterprise social media on employee job satisfaction for work- and social-related purposes, and the use of a private social media platform for social-related purpose also has a positive effect on employee job satisfaction. They concluded that the use of both enterprise social media and private social media for work-related purposes contributes to employee work efficiency.

Robertson and Kee (2017) examined the adoption of social media for internal communication and the impact of social media use at work on the role of job satisfaction, employment status and the relationships among employees. They found a positive relationship and a high degree of job satisfaction with the number of times employees spend interacting and communicating with colleagues on Facebook. Similarly, Hanna et al. (2017) also discovered a positive correlation between job satisfaction and how an individual implements Facebook to connect with their

colleagues, and, the more time an individual spent on Facebook interacting with their colleagues, the more that individual felt a perceived job calling.

In addition, some researchers focused on utilising social media as the opportunity to enhance internal efficiency like team communication and collaboration. Some scholars analysed boundary work on ESM use and found that ESM provides the opportunity for organisations to build a relationship and engage with each other across boundaries (e.g. teams, departments) (Van Osch and Steinfield, 2016; Van Osch et al., 2015). Ng et al. (2017) studied the impact of social media affordances on the team to understand how to enhance team effectiveness with social media use. They drew a conceptual model of ESM affordances on team process and identified the social media capabilities that can help teams to achieve goals. They called for future research to further the study of how social media use can increase team effectiveness in organisations.

Kuegler et al. (2015) also found that the use of enterprise social media has a positive influence on employee performance. They investigated the relationship between enterprise social media and the impact ESM use can have on the employee performance of 491 employees at an international media company headquartered in the UK, and found that the ESM increased the task performance and employee innovation. The findings of the work by Moqbel and Nah (2017) suggest that the use of ESM improves team performance. In this study, the authors explored the use of ESM and the impact on performance through examining workplace integration, positive emotions and knowledge of employees' performance based on social capital and theories of positive emotions. What they found was the use of ESM can improve workplace integration among employees by it providing social support and resources they need to perform work tasks in the workplace, as well as supporting knowledge-sharing activities and increasing employee performance through positive emotions.

In the latest literature on ESM, Sun et al. (2020) also investigated how ESM affects employee performance. They sought to understand how ESM affordances influence employees' creative performance in the aspect of knowledge transfer. They surveyed 365 Chinese employees who used the Chinese ESM platform – DingTalk. Their results show that ESM affordances, which consist of association, visibility, persistence and editability, have a positive effect on knowledge acquisition and knowledge provision behaviours among employees, leading to creative performance, for instance, idea generation and creative thinking among employees.

Although the review of literature above found a positive effect of ESM or any social media platform in different aspects in organisations (communication, collaboration, knowledge sharing,

employee relationship and internal efficiency), some scholars found a negative impact or no significant impact of social media use in organisations. For example, Gibbs et al. (2013) studied the use of social media for knowledge sharing in organisations and found that employees from a high-tech start-up company struggled with tensions in social media use, and were resistant to adopt social media for knowledge-sharing activities because they encountered tensions using social media, and these tensions were caused by social media affordances including visibility – invisibility, engagement – disengagement, and sharing – control. Walden (2016) argued that not many researches have explored social media use and employees in multiple aspects. Walden investigated the shift towards integrating social media in an organisational context, and discovered that the use of social media in organisations can cause tensions and problems related to presence-creep and work-life balance. This means that employees are overwhelmed by the presence of social media and other communication platforms, and they find it difficult to balance personal relationships and professional relationships when the company starts using social media.

The work of Pitafi et al. (2020) also supports the argument of the negative impact of social media on organisations. They focused on finding how ESM affects the workplace conflict (task and relationship) and employee creativity. Their findings demonstrated that there is a negative impact on workplace conflicts – task and relationship conflicts, while it was also reported that there is no significant relationship between the use of ESM and task conflict. This suggests that ESM use has the opposite impact on employee creativity in this study.

Lu and Pan (2019) found both positive and negative effects of enterprise social media use on job performance. They examined the effects of information-seeking and information-sharing behaviours on enterprise social media and its effects on job performance in a large high-tech manufacturing enterprise. They found that the use of ESM for information-seeking activities has a positive impact on employee job performance as employees benefit from using ESM as an effective information platform and it helps them with regard to work-related information. On the other hand, using ESM for information-sharing activities had an adverse effect on job performance, and Lu and Pan (2019) pointed out that this could be because it is time-consuming to write and share posts rather than just reading posts.

Most previous studies reviewed in this section dealt with social media use and CIB in organisations, specifically indicating how organisations have exploited social media in various organisational activities, such as internal communication, information sharing, knowledge sharing/management, and building employee relationships. Many scholars found a positive

impact of social media use in organisations in these activities (e.g. improve employee performance, internal efficiency, cross-boundary communication), while some found social media to bring challenges for organisations instead (e.g. tension, negative impact on employee creativity). The following section will review related work on social media use in multinational organisations to identify the gaps in the literature as this study will explore social media and CIB in the context of an MNC.

2.3.3 Using social media in the MNC

Social media has become a global phenomenon. Many organisations in today's business environment have incorporated social media as part of their communication and collaboration tools (Leonardi and Vaast, 2017; Schlagwein and Hu, 2016; Schlagwein and Prasarnphanich, 2014; Van Osch et al., 2019; Van Osch et al., 2015). Multinational corporations (MNCs) are also active users of social media to facilitate their internal and external communication and collaboration. For instance, IBM, a renowned multinational company, is one of the organisations that realised the benefits of social media use early and applied social media as well as developed their own tool (Beehive) (Stafford and Mearns, 2009). In Stafford and Mearns' (2009) study, it was reported that employees at IBM claimed that social media was an effective tool to use in the organisation, and social media was implemented as a knowledge-sharing tool and for internal communication within the organisation.

Social media has also been used in organisations for external reasons. In the extant literature, some researchers found social media was adopted to facilitate the MNC in applying strategy. Paniagua et al. (2017) found in their study that MNCs exploit the use of social media for foreign direct investment (FDI) and online networking with international corporations. Fong and Yazdanifard (2014) also found that social media could have positive effects on multinational marketing strategies utilising electronic word of mouth (eWOM) and customer's purchasing decisions. Their findings showed that social media sites like Facebook allow customers to interact with brands and leave reviews and feedback, which companies are able to use to promote marketing campaigns and use customer feedback to improve their products and services, including their strategy.

In the MNC context, it is critical to consider the cultural difference and its influence on the national and regional culture (Scheffknecht, 2011; Schlagwein and Prasarnphanich, 2014). The nature of a multinational company involves cultural difference, as it may be located in one country (home country) whilst its businesses may be operated in other countries (host countries) (Scheffknecht,

2011). Cultural differences have a long history and have been a significant area of study in MNCs. Historically, scholars stressed how the national culture influences the way people communicate, interact and understand each other, which can also have an impact on organisational communication.

In terms of social media use, scholars have considered the challenges of social media in implementing it in a multinational company. Pirkkalainen and Pawlowski (2014) examined the barriers for global knowledge workers using social media in a globally distributed organisation setting. They identified four dimensions of barriers, and cultural difference is one of the barriers that global knowledge workers encounter when they collaborate and communicate using social media. The barriers were identified as: 1) organisational and contextual (e.g. geographical/temporal distance, organisational structure, organisational hierarchies), 2) social (e.g. lack of interpersonal awareness, lack of trust), 3) technical (e.g. privacy and security), and 4) cultural dimensions (e.g. cultural differences, not knowing what is acceptable to say and what is not).

The work of Gibbs et al. (2015) also analysed the use of ESM and its impact on cross-boundary communication and collaboration at a large Russian telecommunications company. The findings of their study stressed that ESM has a positive impact in terms of how employees are more connected using social media to interact with colleagues across geographical and hierarchical boundaries, and how ESM use can help promote cross-boundary knowledge sharing and communication. However, the authors pointed out concerns related to the cultural barriers to knowledge sharing, engagement and participatory management and the importance of organisational culture that may influence the way people communicate using ESM.

Schlagwein and Prasarnphanich (2014) explored the adoption of social media to understand how societal culture/national culture affects the use of social media in the Fortune Global 500 organisations based on the nine dimensions of the GLOBE study. Their findings suggest that the national culture has an impact on social media use in organisations and they call for future research to consider the impact of national culture in the adoption of social media in organisations. Godiwalla (2016) also emphasised that culture is an important factor to consider in MNCs as it is more likely that the host country will be influenced by management styles and organisational culture from the headquarters or home country.

Drawing on key literature on the cultural difference in the MNC, scholars have focused on the cultural difference in the national culture and how that influences the organisational culture in

MNCs operating in different nations. By far, Hofstede's work on cultural dimensions is the most cited work concerning the issues of cultural difference. Hofstede (1997) conducted research in over 70 countries worldwide and proposed a framework to understand the national culture in different countries based on the results from his IBM employee survey, which is the four dimensions of cultural differences: power distance, uncertainty avoidance, individualism and masculinity. Two further dimensions were added to the framework later, long-term orientation and indulgence versus restraint, and now there are six dimensions (Hofstede, 2011). Hall (1989) discovered the concept of the high and low context of cultures, which helps understand how different cultures communicate and interact and why they do not understand each other. Along the same lines, Trompenaars and Hampden-Turner (1997) presented a framework to better understand the national culture differences which includes seven dimensions: 1) Universalism versus particularism, 2) Individualism versus communitarianism. 3) Specific versus diffuse, 4) Neutral versus emotional, 5) Achievement versus ascription, 6) Sequential time versus synchronous time, and 7) Internal direction versus outer direction.

The GLOBE study has been extensively mentioned by scholars studying cultural differences. The findings of the GLOBE study showed that national culture and organisational culture influence organisational behaviours and leadership effectiveness based on nine dimensions, which are listed as follows (Schlagwein and Prasarnphanich, 2014, pp.125-126):

- Assertiveness
- Institutional collectivism/collectivism I
- In-group collectivism/collectivism II
- Future orientation
- Gender egalitarianism
- Humane orientation
- Performance orientation
- Power distance
- Uncertainty avoidance

Many studies have employed the cultural dimensions framework to study the impact of the cultural difference in MNCs. For example, Swierczek and Onishi (2003) used Hofstede's cultural theory for the national culture of Japan and Thailand in the context of Japanese managers and Thai subordinates. They revealed that their cultures were relatively different in terms of management styles. Purwohedi (2017) also studied the impact of national and organisational cultures in a subsidiary of a Western MNC in Indonesia, adopting Hofstede's theory to identify

different features of cultures in the MNC, and found that the national culture influences the organisational culture. Harada (2017) compared Thailand and Japan using Hofstede's cultural dimensions framework to understand the differences between Thais and Japanese in business practices. Harada argued that Hofstede's model found it difficult to analyse these cultures as it was a Western perspective, and suggested developing a new model from a non-Western perspective. However, most of the existing literature focuses on the influence of either the national culture or organisational culture in an MNC setting, but understanding of the interplay between them is still limited.

Considering all of the literature, not much of the existing literature on CIB and social media use discusses the national culture and organisational culture in the multinational company setting. The influence of information culture in an organisational setting recognises that employees' attitudes and values and norms in organisations affect the information practice and the way people communicate and share information (Choo, 2006; 2013; Jarvenpaa and Staples, 2000). Yfantis et al. (2012) also claimed that the study of the impact of cultural issues on information behaviour and activities is limited. To date, little attention has been paid to addressing both national culture and organisational culture in terms of social media in the MNC as most literature investigating social media use in organisations has focused on internal and external communication regarding how people use social media in corporations to facilitate corporate strategy, and how social media influences work performance (e.g. Stafford and Mearns, 2009; Culnan et al., 2010; Robertson and Kee, 2017; Hanna et al., 2017; Paniagua et al., 2017).

Therefore, this research aims to fill the research gap and study social media and CIB in the MNC, while considering the issue of cultural difference to investigate the totality of influence in the complex issues of CIB in the MNC and the interplay of CIB, social media, intergenerational difference and cultural difference – how these factors influence each other in the MNC. Additionally, the next section reviews the existing body of literature on the issue of intergenerational difference, which this research considers as today's current issue to manage difference in the workplace.

2.4 Intergenerational difference

The diversity of generations seems to be a current issue that organisations are facing, especially in today's digital era where technology plays a significant role in people's lifestyles. Companies that are capable of exploiting the generational difference are likely to maximise their talent management and business development strategies (Sabattini et al., 2010). Generational

difference is one of the interesting topics a considerable volume of research discusses (e.g. Becton et al., 2014; Colbert et al., 2016; Ghobadi and Mathiassen, 2020; Magni and Manzoni, 2020; Myers and Sadaghiani, 2010; Twenge et al., 2010; Widén et al., 2017). Recent statistics show that four generations occupied the global workforce in 2020 – Baby Boomers, Generation X, Millennials or Generation Y, and Generation Z (Statista, 2021). Generation X and Generation Y made up the largest proportion of the global workforce at 35%. Although the majority of Baby Boomers have already retired, Baby Boomers made up 6% of the global workforce and there are still Baby Boomers in top management positions. The issue of generational difference could bring challenges to organisations as people from the different generations were born in different environments and most existing literature found that they have different characteristics. It is important to be aware of different generational cohorts in the workplace, and several organisations are encountering the issue of how to manage young workers in the workplace, yet academic scholars may have neglected this issue while organisations are seeking help with it (Magni and Manzoni, 2020).

This section provides definitions and terms used to classify generational difference and identify characteristics of different generations. It also reviews the existing literature about generational difference in the workplace.

2.4.1 Defining the ‘generational difference’

Research into generations is rooted in two streams of research – the social and cohort perspectives (Lyons and Kuron, 2014). In the social perspective, a generation is defined as a group of people who were shaped by similar experiences and social events, and the cohort perspective defines generations by birth year (Lyons and Kuron, 2014; MacKenzie Jr and Scherer, 2019). Many researchers use birth year or age-related difference factors to define generational difference (Lyons and Schweitzer, 2017; Rudolph and Zacher, 2017) as it helps to categorise the generational membership – what generations they belong to, while there are previous studies that have recognised both perspectives to understand generations and to categorise members of generations (MacKenzie Jr and Scherer, 2019). For example, De Meuse and Mlodzik (2010) defined ‘generation’ in their study as referring to both perspectives as a group of people or cohorts who were born in the same period of time, share similar experiences, and possess similar characteristics and a common outlook as they moved together in the same period of time.

Moreover, the arrival of the digital era has had an influence on generational research; much of the literature has paid attention to experiences relating to adopting and using technology among the

younger generations who were born in such an environment, like Millennials and Generation Z (MacKenzie Jr and Scherer, 2019; Nelissen and Van den Bulck, 2018). Previous literature has also given various terms for the generations, such as 'Digital Natives vs Digital Immigrants' (Prensky, 2001), 'Net generation' (Tapscott, 2008), 'Millennial generation' (Howe and Strauss, 2003), 'GenMe' (Twenge et al., 2010) and 'technology-driven generations' (Ghobadi and Mathiassen, 2020). These terms have highlighted how the younger generations can be distinguished from previous generations in terms of technological competency and familiarity, as well as how they grew up in a digital world, suggesting that they may have a greater preference for technology than the generations who did not grow up in such a world.

Prensky (2001) was the first to introduce the terms "digital natives" and "digital immigrants" to differentiate the old and young generations by highlighting their technology use. Prensky (2001, p. 2) describes "digital natives" as "all natives of the digital language of computers, video games and the internet", simply those who were born after the 1980s (Kesharwani, 2020), Millennials and newer generations like Gen Z fall into this category (Stanton, 2017). Bennett et al. (2008) explicate two assumptions most literature has discussed about digital natives: that they have sophisticated skill and knowledge of using technology, and their preferences and styles are different from the older generations. This is because digital natives were brought up in an environment where digital technologies were accessible to them, which influences how they behave (Colbert et al., 2016; Correa, 2014; Culp-Roche et al., 2020; Nelissen and Van den Bulck, 2018).

"Digital immigrants" are the opposite of digital natives. Kesharwani (2020) explains that digital immigrants have had to adopt and use technology during their adult life because they were born before the 1980s. It is common for digital immigrants or older generations to be unfamiliar with the internet and new innovative technology, or to have different reactions from digital natives, as they were born before the digital age, and were introduced and forced to adapt to the advent of digital devices and technologies later on. Some scholars claimed that digital immigrants are resistant to technology and have a difficult time accepting the use of technology (Prensky, 2001; Vodanovich et al., 2010).

Although the labels digital natives and digital immigrants are usually based on age-related factors, researchers have suggested looking beyond age-related factors to understand digital natives and digital immigrants. For example, Helsper and Eynon (2010) explored digital natives investigating age, experience and breadth of technology use. Thompson (2013) mentioned that the patterns of digital technology use and immersion may not be age related. Lyons and Schweitzer

(2017) also suggested that generations should be looked at holistically, as looking at age difference is not sufficient. Recently, Ghobadi and Mathiassen (2020) suggested looking at technology-related experiences, such as being a precocious user of social networking technologies, to draw upon the similarities and differences across different generations – technology-driven generations (digital natives) and nontechnology-driven generations (digital immigrants).

Thus, given the criteria for understanding generational difference, this research chose to employ the term ‘technology-driven generations’ to refer to digital natives’ or younger generations who were born in the digital era after the 1980s and who are said to be more experienced and engaged with technology (Gen Y, Z), and ‘older generations’ to refer to ‘digital immigrants’ (Baby Boomer, Gen X), who were born before the 1980s and who are considered less experienced with technology, to distinguish workforce demographics. These two terms are appropriate for the study to explore their collaborative information behaviour in relation to social media use in a multinational company setting as the terms capture both perspectives, of their birth year and experience of using technology, for more clarity.

2.4.2 Characteristics of digital natives and digital immigrants

This section discusses and compares different characteristics between digital natives and digital immigrants, as explained in section 2.4.1 that this research refers to technology-driven generations as digital natives and older generations as digital immigrants. It is important to provide an insight into what the existing literature has recorded about their differences. Building on the existing claims of generational difference, it is addressed that digital natives are tech-savvy and, because they have grown up in a digital environment, their personal traits are different from those of the previous generations (Becton et al., 2014; Bencsik et al., 2016; Prensky, 2001; Stewart et al., 2017; Wang et al., 2012). Digital natives are also likely to immerse themselves in technology use, such as social media, more than the digital immigrants (Bowe and Wohn, 2015), and they have never experienced a world without technology (Shtepura, 2018). They are team-oriented, optimistic, capable of multi-tasking (Bennett et al., 2008), and flexible when they have sophisticated technology skills and knowledge (Barak, 2018).

In contrast, digital immigrants were born when technology was not accessible, unlike today’s digital environment, and they were introduced to technology in their adult life (Prensky, 2001; Vodanovich et al., 2010). They are more likely to resist technology and have a difficult time engaging with new technology, such as instant messaging and texting (Vodanovich et al., 2010).

To compare them with digital natives, digital immigrants are competitive, achievement-oriented, workaholics, and loyal to organisations (Becton et al., 2014; Kapoor and Solomon, 2011).

However, recent studies have argued that this is not the case in today's society anymore as older generations have developed familiarity with new technology and have embraced it more than when technology it was first introduced, and it could be said that they have experience with digital technologies (Colbert et al., 2016; Culp-Roche et al., 2020). Table 6 briefly summarises the general characteristics of digital natives and digital immigrants (e.g. Prensky, 2001; Benett et al., 2008; Tapscott, 2008; Vodanovich et al., 2010; Kapoor and Solomon, 2011; Becton et al., 2014).

Table 6 Characteristics of digital natives and digital immigrants

Digital immigrants	Digital natives
Born before digital era	Grew up digital
Single task at a time	Multi-tasking
Workaholics	Tech savvy
Achievement oriented	Flexible
Unfamiliar with technology	Short attention span
Resist technology	Sophisticated digital knowledge
Competitive	Familiar with technology
Idealistic	Reliance on technology
Personal sacrifice	Self-development
Respect authority and hierarchy in the workplace	Optimistic
Independent	Team-oriented

(Adapted from Kapoor and Solomon, 2011, p. 311)

2.4.3 Classification of generational difference

For the generational membership of this research, Stanton (2017) highlighted that previous scholars differ regarding the birth years of different generational cohorts. Some authors state that those who were born after 1980 are considered to be digital natives (Akçayır et al., 2016). Tapscott (2008) noted that digital natives or Net Generation should be those who were born in the period of January 1977 to December 1997, and Bolton et al. (2013) stated in their generational difference study that Gen Y were born after 1981. Murphy (2011) states that Baby Boomers were born from 1946 to 1964; Gen Xers were born from 1965 to 1979; Gen Y (Millennials) were born from 1980 and on, but Bencsik et al. (2016) call those born between 1990 and 2010 Gen Z (iGen).

For the purpose of the study, this study will adapt the age categories based on Stanton (2017) as it appears to be the most recent research on generational difference. The age groups are classified as follows (Stanton, 2017, p. 260):

- Born 1922 to 1942: The Veterans, Traditionalists, or Silent Generation
- Born 1943 to 1963: The Baby Boomers
- Born 1964 to 1979: Generation X, or Generation X'ers
- Born 1980 to 2000: Generation Y, Millennials

Those who were born after 2001 are considered to be Generation Z. This research considers those who were born in the Baby Boomer and Generation X periods as digital immigrants, and those who were born after 1980 as digital natives. Most importantly, this research also embraces the social perspective of understanding generations. Apart from taking the birth year into account as mentioned here, technology-related experiences are considered as well, to understand the collaborative information behaviour of employees between the technology-driven generations and the older generations.

In the next section, the topic of generational difference in the workplace will be reviewed.

2.4.4 Related work on generational difference in the workplace

With today's multigenerational workforce, organisations face challenges in handling issues of generational difference such as means of communication, different work styles, and different requirements in the workplace (Haynes, 2011; Stewart et al., 2017). Still, few studies to date have adequately researched generational difference in organisations (Magni and Manzoni, 2020). The research on generational difference has extensively focused on the differences in work attitudes, work value and behaviours (Becton et al., 2014; Magni and Manzoni, 2020; Myers and Sadaghiani, 2010; Twenge et al., 2010), and differences in work styles, in characteristics, and personal identity in the workplace (Haynes, 2011; Kapoor and Solomon, 2011; Lyons and Schweitzer, 2017). Some studies have focused on the difference in the generations' approaches to technology and information behaviour, such as information-sharing activities and attitudes and technology use (Culp-Roche et al., 2020; Naim and Lenka, 2017; Widén et al., 2017). Less attention has been paid to different generations from the perspective of their collaborative information behaviour overlaid with their technology-related experiences, such as social media use in organisations.

One of the challenges employers have to face with the issue of generational difference is human resources strategies, such as recruiting, training, developing motivation and payment systems, etc. (Bencsik et al., 2016, p. 96). Bencsik et al. (2016) explained that the arrival of the younger generations (technology-driven generations – Gen Y, Z) has reshaped and challenged these HR activities as the younger generations have different requirements at work because they were born in the digital age, they are highly proficient in digital knowledge, and they also have different characteristics from the older generations. This may have challenged companies to prepare for the workspace to appear more digitalised as well as affected organisational activities, such as communication and collaboration. Early research by Kapoor and Solomon (2011) discussed this issue. Their research focused on stressing the challenges of generational difference that organisations are facing. Their findings show that employers need to be able to identify generational difference and stimulate a work environment that facilitates productivity for every generation in the organisation, as well as provide essential information and skills for their employees to understand the different characteristic of every generation and understand their colleagues. Becton et al. (2014) also explored the differences in workplace behaviour of different generations from two organisations. They pinpointed the existence of generational difference in the workplace in that employees have different characteristics due to the period in which they grew up. Baby Boomers tend to be competitive, hardworking, independent and goal-oriented, Gen Xers are self-reliant, and more likely to quit their job for a better offer, and Millennials have a strong motivation to succeed but do not work as hard as Gen Xers.

More recent studies also support the differences between generations in terms of work expectations. The findings of Moore et al. (2015) show that the stereotypes of generational differences in terms of expectation are related to previous studies, for example, Generation Y expects high pay more than Baby Boomers and Generation X. Stewart et al. (2017) found that Gen Y employees view work differently than previous generations. They recommended organisations embrace the differences in duty, drive and reward among different generations to be able to motivate their employees, and increase employee engagement and performance. Magni and Manzoni (2020) also explored the differences in work expectation among Millennials in organisations. Their findings indicate that Millennials expect more than other generations. They have higher expectations in terms of pay, training, and power and responsibility than the previous generations.

The most widely discussed topic of all has been the generational difference in terms of the different generations' approaches to technology. Many scholars have examined the differences between the generations and their approach to technology to understand their behaviour in the

workplace. Many of their studies focused on a discussion about how the digital natives are more engaged with technology, whereas the digital immigrants resist technology in organisations. Building on the extant literature of generational difference and the different generations' approaches to technology (e.g. Becton et al., 2014; Bencsik et al., 2016; Bennett et al., 2008; Colbert et al., 2016; Culp-Roche et al., 2020; Ghobadi and Mathiassen, 2020; Tapscott, 2008; Verčič and Verčič, 2013; Vodanovich et al., 2010), digital natives and digital immigrants differ in terms of social media use in the four aspects summarised in Table 7 below.

Table 7 Different generations and their different approaches to technology

Approach to technology	Digital immigrants	Digital natives
Familiarity with tool	<ul style="list-style-type: none"> - Unfamiliar with technology. - Resistant to technology. - Difficult to accept technology. - Prefer to stick with traditional tools. 	<ul style="list-style-type: none"> - Familiar with using technology without instructions as they grew up in a digital environment.
Fluency with tool	<ul style="list-style-type: none"> - Perceive internet as a secondary source to look for information. - Require instructions to understand how to use technology and prefer paper-based documents rather than digital-based tools. - Uncomfortable in using technology. 	<ul style="list-style-type: none"> - They are proficient in technological skills. - Comfortable in using technology.
Reliance on technology	<ul style="list-style-type: none"> - They do not rely on social media and are not eager to adapt to new technology. 	<ul style="list-style-type: none"> - They are tech-savvy and have not known a world without the internet and technology. - They rely on technology and online community.
Tool preference	<ul style="list-style-type: none"> - Prefer paper-based documents such as books, manuals and other physical forms of written texts to digital tools. - Recent studies show digital immigrants increasingly embrace technology because it is prevalent in today's society and they are becoming experienced with it. 	<ul style="list-style-type: none"> - Active users of technology. - Prefer social media. - Precocious users of social networking technologies.

(Adapted from previous studies)

Past research has mainly compared the difference in online behaviour between digital natives and digital immigrants, and pointed out that younger generations rely on technology and the internet more than older generations when seeking information. Culp-Roche et al. (2020) found that, because digital natives were born in a digital age and grew up with the internet and technology, they are more comfortable with technology than digital immigrants. In regard to digital natives and social media, Generation Y or Millennials extensively engage with social media on a personal and professional level as well as use social media to share ideas and information (Bilgihan et al., 2014; Bolton et al., 2013). They are said to be addicted to social media to maintain relationships with their friends (Cabral, 2011). Bilgihan et al. (2014) also recommend that companies should be proactive about the power of the social media trend, as they discovered that Generation Y are heavy users of social media, and marketers should keep an eye on and exploit their seeking and sharing information behaviour on social media to enhance businesses.

The issue of technology-driven generations and their use of social media has been highlighted in the current literature. Rai (2012) denoted that it is crucial for organisations to embrace the digital transformation that affects modern communication like social media platforms, as Generation Y employees are currently engaging with it, and it has become a challenge for the Human Resources department to manage younger generations in the workplace because they favour technology, speed, openness and innovation and that can influence the way they communicate, collaborate and share information with employees from the previous generations. Naim and Lenka (2017) investigated the use of social media for collaboration and its impact on employee engagement among Generation Y. They found that, because Generation Y employees are tech-savvy, their result presented a positive impact of using social media for collaboration among Generation Y employees and on employee engagement. Naim and Bulinska-Stangrecka (2019) also suggest that there is a link between social media and technology-driven employees' affective commitment, as measured by psychological need satisfaction. Zhang et al. (2017) found that Gen Y and their active use of social media positively influenced electronic word-of-mouth (eWOM) behaviour in their study. They reported that Gen Y are more experienced with technology and have developed positive experiences using technology, especially mobile technology; in turn, they are more motivated to spread positive word of mouth about their service experiences online. Ghobadi and Mathiassen (2020), in their study about the issue of generational difference in the software workforce, discovered that software developers who started using social networking technologies at a young age were likely to have different expectations regarding software development goals.

Moreover, digital immigrants are different from digital natives in their approach to technology as they mainly prefer tools that they are familiar with and that are traditional tools, as claimed by certain literature (Autry and Berge, 2011; Shtepura, 2018; Venter, 2017; Vodanovich et al., 2010). Venter (2017) mentioned that the Baby Boomer generation would rather use face-to-face communication than rely on using digital tools. Vodanovich et al. (2010) also mentioned that telling digital immigrants not to use the phone or talk to their colleagues during office hours is the equivalent of telling digital natives not to use the internet. It could be said that digital immigrants are not tech-savvy and are different from digital natives as they were not surrounded by or immersed in the digital world when they were growing up (Autry and Berge, 2011; Shtepura, 2018; Venter, 2017; Vodanovich et al., 2010). Still, it is relatively difficult to generalise the concept of digital immigrants and their relationship with technology. The debate about digital natives and digital immigrants is controversial as digital immigrants currently are becoming familiar with and adapting to new digital trends, and spending the same amount of time on social media as the younger generations (Colbert et al., 2016; Culp-Roche et al., 2020).

2.4.5 Generational difference and CIB

Although literature has highlighted the complex issues around the digital influence on generations, it is striking that few studies to date have investigated the link between the issues of CIB and generational difference overlaid with the different generations' different approaches to technology. CIB literature has placed a focus on the ability of organisations to collaborate and share information effectively to achieve common goals through employing technologies to facilitate CIB activities (Karunakaran et al., 2013; Reddy and Jansen, 2008; Reddy and Spence, 2008; Shah, 2014), while the rise of technology-driven generations is prominent in shifting the workforce. Most generational research has reported the differences between generations in how technology-driven generations are more experienced with technology and how comfortable they are when they use technology, and that the older generations are less experienced with and less comfortable using technology (Colbert et al., 2016; Culp-Roche et al., 2020; Naim and Lenka, 2017). The different patterns of technology-related behaviours can challenge the way generations use new digital technologies to collaborate and share information in organisations. A simplistic view seems to be taken of these issues of the CIB and generational difference in organisations, while there are not enough studies exploring the totality of complex issues and the interplay of these issues influencing how different generations collaborate and share information in organisations. Unpacking these overlapping issues on generations and CIB can contribute to the existing literature on CIB and generational difference, and provide practical contributions to enable organisations to manage such challenges and differences.

Prior research has acknowledged the existence of generational difference in organisations (section 2.4.4). For example, the technology-driven generations favour new technologies and use them differently from the older generations (Rai, 2012; Shtepura, 2018; Venter, 2017), older generations tend to be resistant to new technologies (Venter, 2017; Vodanovich et al., 2010), and the newer generations arriving in the workforce favour emerging technologies (Smith and Nichols, 2015; Twenge et al., 2010). These distinct differences were because they were born in different eras, which influence the way they adopted and experienced technology. It also influences generations to expect different things and have different work styles in organisations (Magni and Manzoni, 2020; Moore et al., 2015; Stewart et al., 2017). This leads to the link where different generations work together in a collaborative setting, which is the area of study that is of value to investigate how the technology-driven generations and older generations collaboratively share information, while existing studies have declared their distinct differences (Culp-Roche et al., 2020; Magni and Manzoni, 2020; Smith and Nichols, 2015; Stewart et al., 2017), and the evolving nature of generations who are precocious users of new digital technologies, such as newer social networking technologies (Ghobadi and Mathiassen, 2020).

On the other hand, some scholars found that the approach to technology does not determine how different generations use technology differently, and some studies even claimed that generational difference in organisations does not exist. Metallo and Agrifoglio (2015) attempted to understand the differences between digital natives and digital immigrants in terms of their perception towards technology and examine whether any differences would affect continuance behaviour on Twitter. Although they found that digital natives perceived that Twitter is easy to use, the digital natives found Twitter less useful and experienced social pressure compared with digital immigrants. Jarrahi and Eshraghi (2019) revealed that generational difference is not the factor causing the differences in social media use in organisations, and proposed other factors – organisational rank, knowledge needs, individuals' enthusiasm for technology use, and personality disposition. Likewise, Widén et al. (2017) discovered that the differences in the information-sharing activities and attitudes in a multinational company are not related to the generational difference, but to the organisational experience of the employees. Rudolph and Zacher (2020) also raised the issue that the assumption about the generational difference in the workplace is a myth and no solid scientific data exists to support it.

Nevertheless, the adoption and implications of social media are growing in today's society as well as the multigenerational difference has drawn attention among academic researchers and practitioners (Cennamo and Gardner, 2011; Cogin, 2012; Costanza et al., 2012; Hillman, 2014;

King, Murillo and Lee, 2017). As mentioned in section 2.3.2, organisations seem to rely on social media in various ways, such as communicating, collaborating, knowledge sharing and information sharing (Chen and Wei, 2020; Leonardi and Vaast, 2017; Nisar et al., 2019; Razmerita et al., 2014; Schlagwein and Hu, 2016; Sun et al., 2019). Previous studies have highlighted generational differences and use of technology in areas such as the differences in work values, work attitudes, personality traits, information sharing, and how digital natives and digital immigrants differ in using technology (Culp-Roche et al., 2020; Magni and Manzoni, 2020; Myers and Sadaghiani, 2010; Rai, 2012; Shtepura, 2018; Twenge et al., 2010; Widén et al., 2017). Research concerning the use of social media for a collaborative communication tool and knowledge sharing and the issues of generational difference in a multinational company is understudied. This presents the research gap in the literature and the main research motivation to further investigate on this topic.

2.5 Conclusion

This chapter reviewed key extant literature on the disciplines related to what this research aims to investigate according to the research questions proposed in section 1.4 (Chapter 1). It reviewed three bodies of literature, which helps to elaborate on the relevant issues on CIB, social media, generational difference, and cultural difference in the MNC context, and connects to addressing the research questions. Figure 3 illustrates how the three bodies of literature are linked and builds an understanding of the research phenomenon to be studied – the overall complex issues and the interplay of multiple issues (i.e. CIB, social media, intergenerational difference, and cultural difference in the MNC) influencing a complex organisational setting. The review of extant literature presents two main research gaps, which can be summarised below.

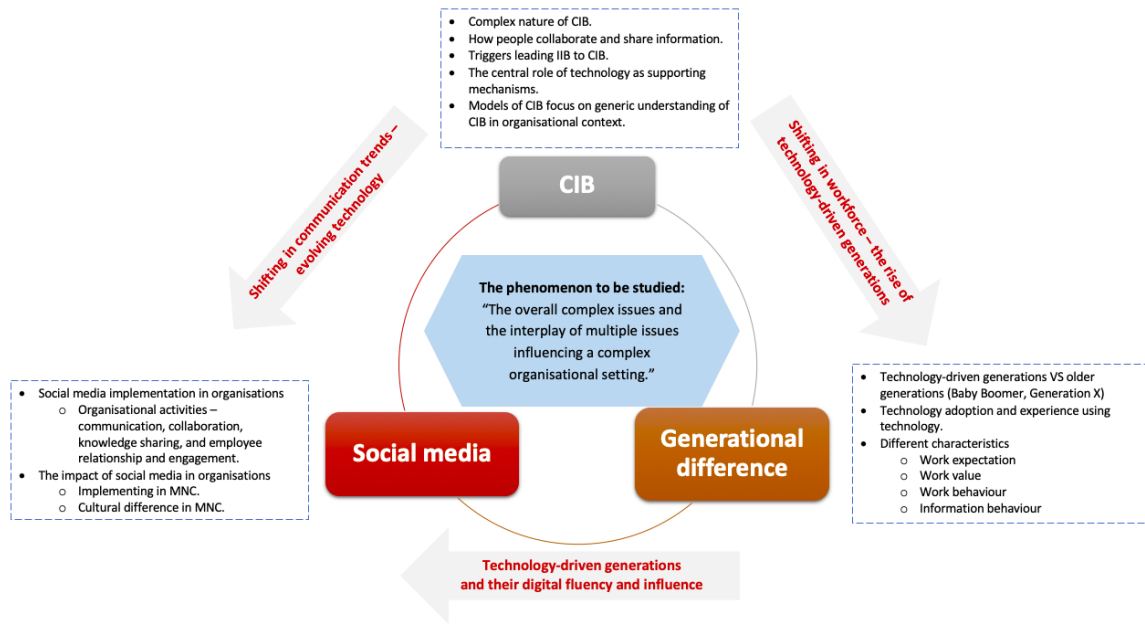


Figure 3 Conceptual lens of the literature review

- The issues of CIB, social media, intergenerational difference, and cultural difference in the MNC have been studied in isolation as a single issue or across two factors. Previous studies on CIB, social media, intergenerational difference, and cultural difference have overlooked the totality of the influence of these issues, that the interplay of these key factors affects the complexity of CIB in organisations in real-life settings.
- CIB literature has claimed to recognise the complexity in the nature of collaborative information activity in an organisational context and other issues around collaborative information behaviour, including identification of information needs, triggers transitioning to collaboration, the role of tools (information sources and technology supporting CIB activities), and the role of division of labour (each individual has different expertise contributing to team collaboration). However, there is no model of CIB explicating the process of CIB in complex organisational settings, that there are multicultural issues involved in the work environment, and representing the totality of the issues of CIB, such as social media, intergenerational difference, and cultural difference, and the interplay between them in real-life settings.

These three bodies of literature are important for this study to investigate the phenomenon. The review of the three bodies of literature shows that little attention has been paid to understanding these issues from a holistic viewpoint. The extant literature has looked at the issues of CIB, social

media use, intergenerational difference, and cultural difference in an MNC setting in single aspects, while these issues are interrelated and they influence each other in a complex real-life organisational setting. Literature seems to underestimate the complexity of CIB in the organisational context, and to downplay or ignore key factors impacting the collaboration process in real-life settings. It can be summarised as follows:

- CIB literature, in the social perspective, has emphasised the understanding of how people collaborate during the information activities in a variety of organisational settings and domains but without drawing in various factors influencing CIB (e.g. Foster, 2006; Hertzum and Reddy, 2015; Karunakaran et al., 2013; Karunakaran et al., 2010; Reddy and Jansen, 2008; Reddy and Spence, 2008; Shah, 2014). Also, the existing models of CIB do not provide sufficient elements that represent the overall complexity of CIB in organisational settings that are multinational company settings, or describe the interplay of multiple factors affecting or influencing the issues of CIB, such as social media, intergenerational difference, and cultural difference. Therefore, the model of CIB needs further development to portray these complexities in the MNC context
- Social media literature has demonstrated how social media is implemented extensively in numerous organisations around the world to support organisational activities and performance, such as internal communication, collaboration, knowledge sharing, and employee relationship and engagement (Chen and Wei, 2020; Leonardi and Vaast, 2017; Nisar et al., 2019; Razmerita et al., 2014; Schlagwein and Hu, 2016; Sun et al., 2019), and its impact in organisations in regard to how social media positively or negatively affects firm performance, internal communication between teams and employees, and collaboration (Stafford and Mearns, 2009; Culnan et al., 2010; Robertson and Kee, 2017; Hanna et al., 2017; Paniagua et al., 2017; Sun et al., 2019; Van Osch and Steinfield, 2016).
- Generational difference literature has claimed that the topic of generational difference in organisations is still under-researched (Magni and Manzoni, 2020). The extant research has mostly studied the generational difference based on age difference and typical characteristics or stereotypes of 'digital natives' and 'digital immigrants' to explore their differences in terms of work attitudes and behaviours (Becton et al., 2014; Magni and Manzoni, 2020; Myers and Sadaghiani, 2010; Twenge et al., 2010), and different approaches to technology and information behaviour (Culp-Roche et al., 2020; Naim and Lenka, 2017; Prensky, 2001; Shtepura, 2018; Widén et al., 2017). Little attention has been paid to investigating the issue of intergenerational difference and the different

generations' different approaches to technology influencing the issues of CIB in the organisational settings, or to understanding the topic of intergenerational difference through investigating the interplay between other issues, CIB, social media, intergenerational difference, and cultural difference in an organisational setting.

- The MNC literature, in the area of cultural difference, has focused on the national culture and organisational culture in the MNC (Duan, 2019; Hall, 1989; Hofstede, 1997; Pimpa, 2012; Pudelko, 2017). Mainly, the influence of either the national culture or the organisational culture in the MNC has been explored (Harada, 2017; Swierczek and Onishi, 2003; Purwohedi, 2017) but not the interplay between them.

Moreover, the extant literature has also looked at the combinations of these issues – CIB, social media, intergenerational difference, and cultural difference – but concentrating on dual-issue investigation not on complex constructs, for instance, how cultural differences impact collaborative information-seeking groups at an academic level (Yfantis et al., 2012), how social media is adopted as CIB tool (Ng et al., 2017; Kuegler et al., 2015; Nisar et al., 2019; Razmerita et al., 2014), the impact of culture on social media use in organisations (Gibbs et al., 2015; Pirkkalainen and Pawlowski, 2014; Schlagwein and Prasarnphanich, 2014), and information sharing and the generational difference approach in the workplace (Widén et al., 2017). Thus, from reviewing the existing literature on how they explored the issues of CIB, social media, intergenerational difference, and cultural difference from a single aspect and from a combination of these issues, it can be seen that most of the existing research has focused on a rather simplistic view of the issues but does not seem to delve deeper into investigating the overall complexity of these issues and the interplay between them impacting and influencing the situations in MNCs.

In conclusion, the review of the literature in this chapter has led to the recognition of a problematic situation. This provides a background understanding of the relevant issues and areas of study related to what the research questions set out to investigate. It also underlines the complex issues around the interplay of CIB, social media, intergenerational difference, and the national and organisational cultures in a multicultural work environment. Through investigating the literature, a multinational company is a suitable setting to explore how these issues impact the ability of the organisation to effectively and collaboratively share information. Therefore, this research fills the research gaps in the literature by investigating the complexities of CIB in the MNC setting from a holistic viewpoint, and the interplay of multiple factors, such as CIB, social media use, intergenerational difference, and cultural difference, and how these factors affect and/or influence each other in the MNC setting.

The following chapter is the methodology chapter. It outlines the methodological approach, philosophy underpinning this research, theoretical framework and its implications, the process of data collection and analysis, and the ethical considerations of this research.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter covers relevant details about the research methodology and the theoretical framework and research design used to investigate this research. The first section of this chapter presents the epistemological and ontological aspects of this research to lay the ground for the research methodology approach. Then, it is followed by theoretical frameworks, research design, data collection and data analysis. The last section discusses the ethical issues of this research.

3.2 Epistemology and ontology

This section discusses the philosophy underpinning this research. It is important to highlight the philosophical assumptions of the study as these guide the researcher's direction for the study, including the direction of research goals and outcomes, scope of research, and criteria for research-related decisions (Creswell and Poth, 2018). To understand the philosophy underpinning this research, epistemology and ontology will be discussed to reflect the choice of research methodology and methods in this study (Creswell, 2014).

Epistemology is the theory of knowledge, and it is "how we know what we know" (Crotty, 1998, p. 8). Ontology is "the study of being" (Crotty, 1998, p. 10). In general, epistemological assumption is how researchers discover the reality and ontological assumption is how researchers view the reality of the phenomena (Creswell and Poth, 2018). It can also be referred to a paradigm (Guba and Lincoln, 1994), which is "a set of basic beliefs" (Guba and Lincoln, 1994, p. 107).

This research is in the field of collaborative information behaviour (CIB) research. In the field of CIB research, as stated in Chapter 2 (section 2.2.2), there are two streams of research: social and technical perspectives of CIB. This research is situated in the social perspective of CIB as the objective is to investigate how different generations use social media to collaboratively share information in the MNC setting. Most CIB researchers, in the social perspective of CIB, have underpinned their research with these philosophical viewpoints, for example, positivism (Spence et al., 2005), interpretivism (Bruce et al., 2003; Karunakaran et al., 2013; Karunakaran et al., 2010; Prekop, 2002; Reddy and Dourish, 2002; Reddy and Jansen, 2008; Reddy and Spence, 2008; Talja, 2002) and critical realism (Hansen and Järvelin, 2005). However, the majority of CIB literature, in the social perspective, is interpretivist and adopts qualitative methods to study the complex situations and interactions in collaborative information activities, especially the key CIB

researchers, namely, Hertzum and Reddy (2015), Hyldegård, (2006), Poltrock et al. (2003), Reddy and Jansen (2008), and Reddy and Spence (2008).

In addition, Talja et al. (2005) explained different philosophical viewpoints, including constructivism, collectivism and constructionism, which can be applied in understanding how reality comes to be known in information studies. They explained that constructivism, or cognitive constructivism, believes that knowledge is created through experience and observation, and collectivism or social constructivism is a socio-cognitive viewpoint and says that knowledge is formed through action in social interaction in the socio-cultural context in which actors live. Social constructionism is based on a discourse approach and focuses on linguistics or language more than mental processes. Social constructionism views that knowledge is derived from social interaction and from partially shared meaning and realities constructed in discourses (Saunders et al., 2016; Talja et al., 2005).

In light of these viewpoints, this research takes the epistemological stance of interpretivism that views knowledge as based on real social phenomena (Scotland, 2012), meaning knowledge is acquired through interactions between the researcher and the subject (Pickard, 2013). Following the ontological position, the nature of the phenomenon of this research involves multiple realities (Denzin and Lincoln, 2018). The nature of collaborative activity is a complex and dynamic phenomenon in a real-world setting (Reddy and Jansen, 2008). This research also sets out to study intergenerational difference and social media, which involves how the younger and older workers use social media to share information in the MNC and how to understand this phenomenon of the intergenerational difference in the workplace in order to suggest solutions to manage the multigenerational workforce in the future. These realities are overlapping because of the interplay of different factors influencing the context and situation in the MNC.

In such a setting, the epistemological and ontological assumptions are driven towards interpretivist and social constructivist viewpoints because what the research seeks to explain is subjective, and the approaches of these two viewpoints provide the understanding and interpretation of meaningful behaviour and such behaviour can be examined through the socially constructed views of participants (Bryman, 2012; Saunders et al., 2016). For complex situations, researchers such as de Souza and Redmiles (2003), Forsgren and Byström (2018), Forsgren et al. (2016), and Nardi (1996) have taken a social constructivist approach and used AT as a lens to better understand the interaction between individuals, tools and cultural-historical context. For research approaches and methods, many CIB researchers, namely Reddy and Jansen (2008), Reddy et al. (2010), Reddy et al. (2002), Reddy and Spence (2008) and Prekop (2002), have

adopted a qualitative methodology to gain in-depth understanding of the collaborative information and technology use in an organisational context. They indicated that, when studying such behaviour in a complex setting, it is better to learn and gain knowledge from the participants' perspective.

Therefore, taking a social constructivist stance guides the development of research questions, approaches and methods adopted in this study. The following section describes the research approach employed in this study.

3.3 Qualitative research

This research aims to explore the overall complexity in the MNC setting and the interplay of CIB, social media use, the intergenerational difference, and the cultural difference in the MNC to understand how these factors are significant and influence each other in the context. Due to the interpretivist and social constructivist philosophies which underpin this research, the research methodology is drawn to qualitative research (Denzin and Lincoln, 2018; Saunders et al., 2016). Denzin and Lincoln (2018) noted that qualitative researchers collect and analyse data by talking and interacting with individuals in their context and empowering them to share stories related to the problems or issues of their study (Creswell and Poth, 2018).

A qualitative approach allows the researcher to investigate participants' behaviour and perspectives through the participants themselves, which locates the researcher in their world and provides them with the opportunity to understand it (Denzin and Lincoln, 2018). Previous studies in a similar discipline (CIB) suggest that qualitative research is the way to scrutinise such complicated issue through observing and interviewing participants to learn from their perspectives (Reddy and Dourish, 2002; Reddy and Jansen, 2008; Reddy et al., 2010; Reddy and Spence, 2008). After considering both quantitative and qualitative, a qualitative approach is more appropriate for this research than a quantitative approach because the latter involves numerical data, whereas the research questions and purposes of this study involve making sense of and interpreting people's feelings and opinions rather than numerical data (Denzin and Lincoln, 2018).

Moreover, a qualitative approach guides the researcher's methodological choices in this research to use multiple methods to gather data, e.g. interviews, observations and documents (Creswell and Poth, 2018). These research methods allow the researcher to gain insight into participants' behaviour, specifically when participants collaborate and interact with other members of staff in

order to explore how they behave and act with information in their organisational environment, how they utilise social media in their team and across departments in the organisation as a whole, and how they experience and encounter the issue of intergenerational difference in the organisation. Importantly, this study explores issues such as the intergenerational difference, the cultural difference, and the interplay of many factors that involve feelings, behaviour and experience, in which the qualitative methods allow the participants' perspectives to be understood and investigated in the complexity of the research issues.

3.4 Theoretical frameworks

The previous sections discussed how philosophical assumptions shaped this research's methodological foundations. It is important to find a theoretical framework to help understanding of the research phenomena and direct the researcher's data collection and analysis of the research. Provided with complex and multiple layers of issues to be captured, the appropriate framework should potentially be able to explain and conceptualise the research issues, and be interrelated with the research objectives and research questions as well as philosophical viewpoints.

This research considered different frameworks, including activity theory, social network theory, structuration theory and actor-network theory, to facilitate an understanding of the complexity of the research context. In the comparison and evaluation of the feasible frameworks for this research, activity theory was highlighted as most suited for the study. Activity theory offers approaches that can guide the researcher to understand phenomena and explore research questions more insightfully than the rest of the frameworks. The following sections introduce activity theory and its principles, and the implication and rationale for using it in this study, and reviews alternative frameworks in order to justify the choice of activity theory.

3.4.1 Activity theory

The purposes of a piece of research and its research questions are the baseline in the process of searching for a theoretical framework. The framework should provide approaches to conceptualise and understand the complexity and multiple perspectives of CIB and the interplay of CIB, social media use, intergenerational difference, and cultural difference in the MNC. Also, the framework should provide an understanding of people's interaction with tools in their social and cultural context to explore and identify the interplay of factors influencing how individuals

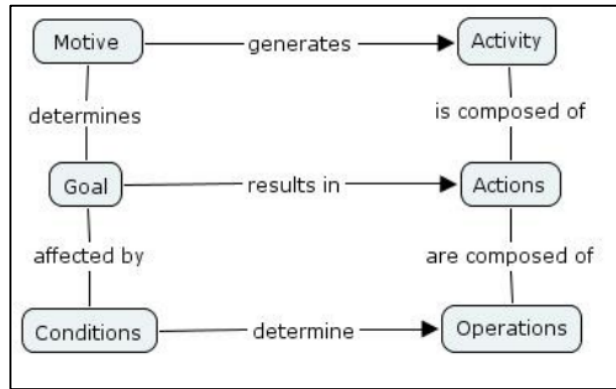
behave and interact in the context of MNC, draw out barriers and differences of intergenerational difference, and be able to guide the data collection and analysis of the research.

Different theoretical frameworks were evaluated. Activity theory (AT) was chosen after the evaluation. The principles of activity theory and the concepts behind its components provide key elements contributing to the investigation of such complex and multifaceted research phenomena, and guide the direction of data collection and analysis.

3.4.2 Introduction to activity theory (AT)

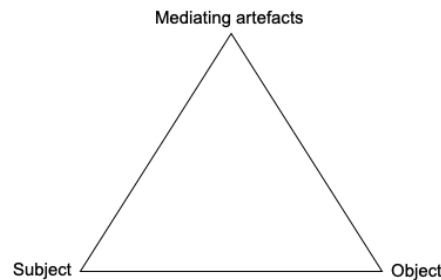
Cultural-historical Activity Theory (CHAT), also known as Activity Theory (AT), is a conceptual framework that is originally from the field of psychology (Yamagata-Lynch, 2010) and is found in Russian/Soviet psychology between the 1920s and 1930s (Kaptelinin and Nardi, 2012). Activity theory was developed by the work of Lev Vygotsky, Sergei Leonidovich Rubinshtein, Alexander Luria and Alexei Leont'ev (Wilson, 2006). The root of activity theory is as a “Marxist alternative to the prevailing Western psychological orthodoxy of behaviourism” (Wilson, 2008, p. 120). It sought to understand the psychological process and its relation with the system of culture and signs (Bedny et al., 2000). Activity theory focuses on people’s activity within their social context (Karanasios et al., 2015) and the relationship between the mind and culture and society (Kaptelinin and Nardi, 2012). That is, the theory elucidates the nature of human behaviour by scrutinising human behaviour and interaction through an activity. To understand the human mind through the interaction with the environment, it can be understood and analysed through the context of an activity. Here, the unit of analysis of activity theory is ‘activity’ (Nardi, 1996).

In activity theory, activity is object-oriented (Kaptelinin and Nardi, 2006), which means all human activities are associated with objects. Leont’ev (1978) discussed the difference between activity, actions and operations, and explained that an activity constitutes subject, object, actions and operations. He described that activity, actions and operations are driven by the motives, goals and conditions of an activity. Motives produce activity, actions are goals-driven and operations determine the condition of activity, as portrayed in Figure 4.



**Figure 4 Activity, actions and operations
(Wilson, 2006)**

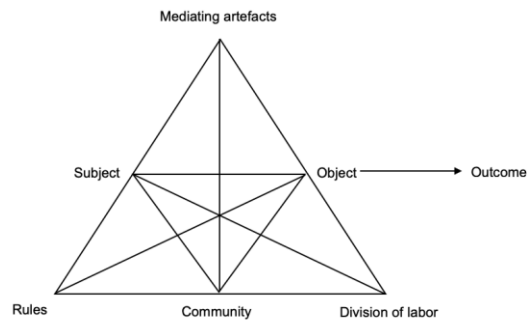
Moreover, activity theory has evolved through three generations (Engeström, 2001). The first generation was introduced by Vygotsky in the 1920s and early 1930s. The concept behind the first generation of activity theory is Vygotsky's concept of the cultural mediation of actions. It is often depicted as subject, object and mediating artefacts, which are illustrated as a triangular model, as shown in Figure 5, and the connection between subject and object is culturally mediated by artefacts (Engeström, 2001). Here, mediating artefacts can be psychological or abstract artefacts (e.g. sign systems, language) (Vygotsky, 1978), and can also be physical or material artefacts (Leont'ev, 1978). The context and environment of activity are not the emphasis for the first generation (Simeonova, 2018).



**Figure 5 First generation of activity theory (Vygotsky, 1978), as reformulated by
Engeström (2001, p. 134)**

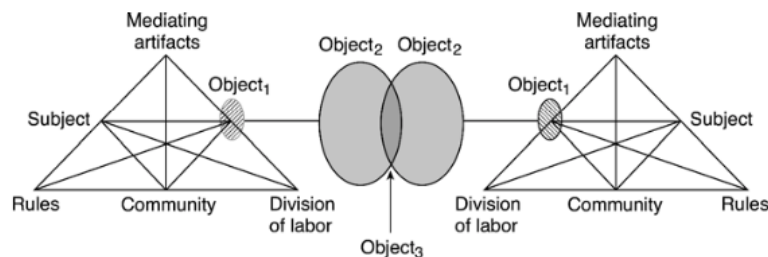
The second generation was developed by Engeström (1987) based on Leont'ev extension of Vygotsky's model, which highlights the idea of collective activity (Leont'ev, 1978). The work of Engeström on the second generation of activity theory provides a wider social context of the activity system (Simeonova, 2018) and a fundamental model of human activity (Karanasios, 2018). Engeström (1987) presents community, rules and norms, and division of labour as the main elements of the activity system (Figure 6). Figure 6 depicts the second generation of activity

theory based on the structure of an activity system, and the model incorporates rules and norms and division of labour into the structure of the activity system (see section 3.4.3). Nevertheless, there is a limitation with the second generation of activity theory in that it only focuses on a single activity system (Daniels and Warmington, 2007), which led to the development of the third generation (Simeonova, 2018).



**Figure 6 Second generation of activity theory
(Engeström, 1987, p. 78)**

The third generation of activity theory was extended by Engeström, as displayed in Figure 7. The main concept of this third generation is connected activities, which are a minimum of two interacting activity systems with a shared object (Engeström, 2001; Karanasios, 2018) and multiple mediations in an activity system (Engeström, 1999). That is, an activity system has its object but shares the same object when activity systems interact. The third generation of activity theory faces challenges in dealing with diversity and different perspectives and traditions when the application of activity theory becomes international. Thus, Engeström (2001) stated that the third generation of activity theory requires the development of conceptual tools to “understand dialogue, multiple perspectives, and networks of interacting activity systems” (p. 135) to overcome the challenges and issues of application. In this research, the third generation of AT is employed as the theoretical framework to guide data collection and analysis; section 3.4.8 will describe the implications of AT.



**Figure 7 Third generation of activity theory
(Engeström, 2001)**

After discussing all three generations of activity theory, the next section is the core analysis of activity systems. This research utilises the elements of activity systems to investigate and guide the research methods in this study.

3.4.3 Elements of activity systems

This section illustrates elements of activity systems. The activity systems provide a fundamental understanding of an activity and human interaction, collaboration and behaviour within their environment. Analysing the components of activity systems is the key concept for building the theoretical framework to investigate the overall complexity in the MNC setting and the interplay of different issues influencing CIB, such as social media, intergenerational difference and cultural difference in the MNC context in this research. It can provide in-depth understanding of research phenomena in general and identify contradictions as a source of development, which will be explained in section 3.4.5. It also helps in guiding data collection, focus group and interview questions, and analysis. A description of each element of the activity system and its implications for this study is provided in the following table.

Table 8 Elements of activity theory

Elements of activity systems	Description	Implications to study
Object	Object is the key in transforming something into an outcome. It can be a material thing, less tangible, or intangible thing, such as a plan, and idea (Kuutti, 1995). An object is an activity, aiming at a desired outcome, which is the motive of the human activity and interaction in the activity system. intangible thing'	The object of this research is key organisational activities that employees from similar and different departments carry out which are driven by shared company goals. It can be analysed from observation and semi-structured interviews to find out their object as well as their company goals.

Subject	<p>Subject refers to an individual or a group of individuals involved in an activity (Nardi, 1996). The subject allows researcher to identify key people engaging in an activity with the same goals.</p> <p>This helps in recruiting participants to the research.</p>	<p>The subject of this research is employees from different generations (Baby Boomer, Gen X, Gen Y) who are engaged in working and collaborating to achieve desired company goals in a multinational company setting.</p> <p>In terms of positions and departments, the subject can be employees from all departments and different positions (top, middle, operational level).</p>
Tools	<p>Tools are “things that mediate the action of a human being toward another subject or toward a subject” (Bodker, 1989, p. 178). They can be “artefacts or abstract constructs” (Wilson, 2006, no pagination).</p>	<p>It considers all kinds of tools this company employs to achieve its goals.</p> <p>In this research, social media is the main focus. However, social media includes all existing tools that contribute to the collaborative information behaviour.</p>
Rules and norms	<p>Rules and norms are regulations and norms governing a community that influence actions and interaction within the activity system (Dennehy and Conboy, 2017).</p>	<p>This involves company rules and regulations that all employees follow. It guides the researcher to include key rules and norms that the company has established. In a multinational company, access to company policies, work ethics and annual plans is required, and from the</p>

		<p>headquarter and the country where the research takes place.</p> <p>This helps analyse intergenerational difference in a multinational company, and could draw on multiple aspects of research context e.g. cultural aspects.</p>
Community	<p>Community in an activity system refers to all individuals who share similar goals or interests, for instance, workers in the same department, the department is considered to be the community in this context.</p>	<p>Following the principle of multi-voicedness, it involves the interaction of several people in the same community.</p> <p>In this research, the community is all the employees in the company, from the same and different departments working towards the similar goals. It explores how people in the same community interact and behave.</p>
Division of labour	<p>Division of labour describes different tasks, roles and responsibilities of individuals in the community engaging in an activity to achieve the desired outcome.</p>	<p>It includes different task allocation and work roles for each employee in the company to understand organisational structure and hierarchy in the company.</p> <p>This also can analyse the interaction between different work roles, authorities and hierarchy in the organisation.</p>

These six elements of activity systems help the researcher understand and interpret the situation, and explore people's activity, their use of tools and their roles in the community more clearly as the activity systems provide a distinct background to analyse the context of the situation. It also facilitates the researcher to structure the data collection and data analysis, and especially helps to consider what to include and exclude during data collection as well as data analysis.

The next section will outline the principles of activity theory and the implications for this study.

3.4.4 Principles of activity theory

The principles of AT provide an insightful analysis of the activity systems of this study setting. The principles allow the researcher to understand the context of this research more deeply in the way that not only does it facilitate the understanding and interpretation of the context of the situation, but also it can identify what should be considered in the process of data collection and analysis. Hence, this research adopts the current principles of the third generation of activity theory, which consists of five principles, according to Engeström (2001, p. 136-137). The principles and their implications for the study context are discussed in Table 9.

Table 9 Principles of activity theory and its implications for the study

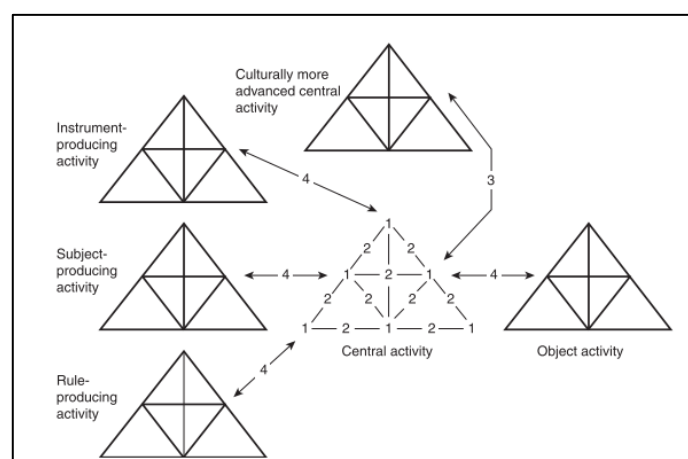
Principles	Implications for the study
<p>1. A collective, artefact-mediated and object-oriented activity system.</p> <p>This means that the unit of analysis considers the background of the entire activity system. Each element of the activity system is related as well as individual and goal-directed group actions and operations are said to be part of the units of analysis.</p>	<p>Collaborative information behaviour (CIB) is the unit of analysis. CIB is a complex context to analyse. This principle helps the researcher discover there are several activity systems involved when studying CIB, and to frame activity systems of this multinational company (e.g. company goals, tools they use to collaborate, who is involved in the system).</p> <p>It facilitates data collection to structure methods that allow the researcher to find out about the activity systems and work processes of the company (e.g. company documents, observation, interview). Also, it helps consider participants in terms of who should be involved in the activities, what positions they hold in the activities (organisational structure), and how these aspects influence the activity in general, and other related elements (e.g. organisational culture).</p>
<p>2. Multi-voicedness of activity systems.</p>	<p>It helps identify that there are several communities involved in the setting, and they have different and diverse viewpoints within the overall setting, which have to be considered in the CIB context.</p>

<p>In an activity system, there are multiple layers and viewpoints from the culture and history of participants in the activity system, which can be a source of trouble and a source of innovation that requires individuals to negotiate and take actions in the community.</p>	<p>The multi-voicedness principle takes the researcher through the structure of data collection to include viewpoints from several communities and voices from stakeholders in the overall setting to study CIB (how they view using social media and other tools for collaboration with different generations).</p>
<p>3. Historicity. The activity system has its own history, meaning it changes and transforms over a period of time. To comprehend transformations and cycles of an activity system, it can be understood through its local history, and history shapes the activity.</p>	<p>It is useful to consider the history and transformation of the information behaviour and the different generations' use of tools to understand social media behaviour more deeply.</p> <p>This can identify how collaborative information behaviour has changed over time and find out what tools they adopted in the past and present, and what changes and transformations influence the current collaborative information behaviour in order to explore the intergenerational difference and social media use in this setting. It is an important issue to analyse in CIB, and doing so helps the researcher frame interview questions concerning the former tools.</p>
<p>4. The central role of contradictions as sources of change and development.</p> <p>Contradictions cause tensions within and between activity systems to change and transform the activity.</p>	<p>Given the complex CIB context, contradictions help to understand that disturbance can emerge and destabilise the interaction within activity systems. This principle facilitates identifying what barriers and differences can be caused in the CIB and intergenerational difference context of the study. It is mainly related to one of the research questions to discover barriers, and develop and manage such issues.</p> <p><i>*The concept of tensions and contradictions of AT is discussed in section 3.4.5*</i></p>
<p>5. Expansive transformations in activity systems.</p> <p>An expansive transformation occurs when there is a reconceptualisation of the object and motive of the activity to accept a wider horizon of potentials than the former mode of the activity.</p>	<p>This allows the research to consider that use of social media offers the company the possibility to remodel the object and motive of the activity and transform the activity. It is an important issue about how social media use and intergenerational difference in this particular setting can transform the current mode of activity to a new mode. It can be applied in the analysis in terms of how social media and intergenerational difference influence work activities in this particular setting.</p> <p>This helps the researcher include what related issues need to be collected and analysed in the research.</p>

In addition, the concept of tensions and contradictions in activity theory is further explained in the next section as it is part of the principles and is helpful for the research to discover what causes contradictions in activity systems. The identification of contradictions and tensions offers an understanding of what and how activity leads to change and transformation of current established rules and norms people engage in (Karanasios, 2018). That is, the contradictions and tensions allow the researcher to identify deviation of activity from the rules and norms people established. It is useful to identify the levels of contradictions in order to understand and be able to explain how different generations use social media and how it affects established rules and norms of the organisation, as well as how the activity has changed and transformed due to the social media use influenced by the intergenerational difference.

3.4.5 Tensions and contradictions of AT

In AT, tensions and contradictions are one of the key analytical tools. They are a “source of change and development”, and are “accumulating structural tensions within and between activity systems” (Engeström, 2001, p. 137). Contradictions cause disturbances and conflicts, but identifying contradictions in an activity system can facilitate in finding the root of a problem (Engestrom, 2000). The contradictions and tensions of activity systems are seen as opportunities to promote transformations when they occur within and between activity system (Karanasios, 2018), and this is viewed as a positive sign for an activity to develop rather than a negative outlook (Blackler, 2009; Engeström, 1987; Foot and Groleau, 2011; Foot, 2001, 2014). According to Engeström (1987, p.71), there are four levels of contradictions, as displayed in Figure 8.



**Figure 8 Four levels of contradictions
(Engeström, 1987, p. 71).**

1) Primary contradictions

The primary contradictions occur within one component of an activity system. For example, a tension happens within a subject in the activity. It could probably mean that there are disturbances within individuals in the activity systems, which influence other elements to be disrupted.

2) Secondary contradictions

The second contradictions occur between two components of the system, e.g. between rules or the division of labour. Engeström (2001) mentioned that, when a new element is adopted, it usually leads to secondary contradiction. For example, when social media is implemented in an organisation, it can cause tension to the existing tools and individuals in the activity systems. As a result, there are contradictions between two elements in the activity systems, the subject and the tool.

3) Tertiary contradictions

The tertiary contradiction of an activity system is the “object and motive of a culturally more advanced form of the central activity into the dominant form of the central activity” (Engeström, 1987, p. 71). The tertiary contradiction occurs when the current activity is a more advanced form of activity (Forsgren and Byström, 2018).

4) Quaternary contradictions

The quaternary contradictions emerge “between the central activity and its neighbor activities” (Engeström, 1987, p. 71). This fourth type of contradiction occurs between the current activity and outside the activity systems.

By investigating the contradictions, misfits or blockages within interaction and collaboration are revealed (Karanasios et al., 2021; Kuutti, 1996) in the activity systems in the MNC. This research is interested in understanding the contradictions when social media became the tool in the MNC and how that changed or influenced the CIB activities and intergenerational difference in the multicultural work environment. It will help in identifying how different generations use social media and the barriers of social media use that are influenced by the intergenerational difference. Identifying contradictions is also a sign for development, which enables this research to

understand the way to manage the ability to share information effectively in the MNC to improve internal collaboration.

The next section will discuss three potential theoretical frameworks that were considered: social network theory, structuration theory, and actor-network theory.

3.4.6 Alternative frameworks

This research also considered alternative frameworks during the initial stage of the research. After contemplating these alternative frameworks, activity theory was found to be the most appropriate and provides advantages to this study. This section explains the other three frameworks that were considered: 1) social network theory, 2) structuration theory and 3) actor-network theory.

1) Social network theory (SNT)

Social network theory (SNT) has been applied in many areas of study to analyse structures of social networks and to describe complex patterns of connection within the connections of individuals or organisations (Lee, 2018; Scott, 1988). SNT analyses the patterns of behaviour, interaction, relationship or ties between actors through these relationships (Schepis, 2011; Scott and Carrington, 2011). SNT can assess indirect and direct relationships within a network of individuals to depict a general understanding of the social structure of actors in a community and/or organisation (Mandarano, 2009) and network density within actors in a particular social setting (Brown and Reingen, 1987).

However, although SNT can help understand phenomena in this research context, it is not chosen for this study. It is true that social network theory enables the understanding and uncovering of relationships between individual actors, the nodes (Lee, 2018). Yet, while there are multiple aspects to this research, the social network theory would not facilitate the research to cover all aspects that it aims to explore in terms of the complexity in the MNC context. The key aspects of this research are to understand the overall complexity in the MNC and the totality of influences by looking at this situation and context in a holistic view, to analyse the interplay of various factors and how these factors influence each other in the complex situation in the MNC, and to identify the barriers and contradictions of the intergenerational difference in the MNC. This framework can discover the relationship between individuals in the social reality, but is less

capable of drawing out such multilayers and complexity in the MNC setting this research aims to explore.

2) Structuration theory

Structuration theory is also considered as it is widely known in information research (Jones and Karsten, 2008). According to the theory, structuration theory enables analysis of social structures based on rules and resources influenced by social action, and social structures can be changed over time if there is a force influencing human actions to reproduce certain behaviour or activity (Giddens, 1984). The concept is based on a duality of structure and the production and reproduction of social systems based on rules and resources. Structuration theory can provide a holistic understanding of the production and reproduction process of the organisational structure in this study, and it can help in studying technology in the MNC as the work of Orlikowski and Robey (1991) and Orlikowski (1992) also used structuration theory to study technology in organisations.

However, it is less capable of drawing out relevant aspects related to this research, for example, cultural aspects, as it is criticised that structuration theory focuses more on actions taken by individuals and their power than structure, in which cultural dimensions of the social structure are absent (Kort and Gharbi, 2013). Therefore, structuration theory is not selected because this research is a study of human behaviour and interaction and intergenerational difference in the MNC, in which cultural aspects are accounted for in the interplay of factors that this research aims to investigate in this context.

3) Actor-network theory (ANT)

Actor-network theory (ANT) is another theory that emphasises relationships between human and non-human actors (Latour, 1987). ANT emphasises the concept of mediation, which is similar to AT (Karanasios, 2018), and it analyses situations where these relationships between human and non-human actors are difficult to separate (Callon, 1999). ANT enables the analysis of intergenerational difference and social media use to understand and explore motivations and actions of such relationships in a community (Walsham, 1997). However, ANT has its own limitations, as Tatnall and Gilding (1999) indicated that it considers all actors, and the relationships of humans and non-humans are equal in this approach, which means it balances the power between humans and network.

This would be in line with this research because it aims to understand and analyse the role of social media as the CIB tool and several aspects around the use with CIB and intergenerational difference in the MNC context. When human and non-human actors are not separable in actor-network theory (Shaanika and Iyamu, 2015), the whole network can only be understood in the context of all actors (human and non-human) that complement the network system, and, if one actor in the system is missing, it would affect the whole network system. This would not allow the research to identify different roles of actors and the use of tools influence the system in complex and multiple perspectives of this research context.

Similarly, there is a limited analysis of social structures in that it only allows the analysis of the networked community and does not allow the broad analysis of social structures (Walsham, 1997). This research involves a wider analysis of context, meaning the interplay of different factors is involved in the analysis as these factors could influence actors and different elements of the context, for example, the influence of national culture on organisation and/or social factors and geographical factors affect how different generations use social media and behave in the community. Consequently, ANT is not chosen because the limitation in the scope of analysis does not support an exploration of the multiple views of the context.

After the review of these three relevant frameworks, it was found that they have some properties and strengths that would enable analysis in this study; however, some limitations can be found, as described in this section. Table 10 summarises the three theoretical frameworks and lays out the strengths and weaknesses of each one.

Table 10 Comparison of alternative frameworks

Theoretical Frameworks	Strengths	Weaknesses
Social network theory	- It can be used to analyse social structures and relationships within the network, and understand phenomena (Scott, 1988; Lee, 2017; Mandarano, 2009).	- Unable to analyse multiple perspectives of the research context. - Unable to draw out barriers and differences of intergenerational difference in organisational activity.
Structuration theory	- Provides a holistic understanding of organisational structure (Giddens, 1984).	- Unable to analyse multiple perspectives of the research, e.g. culture (Kort and Gharbi, 2013).
Actor-network theory	- Explores motivation and actions of relationship between intergenerational difference and social media in the community (Walsham, 1997).	- Since it considers these relationships equal entities, it is difficult to investigate work activities and the role of social media use in an organisation from several aspects (Walsham, 1997; Tatnall and Gilding, 1999). - Limited analysis of social structures (Walsham, 1997).

However, activity theory is the most suited framework to guide the data collection and analysis of this research because it offers advantages over these three alternative frameworks. The following section will outline why activity theory is chosen to frame this research.

3.4.7 Rationale behind using activity theory

This section sums up why this research selects activity theory as a methodological and analytical tool. The rationale behind using AT is due to its suitability for the study. AT can provide appropriate approaches, and it supports the philosophical positions of this research. Table 11 summarises four critical reasons behind using AT and the qualities of AT offered to the analysis.

Table 11 Rationale for using activity theory

1. Theoretical framework	<ul style="list-style-type: none"> - It is an effective framework to unpack the complex real-life phenomenon in this research context (Kaptelinin, 1996; Wilson, 2008). - The unit of analysis is an activity, which analyses human activity and interaction and the role of tools in their social context (Mishra et al., 2011).
2. Macro and micro analysis	<ul style="list-style-type: none"> - Provides an holistic view of how individuals collaborate and interact during their collaborative work activities and the role of social media (Mishra et al., 2011). - The cultural and historical aspects of AT can be used to analyse the complex and evolving structure of CIB activities and social media (Foot, 2001). This helps to capture how CIB activities in the MNC developed to social media use. - The structure of an activity system provides a micro level of analysis of how an activity is established and how each element is mediated by other components in the activity system (Engeström, 1987), which can help in analysing the interplay of multiple factors influencing CIB (e.g. CIB, social media use, intergenerational difference, and the cultural difference in the MNC).
3. Contradictions and tensions	<ul style="list-style-type: none"> - The principles of contradictions and tensions can identify the root of problems (Engestrom, 2000). They can analyse the barriers and differences of people from different generations and the role of social media in the organisational setting.
4. Intergenerational difference	<ul style="list-style-type: none"> - The multi-voiced principle (Engeström, 2001) allows the researchers to consider perspectives concerning the culture and history of individuals in the community to explore the different attitudes and behaviours of generations using social media to carry out CIB activities.

AT can be employed to understand the overall complex issues in the research context because it is an effective framework for understanding of complex real-life phenomena (Kaptelinin, 1996; Wilson, 2008). AT analyses human information behaviour in a collaborative work setting (de Souza and Redmiles, 2003), and helps in investigating information behaviour in everyday life

(Allen et al., 2013). This is to understand how individuals interact and collaborate and how social and cultural influences affect their actions in their environment, as well as it can assist in discovering why individuals are performing a certain activity (Mishra et al., 2011), which can assist in exploring how social media is implemented in a collaborative work setting.

Moreover, AT offers macro- and micro-level analysis of activity as the unit of analysis of AT is activity, which permits understanding of the holistic approach to the human interaction and work activities context with their environment (Mishra et al., 2011). AT provides an analysis of the cultural and historical aspects of an activity, which can analyse the complex and evolving CIB activities and the role of mediating tools in the MNC (Foot, 2001). This helps in understanding the roles of social media and intergenerational difference in the study setting, and how CIB activities in the MNC developed to incorporate social media. Also, through the analysis of activity systems, multiple perspectives on the context can be unfolded. The activity system structure consisting of six components extended by (Engeström, 1987) provides a fundamental concept of how an activity is established and related to other components in the activity system. The collective, artefact-mediated and object-oriented activity system also helps the researcher identify and detail the objective of organisational activities and the relationship between and within each element; how they are mediated by other different components in the activity systems because, in AT, humans or actors have roles and can contribute to activities within their environment or community (Shaanika and Iyamu, 2015).

The multi-voiced principle (Engeström, 2001) allows the researcher to consider perspectives of the culture and history of individuals in the MNC, which enables an analysis of the attitudes and behaviour of different generations when they use social media to carry out their collaborative information-sharing activities. The concept of contradictions and tensions developed by Engeström (1987) also assists in identifying contradictions in the activity system; and how social media is implemented in the organisation, including barriers to and differences of communication in the organisation. It can draw out the differences of human activity and interaction, especially how individuals adopt, behave and interact with information differently via the tool (social media) in their environment, rules, community and division of labour. This is a key area to understand a micro analysis of the intergenerational difference, and to be able to unpack barriers and differences influenced by the generational difference and use of tools.

Importantly, AT has been used in understanding the complex real-life phenomenon in similar subjects in this study, which laid the ground for this research context. For instance, it has been explored in the subject of collaborative activity (de Souza and Redmiles, 2003; Engeström and

Pyörälä, 2020; Foot, 2015), the role of technology (Allen et al., 2011; Karanasios and Allen, 2014), social media (Dennen, 2014; Forsgren and Byström, 2018; Forsgren et al., 2018), intergenerational groups and technology (Convertino et al., 2007; Heo and Lee, 2013) and the MNC context (Malaurent and Karanasios, 2020; Marken, 2006). Additionally, AT supports the philosophical positions of this research and guides it to the research design and data analysis. The elements of activity systems, and principles of AT help structure the data collection, which led to the investigation of this study's research questions. The following section will explain how AT is applied in this study.

3.4.8 The implication of AT in this study

Having introduced the history and nature of AT in section 3.4.2, the third generation of AT is adopted in this research. The third generation highlights the interacting activity systems with a shared objective, while separately they have different functions in their activity systems. Figure 9 below depicts an analysis of how this research conceptualises the third generation of AT to the research context.

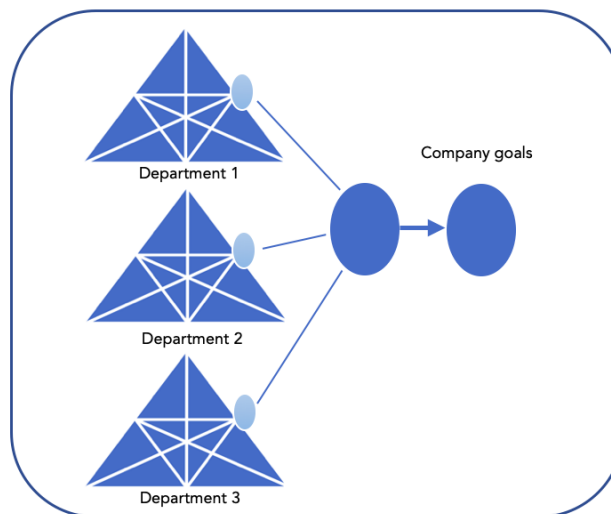


Figure 9 The implication of activity theory in this study

This research explores the overall complex issues in the MNC setting and the interplay of CIB, social media use, intergenerational difference, and cultural difference in the MNC. This research will draw upon the cultural-historical development of activity systems (Chapter 4), activity systems (Chapter 5), interacting activity systems (Chapter 6), the structure of activity (action and operation) (Chapter 6), and tensions and contradictions (Chapter 6) as the analytical tool to understand the complex reality in the MNC. The cultural and historical activity systems provide the understanding of the background history and how the MNC was culturally and historically

developed to the current stage of social media use. For the activity system, this research used it to analyse CIB activities when social media was the mediating tool along with other existing tools in the MNC.

The interacting activity systems in the third generation can represent CIB activities in the MNC. In AT, interacting activity systems are at least two activity systems interconnected with a shared object, while each activity system has a different object. By applying this, this research focuses on departments in the MNC working towards shared company goals. Each department has its own activity system and object, but, when they interact, they share similar organisational goals, which influences all departments to collaboratively share information to accomplish the goals, and different tools can be used and developed in pursuing a common object (Daniels and Warmington, 2007). For example, the Marketing department has its own activity system, as does the Publicity department. Both work towards shared company goals, they collaborate as one of the interacting activity systems to achieve the goals; at the same time, they adopt different tools, mediating artefacts in the interacting activity systems to achieve the goals.

The third generation will capture CIB activities in the MNC and the overall complexity in the MNC. The structure of activity – action and operation – will help explore the differences in generations when social media is the predominant tool in the MNC. The concept of action and operation will point out the approach of intergenerational difference and the use of technology for CIB activities because different generations prefer to use different tools and they have developed familiarity with tools differently, as claimed by various studies. The action and operation will examine the behavioural patterns between digital natives and digital immigrants, specifically how they use social media to share information in a collaborative setting.

Furthermore, the tensions and contradictions will be used to draw out how deviance from the well-established rules and norms unfolds in the activity systems (Karanasios, 2018; Karanasios et al., 2017). By identifying the contradictions, it is possible to elucidate the interplay of CIB, social media use, intergenerational difference, and cultural difference influencing the complex situations in the MNC and whether these factors are significant in the context. Importantly, this enables an analysis of intergenerational difference and the different generations' approaches to technology, and allows the researcher to draw the barriers and differences influenced by different generations and social media use in the MNC. It can also illuminate the way to develop and manage the ability of an organisation to share information effectively in a multicultural environment like the MNC setting.

Consequently, this is how the third generation of activity theory is adopted in the research to explain CIB and intergenerational difference use of social media through interacting activity systems, the structure of activity, and tensions and contradictions. The next section describes the research design and data collection.

3.5 Research design

As discussed in section 3.3, this research applies a qualitative approach to investigate the research questions because the research takes an interpretivist and social constructionist philosophical position. This section demonstrates the implications for the research design and methods based on the philosophical and methodological choices and AT as the theoretical framework. The section discusses the case study approach to be applied in this study, research site and participants, data collection and data analysis.

3.5.1 Case study approach

A case study is “a research strategy which focuses on understanding the dynamics present within single settings” (Eisenhardt, 1989, p.534). It studies a current phenomenon in its real-world context (Yin, 2014). In case study research, the ‘case’ might refer to an individual, a group, an organisation, an event and many types of cases (Saunders et al., 2016). Case study research seeks to answer ‘how’ and ‘why’ forms of research questions (Yin, 2014, Eisenhardt and Graebner, 2007), which allows the researcher to study an in-depth phenomenon of the research context.

This research adopts a case study approach to explore the overall complexity of the MNC setting and the interplay of CIB, social media use, intergenerational difference, and cultural difference in the MNC, using a single case as the setting. The MNC setting is an appropriate one to investigate the interplay of different factors because it is an effective setting to provide the reality in a complex MNC, which this research aims to discover. Along with AT, it is possible to explore the real complex MNC setting and the role of social media, and the interplay of different factors influencing each other in the situation. Moreover, the rationale behind choosing a case setting approach is due to three factors. The first rationale is the research questions of this study. The purposes of this research are to answer ‘how’ generations differ in using social media to collaborate and communicate in a multinational company setting, and ‘how’ the issue of intergenerational difference should be managed to improve internal efficiency. According to this,

case study is an appropriate method to provide rigorous answers to 'how' and 'why' questions (Yin, 2014, Eisenhardt and Graebner, 2007).

Second, the case setting is suitable for this research as it only intends to observe and explore human behaviour, and Yin (2014) indicated that there is little or no control of behavioural events when conducting case study research. The third rationale is that the study is a contemporary phenomenon (Yin, 2014). The case setting also focuses on in-depth investigation and specific topics as well as provides a rich and real-life phenomenon (Eisenhardt and Graebner, 2007). Similarly, it aims to understand the dynamics situation within single settings (Eisenhardt, 1989). This provides benefits in exploring the case of a multinational company setting.

Furthermore, case study research involves one case or multiple cases with four types of design for case studies (Yin, 2014). This research will be using a single case setting for further investigation. Although a single case study allows the researcher to focus on a single experiment (Yin, 2018), the researcher is aware of validity (construct validity, internal validity and external validity) and reliability issues with a case study approach. Using multiple cases provides a stronger result and offers more opportunity (Bryman, 2012; Yin, 2014), but a single case study can describe a phenomenon clearly (Siggelkow, 2007) and offers the capability to draw out a crucial phenomenon from unconventional or exceptional situations (Eisenhardt and Graebner, 2007). Bryman (2012) also mentioned that multiple cases are not always convincing to some researchers as it means researchers focus more on the entire picture rather than paying attention to the specific context. This study will implement a critical case study to avoid such issues as a critical case study allows researchers a better understanding of specific circumstances (Bryman, 2012). It is also appropriate for the research scope, and the researcher is able to pay full attention to the case to make a contribution to knowledge and theory building (Yin, 2014).

Therefore, the single case setting approach along with activity theory were used to direct and structure data collection and as an analytical tool for data analysis in this research. In this research, the case setting is carried out at a major Japanese car distributor in Thailand (MJCD) where multiple sources of data are collected through document analysis, observation, focus group interview and semi-structured interviews. The following section explains more about the research site and participants.

3.5.2 Research site

In terms of sampling strategy, purposive sampling was used to select the case setting of this study. Purposive sampling is seen as the most common sampling strategy for qualitative research, and samples are selected when researchers have the goals of the research in mind and select strategically according to the goals and relevant criteria of the research (Bryman, 2012).

Since the main objective of the research is to study social media use as a business communication tool in aspects of CIB and intergenerational difference in the MNC setting, in order to conduct the fieldwork, a potential organisational setting should have relevant criteria for the study. First, it has to be an MNC. Second, the adoption of social media should be present. Lastly, there should be a mix of generations, from Baby Boomers to Generations X, Y and Z, as the population in the MNC.

Prior to conducting the research, the researcher received a good opportunity because a Managing Director of an MNC for which a family member worked was willing to provide academic support. A meeting was arranged with this Managing Director to discuss this PhD research project. This offered the researcher an opportunity to become familiar with the potential sample before the decision to conduct the case setting at this particular organisation. At this stage, primary background and overall organisational work activities were discussed. Then, it was discovered that the company had the following characteristics for the study:

- Multinational company setting: the research site is a branch company; however, is influenced by host country and local culture. The setting of this company is multinational.
- Social media use: social media is employed as a predominant communication and collaboration platform among employees within and across teams throughout the organisation alongside other tools such as office telephones, email and face-to-face meetings.
- Intergenerational difference: there is a mix of generations, from Baby Boomers to Generations X, Y and Z in the MNC. The majority of employees are Generation Y, or so-called Millennials, which refers to technology-driven generations and digital natives in this research. Gen Y and Z employees were mainly in operational positions and a few Gen Y were in middle-management positions, while Baby Boomers and Gen X occupied the top management positions.

Considering these three major features, the company was suitable for the fieldwork study. The researcher was granted permission to conduct the research project at the MNC by the Managing

Director on 15 August 2017 (see Appendix 7). Consequently, this research conducted the case setting at a major car distributor located in the North East region of Thailand. The company is a branch company of a multinational Japanese automobile company. The company follows the work ethics and operation, organisational culture and tradition from the parent company in Japan and the head office in Thailand, as well as following its own national and local culture. The next section discusses the participants and the participant criteria.

3.5.3 Participants

Literature suggests that studying generational difference is important to understand birth year and how individuals shared experiences in their formative years (MacKenzie Jr and Scherer, 2019). This study identified the generational membership and behavioural differences of generations based on both their birth year (Stanton, 2017) and technology-related experiences (Ghobadi and Mathiassen, 2020; MacKenzie Jr and Scherer, 2019). Technology-driven generations refers to 'digital natives' or 'younger generations', who are more experienced with technology, and 'older generations' refers to 'digital immigrants', who were introduced to technology in their adulthood. Purposive sampling was also utilised for participant selection. A set of criteria were applied to classify technology-driven and older generation participants. The participant criteria are presented in Table 12 below and it is based on Stanton's (2017, p. 260) classification of generational difference by birth year.

Table 12 The classification of age groups

Technology-driven generations (Digital natives)	Older generations (Digital immigrants)
<ul style="list-style-type: none"> - Born 1980 to 2000: Generation Y, Millennials - Born after 2001: Generation Z 	<ul style="list-style-type: none"> - Born 1922 to 1943: The Veterans, Traditionalists, or Silent Generation - Born 1943 to 1963: The Baby Boomers - Born 1964 to 1979: Generation X, or Generation X'ers

In terms of the technology-related experiences, the researcher identified their familiarity and experience using technology based on their age when they adopted technology (Ghobadi and Mathiassen, 2020), frequency of technology use, and tool preferences in the organisation, in which participants were asked general questions during the interview greeting sessions as well

as in the interview questions (Appendix 11). The participant recruitment process, as illustrated in Figure 9 below, is based on a voluntary agreement. A participant information sheet and participant consent form were provided and sent to the Human Resources department to recruit voluntary participants. The researcher informed the HR manager of the criteria regarding the age groups and technology-related experience of participants. From the beginning, participants were informed that it is part of the research process to enquire about their age and birth year during the data collection process. It took around six weeks for participants to agree to take part in the study and receive their signed forms. Once the forms were collected, it took another six weeks to arrange appointments for the fieldwork and interviews.

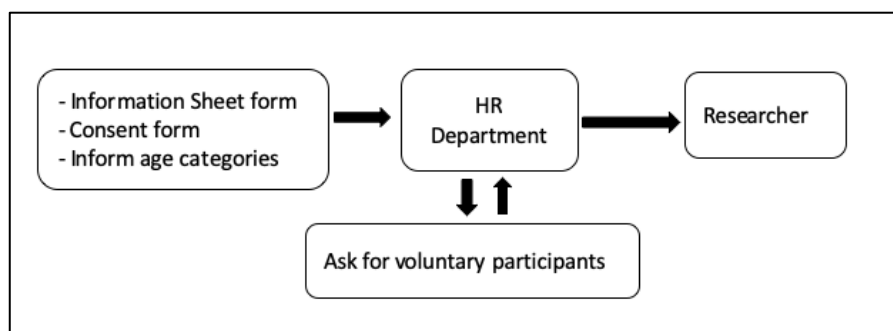


Figure 10 The participant recruitment process

Although the HR manager reported that there were four generations in the company, only three generations – Baby Boomers, Gen X and Y – voluntarily agreed to participate, and Gen Y made up the majority of the participants. This could present a challenge in this study to investigate the three generations when Gen Y participants dominate the Baby Boomer and Gen X participants, as it could potentially bias the results, which could lean towards the dominant generation. However, the researcher consulted with participants (participant validation) to validate the trustworthiness of the findings (Birt et al., 2016).

The next section provides an explanation of the data collection of this research.

3.5.4 Data collection

This research adopted four qualitative methods to collect data during the fieldwork: observation, document analysis, focus group interview and semi-structured interview. The reason for using the four methods is data triangulation (see section 3.7). Triangulation is when researchers use multiple sources and methods for investigation to validate the accuracy of the study (Creswell and Poth, 2018). This allows more accuracy of the study, which has advantages for many

researchers. Table 13 illustrates the stages of data collection applied in this research as well as how each stage can help structure data analysis with activity theory.

Table 13 Data collection procedures

Stage	Methods	Link with AT	Duration
1	<p><u>Document analysis</u> Review company documents to understand company information and history and become familiar with the company at the initial stage. There are two types of documents reviewed: online documents (company website) and offline documents (provided by Human Resources department). <u>Online documents</u>: company information, work ethics, policies and management. <u>Offline documents</u>: company policy, company rules and regulations document, Human Resources training materials.</p>	<p>- Identify rules and norms and company history (principle of historicity).</p>	<p>1 day before the fieldwork.</p>
2	<p><u>Observation</u> This process allows the researcher to become familiar with the work environment and management. The observation was completed as follows: - Company morning routine - Attending meetings (company meeting, department team meeting, and top management meeting). - Observe organisational work environment and work context, and organisational culture. - Explore how they collaborate and tools they adopt. <i>*Tools used during the observation process: fieldnote*</i></p>	<p>- Identify subject, tools, object, community, division of labour, and interacting activity systems. - Understand work activities and processes.</p>	<p>14 Days</p>
3	<p><u>Focus Group interview</u> 8 Participants Objectives of focus group interview - It provides participants with a chance to discuss the key topics of collaboration, social media and intergenerational difference in the company which they are facing. - It allows the researcher to understand the nature of the problems and the organisational culture.</p>	<p>- Highlight tensions and contradictions.</p>	<p>1.5 Hour</p>

	<p>- It helps the researcher to highlight key areas to frame interview questions and adjust the questions before interview.</p> <p><i>*Tools used during the observation process: video camera, voice recorder, researcher's notes*</i></p>		
4	<p><u>Semi-structured interviews</u></p> <p>- 30 voluntary participants from 9 departments.</p> <p>- Generations: Baby Boomers, X, and Y.</p> <p>- Positions include top-level management, middle-level management, and operational-level management.</p> <p><u>Key areas of interview questions:</u></p> <p>1) Collaboration and information behaviour.</p> <p>2) Social media use in the company</p> <p>3) Barriers and differences of social media use and intergenerational difference.</p> <p>4) Intergenerational difference in the company.</p> <p><i>Tools used during the observation process: voice recorder, researcher's notes*</i></p>	<p>- Analyse elements activity systems and interacting activity systems.</p> <p>- Identify contradictions in the activities.</p> <p>- Macro and micro analysis of the phenomenon to investigate research questions.</p>	<p>Average interview time per person is 1 -1.5 hour.</p>

3.5.5 Document analysis

In qualitative research, document analysis can be a wide range of documents such as personal documents, official documents from public organisations or official documents from private organisations (Bryman, 2012). Creswell (2014) claimed that document analysis allows the researcher to understand the language and words of participants.

Following AT drives this research to investigate the cultural and historical aspects of activity systems in the MNC setting. According to this research, document analysis is undertaken in the initial process prior to other methods because the objective of document analysis is to gain a primary understanding of the selected MNC's background and policies. Document analysis also helps discover rules and norms of activity systems. Two types of documents were reviewed: online and offline documents. Online documents that were used for the analysis include corporate background and history, company report, and company work ethics and guiding principles. These

documents were available on the parent company's website and head office's website. At this stage, the key was to understand what the rules and norms were and how they were culturally and historically established in the MNC. The second type of document was provided by the HR department. It was the company guide, which was an employee package that included company policies, rules and regulations. Reviewing these documents helped identify the rules and norms and background of the company for the data analysis.

3.5.6 Observation

The observation was completed after the review of company documents as an unstructured observation also called non-participant observation. An unstructured observation is one where the observer does not use an observation schedule to record the behaviour; the purpose is "to record in as much detail as possible the behaviour of participants..." (Bryman, 2012, p. 273). By observing behaviour, the researcher can record information and participants' behaviour, notice unusual aspects during the observation process, and explore topics without creating tension for the participants (Creswell, 2009).

The observation was conducted to explore human behaviour and activity in the surroundings and environment of the chosen MNC, and to understand how people work individually and collectively in such a setting. Basically, the objective of observation is to allow the researcher to observe the work environment and organisational culture, and familiarise themselves with the company and people. Additionally, the company also has time to become familiar with the researcher. Observation is an essential step to frame the interview questions and approach, and it allows the researcher to plan how to approach and ask participants questions properly to prevent barriers to communication in the interview process. AT also guides the observation process to prepare for what the researcher should discover in the situation through the lens of AT (Hasan and Kazlauskas, 2014). It helps observe the overall situation to identify subject, tools, object, division of labour, community, and interacting activity systems in the MNC to understand the complex reality and the totality of influences.

It took two weeks to complete the process of observation. The observation started at 8 am and finished at 5 pm daily, according to the office hours. The researcher observed the company's morning routine on a daily basis. The reason for observing this activity is because it is a compulsory activity in which every employee has to participate and it is considered part of their organisational culture. It was useful to understand the overall organisational culture and work environment from this activity. During the first week of observation, all nine of the company's

departments were completed in one week, i.e. two departments in one day. This was to investigate CIB activities by understanding how employees in different departments work and collaborate, and what tools they implemented in their work activities.

During the second week, the researcher was an observer in organisational meetings; there were three meeting settings: company, department and top management. At this stage, it was helpful to identify the objects and shared object, tools employed during collaboration, communities being involved, division of labour in the activity, and contradictions that may occur during their work activities. After the observations were completed, the focus group was conducted. The motivation for the focus group session was to confirm the research problems and issues of social media and intergenerational difference before diving into interview sessions.

More importantly, another non-participant observation was conducted. Since the research focuses on understanding the collaborative information behaviour and social media use in a multinational company, it is worth seeing how people use social media during their collaborative information activities in real situations. The top management team allowed the researcher to conduct a non-participant observation to observe how the multinational company collaborated and shared information on company social media group chats. The researcher received the invitation to participate in five social media group chats from an Executive Vice President, and all of them were sales teams' group chats. It is important to note that all participants in the group chats were voluntary and all were informed that all the information would be confidential and anonymised in case any of it was used in the research. The researcher observed group chats for two weeks with no participation. Observing the social media group chats enabled the researcher to see a clear picture of how collaborative information-sharing activities are carried out in the multinational company and how employees of different generations and positions interacted in them.

3.5.7 Focus group interview

The focus group interview was completed after the non-participant observation. A focus group interview is a group interview (Denzin and Lincoln, 2018) which enables participants to discuss certain topics in an informal setting (Silverman, 2016). In focus groups, the number of participants is around six to eight people who share similar characteristics (Creswell, 2014; Silverman, 2016).

For this study, eight employees participated (Appendix 1); all participants took part under a voluntary agreement, and they were given the chance to withdraw at any time during the focus group interview. The objectives for conducting the focus group interview were to allow participants of all generations to discuss collaboration, social media use and different generations in the MNC, and to draw out issues they are facing through their experience and opinion as employees in this MNC setting. Focus group questions were prepared after familiarisation with the company and completion of observation. The questions are open-ended questions and in line with the research questions. Through a lens of AT, focus group questions were also developed around the use of tools in the activity, who is involved in the activity (subject), and community (the international difference) in the MNC, generally how they use social media in the MNC for collaboration and work purposes, and the issues of the intergenerational difference in the MNC.

During the one-hour focus group interview session, tools that were used included video recording, audio recording and researcher's notes. In the focus group session, it was possible to identify contradictions and tensions in the activity systems briefly because participants were given a chance to elaborate about issues and problems and how they can cause difficulty in the MNC, which can be identified through activity systems such as subject, tools, community, etc. Importantly, a set of key topics unexpectedly emerged, for example, one barrier that can be influenced by generational difference in use of social media is language use by different generations. This directed the researcher to frame interview questions and modify the questions during the session because the issue was unexpected and the majority of literature has yet to discuss language use is a barrier for social media use and intergenerational difference. Consequently, interview questions about cultural aspects and the modality of social media use were added to the interview questions.

3.5.8 Interview

An interview is considered to be one of the commonly used and essential qualitative data collection methods (Qu and May, 2011). The reason for choosing the interview process is that an interview allows participants to give their opinion and experience, which is the main objective of this research. Semi-structured interviews were conducted with 30 participants (see Appendix 2 for participant information). The average duration of each interview session was one to one and a half hours per person, whereas it took more than one and a half hours with the top management positions.

In terms of interview questions, Bryman (2012) recommended Kvale's nine types of interview questions, which consists of introducing, follow-up, probing, specifying, direct, indirect, structuring, silence, and interpreting questions. The researcher followed the guidelines from Kvale's types of interview questions and maintained open-ended questions along the process to allow participants to express their opinions and views and avoid including the researcher's opinions. To complement the activity theory, an eight-step model (Mwanza and Engeström, 2005) was used to guide the interview questions as the model (Table 14) provides eight open-ended questions that are aligned with activity theory and is helpful in guiding the researcher to focus on each element of the activity system and multiple perspectives of the activity when conducting the interviews (see Appendix 11 for interview questions).

Table 14 Eight-step model (Mwanza, 2002)

Step	Identify the:	Questions to ask:
1	Activity of interest	What sort of activity am I interested in?
2	Objective	Why is the activity taking place?
3	Subjects	Who is involved in carrying out this activity?
4	Tools	By what means are the subjects performing this activity?
5	Rules and regulations	Are there any cultural norms, rules, or regulations governing the performance of activity?
6	Division of labour	Who is responsible for what, when carrying out activity, and how are the roles organised?
7	Community	What is the environment in which this activity is carried out?
8	Outcome	What is the desired outcome from carrying out this activity?

The interview questions were flexible, adapted due to situations, and contained open-ended questions to elicit participants' opinions. Key themes of the interview questions were: 1) collaboration and information behaviour, 2) implementation of social media in the company, 3) barriers to and differences of social media use and intergenerational difference, 4) intergenerational difference in the company, and 5) modality of social media use. In general, the interviews attempted to elicit participants to voice their opinions on these key themes, as these themes were generated during the focus group session. During each interview, an audio recorder was used to record the conversation between participant and researcher.

In addition, the interview is the major source of data analysis of activity theory. The interview questions were designed with relevance to the activity theory framework and research questions. During the interviews, the first questions the researcher asked each participant were general ones: their birth year, to specify their generation, their position and their department. The first part of the interview was about their views on social media use including frequency of use,

purpose of use and general opinion on using social media. The second part of the interview was more deeply focused on social media in the organisation and collaboration. Participants were asked to voice their opinion on what platform they use for collaboration, and what benefits social media brings to the organisation as well as disadvantages. The third part of the interview was about collaboration, social media and generational difference. Questions involved asking participants to explain barriers and difference when using social media with younger or older generations, how they collaborate with different generations, what tools they employed, and their views on using social media with different generations. The last part of the interview was related to the third research question, which was asking for recommendations to improve internal efficiency. The participants offered approaches to develop and manage such problems in the organisation. Additional questions were included during the interviews. Some of the questions were not prepared because of the unforeseen responses.

However, it was challenging for some participants to discuss in an in-depth manner – although this was not a problem for participants in middle and top management positions. Another aspect of the interviews is that they were all in Thai, and translated into English in the data analysis process, because the interviews were based in Thailand, and all the participants are native Thais. Thus, it was better to communicate with them in their language for a more accurate result. The translation was completed by the researcher. The interviews were recorded by using audio recording for transcribing and data analysis purposes, and the transcribed data was stored in NVivo 11 software for the coding process and data analysis.

The following section explains how the data was analysed after the data collection process, the software used for data analysis, and the process for validating the accuracy of the information.

3.6 Data analysis

The qualitative methods used for data collection include document analysis, observation, focus group interview and semi-structured interview. In the process of data analysis, the research used NVivo 11 software for analysing the qualitative data after the completion of data collection. NVivo 11 is used for storing transcribed data and coding. Similarly, activity theory is used to conceptualise and analyse data.

The first stage of data analysis was document analysis and analysis of observation field notes. Documents were uploaded to NVivo 11 for coding and handling. The company documents were collected to study rules and regulations in the activity system, and company background and

work ethics to understand overall organisational structure and culture. Then, rules and regulations on the company documents were categorised as *rules and norms*.

In the same way, field notes taken from observation were analysed to understand the whole phenomena of the context, how each department communicates and collaborates in terms of employing tools, their interacting activities, and established relationship between employees. This was performed through coding to classify subject, tools, object, community, division of labour, interacting activity systems, and shared goals of the company, in order to analyse work activities and processes based on the third generation of activity theory. In this stage, themes arising from the document analysis and field notes were initially put into categories based on the activity systems of AT, as shown in Table 15.

Table 15 Themes from field notes and document analysis

Activity theory	Themes from field notes and document analysis
Subject	CIB -intensive departments Routinised intensive departments
Object	Sharing information Collaboration
Outcome	Expected sales
Tools	Social media app: LINE Smartphone Telephone Email DDMS TOPSERV Face-to-face meetings
Rules and norms	Company rules, policies, work ethics, teamwork Company traditions Department routines
Community	Company employees
Division of labour	Top managers, heads of departments, operational employees

The second stage of the data analysis was transcribing the interviews from both the focus group interview and the semi-structured interviews with 30 participants. The interview records were

originally in Thai. The researcher used the original language of the interview data for analysis for data accuracy. Some relevant interview quotes were translated into English to include in the following chapters to present and discuss the findings. The transcribed data was stored securely according to university rules. Table 16 shows an example of a translated excerpt from a focus group participant.

Table 16 An example of a translated excerpt from a focus group interview

Question	Participant answers
<p>ในความคิดของท่าน ท่านคิดว่าอะไรคือข้อดีของการใช้ social media ในการสื่อสาร แชร์ข้อมูล รวมถึงใช้เพื่อการทำงานร่วมกันกับเพื่อนร่วมงาน หัวหน้าแผนกของท่าน</p>	<p>ประหยัดเวลาค่ะ และเวลาที่มีกรณีเร่งรีบที่ดิฉันต้องการที่จะติดต่อลูกน้องในแผนก แล้วไม่สามารถที่จะโทรศัพท์ได้ในขณะนั้น ดิฉันก็สามารถทิ้งข้อความไว้ในกรุปได้ ทุกคนก็จะเห็นกันหมด อีกข้อดีที่เห็นก็คือ ถ้าเกิดมีใครที่ได้รับมอบหมายงานแล้วไม่เห็นข้อความที่ส่งไป เพื่อนในทีมก็สามารถบอกกล่าวกันเองได้ เพราะบางครั้งการโทรลูกน้องในแผนก ลูกน้องก็ไม่สามารถรับโทรศัพท์ได้ อาจจะต้องลืตก้าวอยู่ เวลานั้น การพิมพ์ข้อความทิ้งไว้ใน LINE ก็มีประโยชน์มาก ๆ ค่ะ</p>
<p>Translation: In your opinion, what are the benefits of using social media to communicate, share information and collaborate with your colleagues, team mates, and your managers.</p>	<p><i>[Excerpt from focus group participant]:</i> “It saves my time. It helps me when I have urgent cases that I have to contact my team and I can’t call them at that moment, I can leave a message on the group chat and everyone can see it. Another benefit is that if the person I’m assigned the work for hasn’t seen the message, our colleagues can tell the person and help each other out. Sometimes when I call my team members and they aren’t able to receive the call as they might be busy providing service for customers at the moment, leaving message on Line Group is very beneficial.”</p>

After the transcription, the third stage was the coding process and generation of themes. In Vivo coding and thematic analysis were used to analyse data. Clarke and Braun (2006) recommended coding interesting topics to generate the first cycle of coding, then collate data related to each code, and search for themes by combining codes to create feasible themes and gather all data related to each feasible theme. In this study, In Vivo coding is utilised for the first cycle of coding to highlight actual participants’ phrases and words from the transcription (Saldaña, 2015). For this step, there were ungrouped words, as illustrated in Table 17. These ungrouped words were coded and gathered from the first cycle of coding that the researcher coded from participants’ actual words and translated from the original language (Thai) into English.

Table 17 Ungrouped words

Ungrouped words	
Company tools	Respect elders
Collaboration	Listen to elders
Sharing information	Hierarchy in society
Expected sales	Hierarchy in language
Broadcasting information	Seniority
LINE	Teamwork
Smartphone	Power/authority
Telephone	Company traditions
Email	National culture
DDMS	Organisational culture
TOPSERV	Hierarchy in language
Face-to-face meetings	Hierarchy in society
Social media use	Hierarchy in organisation
Familiarity with tools	Code of conduct
Frequency of tool use	Policies
Level of comfort	Company rules
Tool preference	Work ethics
Modality of use	KPI
Attitude towards technology	Business operations
Approach to technology	Employee training
Language barriers	Routines
Communication barriers	Modern business
Generation gap in language	Head office
Generational heritage	Parent company

Next, the researcher followed the recommended step by searching for themes and matching them with relevant data, and thematic analysis was applied for theme searching. At this stage, the research aim is to look for themes that are related to research questions, for example, social media use, collaborative information behaviour, collaboration, communication, information sharing, generational difference, barriers and differences. As a consequence, the main themes and sub-themes were identified. Table 18 shows the themes arising from this stage related to each research question. Main themes, as indicated in Table 18, were named after the research

questions, and sub-themes were selected for relevant themes from the ungrouped words (Table 17).

Table 18 Theme searching

Research question	Themes
<p>Research question 1: How do generations differ in use of social media as a business communication and collaborative information tool internally in a multinational company setting?</p>	<p>Main theme: Social media use</p> <ul style="list-style-type: none"> - Familiarity with tools - Frequency of tool use - Attitude towards technology - Generational heritage - Level of comfort
<p>Research question 2: What barriers and differences in such a setting can be caused by different generations use social media as a collaborative business communication tool?</p>	<p>Main theme: Barriers and Differences</p> <ul style="list-style-type: none"> - Modality of use - Language barriers - Generation gap in language - Respect elders - Listen to elders - Hierarchy in society - Hierarchy in language - Hierarchy in organisation
<p>Research question 3: How can such barriers and differences be managed and developed to improve collaborative information behaviour for internal efficiency?</p>	<p>Main theme: Improve internal efficiency</p> <ul style="list-style-type: none"> - Tool preference - Approach to technology - Communication barriers

The final stage of data analysis is interpretation and presentation of findings. Referring to the derived main themes and sub-themes, the interpretation began by describing each theme and supporting it with relevant data. Together with activity theory, the data is interpreted based on the third generation of activity theory and its principles. Thus, themes derived from the previous

stage were selected and built based on the activity systems in order to analyse subject, object, outcome, tools, rules and norms, division of labour, and community, and to identify the tension and contradiction that occurred within the activity systems. Table 19 portrays the final themes developed based on the analysis of the activity systems. The findings and AT analysis are discussed in Chapter 4, and the discussions are presented in Chapter 5.

Table 19 Thematic analysis based on AT analysis

Activity theory	Themes from this study
Subject	Young employees Old employees Top managers/Senior managers Company employees Managers (Head of department)
Object	Collaborative information sharing Collaboration Information sharing Expected sales
Tools	Social media LINE Smartphone Telephone Email DDMS TOPSERV Face-to-face meetings
Rules and norms	Organisational culture: - Company rules - Policies - Company guiding principles - Work ethics - Code of conduct - Company traditions - Business operation - Routines

	<ul style="list-style-type: none"> - Teamwork <p>National culture:</p> <ul style="list-style-type: none"> - Respect elders - Listen to elders - Hierarchy in language - Hierarchy in society - Traditions
Community	<p>Company employees</p> <p>Head office</p> <p>Parent company</p>
Division of labour	<p>Hierarchical structure (top-down structure)</p> <p>Power/Authority</p>

3.7 Triangulation

This study used a triangulation technique – multiple qualitative methods to understand the phenomena of the research context to ensure the accuracy of the data. Triangulation is one of the effective procedures of qualitative validity and reliability (Creswell, 2014; Bryman, 2012). There are four types of triangulation: data, methodological, investigator and theory triangulation (Turner and Turner, 2009). In this study, methodological triangulation was used because, as mentioned earlier, there are four methods used for collecting data: company document analysis, non-participant (unstructured) observation, focus group interview and semi-structured interview. Thus, triangulation enables the researcher to better understand the collaborative information behaviour of different generations' use of social media in a multinational company setting from examining different sources of data.

In the first stage, company documents were collected and analysed. This is significant as it provides the researcher with an insight into the company background including the rules and regulations, policies, and the overall organisational structure and operations from the company's perspective. This was used in analysing components in the activity systems. Next, non-participant observation was conducted for two weeks. The findings from this non-participant observation were used to identify the work environment and how organisational tasks and activities were carried out in the multinational company setting as well as the culture embedded in the organisation. Both procedures – company document analysis and non-participant observation – were used to formulate questions prior to the focus group and semi-structured interview sessions.

Following the focus group interview session, the findings of the focus group interview were used to comprehend how participants use social media and other company tools to collaborate and share information, and to specify the key issues occurring in the company with using social media as a collaborative information-sharing tool and the intergenerational difference, and to identify the tensions and contradictions in the activity systems. This also helped the researcher to focus on examining the key issues and seek the answers from the key issues arising from the findings that are related to the research questions. The fourth method is the semi-structured interview, which aims to understand participants' views and attitudes, the implementation of social media, and the key issues concerning the social media use and collaborative information behaviour of different generations in a multinational company. The findings from the semi-structured interview were also used in the analysis to answer the research questions through the lens of activity theory. All findings derived from these four methods were utilised in the analysis to address the research questions. Instead of conducting and relying on a single method, this study used the four triangulated methods for the trustworthiness of the findings.

However, because Gen Y dominated the sample population of this study, the findings and interpretations may be biased. This study used a 'participant validation' strategy to confirm findings with fieldwork participants (Birt et al., 2016) and report results to supervisors to avoid and reduce potential biases (Yin, 2014).

3.6 Ethical considerations

This research is qualitative research, which involves human participation, opinions and experience; thus, there are ethical issues involved. Creswell (2014) points out that researchers need to consider ethical issues if the research involves participants under the age of 19, mentally incompetent participants, victims, persons with neurological impairments, pregnant women or foetuses, prisoners, or individuals with AIDS. Silverman also (2013, p. 161) suggests five common ethical considerations among most research, as follows:

- Voluntary participation and the right to withdraw
- Protection of research participants
- Assessment of potential benefits and risks to participants
- Obtaining informed consent
- Not doing harm

However, this research does not involve participants under the age of 19 or with any of the related conditions mentioned above. The researcher is aware of the ethical considerations mentioned above when conducting qualitative data collection methods. This research follows the guidelines of the AREA Faculty Research Ethics Committee of the University of Leeds. Prior to the data collection process, an ethical review form was completed and signed by the researcher and supervisors, and submitted to the AREA Faculty Research Ethics Committee of the University of Leeds. The Ethical Committee approved it under Ethics Reference number AREA 17-130 (Appendix 8). The fieldwork assessment form was also completed and signed by the researcher and supervisors and submitted to the Graduate School office. It was approved before the researcher travelled to the country where the fieldwork was conducted.

In terms of data collection, informed consent was provided for participants before they engaged in the process, as suggested by Denzin and Lincoln (2000), Creswell (2014) and Silverman (2013), as well as a participation information sheet. The informed consent (Appendix 3) and participation information sheet (Appendix 5) were translated into the participants' native language (see Appendix 4 and Appendix 6). The participation form provides information regarding how this research is studied, the research procedures, and how all the participants' information is stored to protect their confidentiality. All participants were informed of how their information would be interpreted and analysed by the researcher based on their stories and experiences and asked to give their permission before the data collection procedure proceeded. Also, all participants read and signed the consent form before data collection. Participants were not forced to take part in the research procedures as they were based upon voluntary agreement, and they were able to withdraw from the process any time they no longer wished to continue. Participants were informed of the research objectives and procedures and how the researcher would implement and use their information, with anonymisation, in the research, and they were asked to grant their permission for audio recording before the interview process and video recording before the focus group interview session. Participants were fully aware that they could refuse to take part at any time in their own right due to the voluntary basis of the research, and all given and that any recorded data would be erased immediately after the participant informed the researcher of their wish to withdraw from the study.

Additionally, interview questions follow the guidelines of the University of Leeds ethical policy and did not include any sensitive issues. Data collected from participants is confidentiality; and all the participants' details are anonymised and are used for academic purposes only. The data is protected and will be kept for a reasonable time, according to the data protection policy of the University of Leeds.

Regarding the location, the non-participant observation was conducted in the company, where the researcher received permission before observing the overall work environment to observe the office hours in different departments in the company as well as company meetings. Both focus group and semi-structured interviews were carried out in a meeting room at the company which was convenient for participants, and in a private area with only participants and researcher in the meeting room, to protect the confidentiality of all participants.

All participants were informed and fully aware of the research objectives and procedures, and they volunteered to take part in the data collection and gave consent to the researcher to use their information to interpret and analyse the findings for academic purposes.

3.7 Conclusion

The aim of this chapter was to present the philosophy underpinning this research and the methodology and methods used in this study as well as theoretical frameworks and the data collection and analysis. The chapter firstly presented the research objectives and research questions of this study to give an overview of the research approaches. It then discussed the epistemological and ontological stances of this study, which were based upon the interpretivism and social constructivism that led to the development of the research approaches and methods adopted in this study. Following the qualitative approach taken in the study, the chapter described how the study selected a qualitative approach and discussed the theoretical frameworks in the study. Four frameworks were considered, social network theory, structuration theory, actor-network theory (ANT) and activity theory (AT), and activity theory was chosen.

A brief background of AT was provided. The third generation of activity theory was selected to explore the social media and the CIB of intergenerational difference in an MNC setting, and the implications of AT and principles of AT were included. The rationale for using AT was also described. AT was chosen to guide the investigation and to use as the analytical tool in this study because it offers a framework that enables an holistic picture in understanding the overall complex situation as well as the micro-level analysis to identify the interplay of various factors influencing the complex issues in an MNC setting. After that, the chapter explained the research design. This study chose a single case setting of a multinational company to investigate the research context because an MNC is an appropriate setting to investigate the interplay of different factors (CIB, social media use, intergenerational difference, cultural difference, and cultural clashes between national and organisational culture) to identify whether these factors were

significant in the context and in the situation. This was followed by the description of the research site that was selected for the fieldwork. A major Japanese car distributor (MJCD) was the site where this research conducted qualitative data collection.

This research collected qualitative data through employing document analysis, non-participant observation, a focus group interview and semi-structured interviews (30 participants) at the MJCD. The processes of data collection and data analysis were illustrated regarding how this research conducted the qualitative research method along with using AT as the theoretical framework shaping the investigation and analysis. To help ensure the validity and reliability of this research, it was explained in the triangulation section how this research relied on more than one source of information (document analysis, non-participant observation, a focus group interview and semi-structured interviews) for investigation and data analysis to help ensure accuracy of the data. Ethical issues were clarified, and it was noted that this research followed the guidelines of the University of Leeds ethical policy.

The next chapters (from Chapter 4 to Chapter 7) will present findings derived from the fieldwork using AT as the analytical tool to address the research questions (section 1.4 and section 3.3) and to draw the contributions of this research.

CHAPTER 4: CULTURAL-HISTORICAL DEVELOPMENT OF THE ACTIVITY SYSTEMS

4.1 Introduction

The previous chapter (Chapter 3) outlined the research methodology and theoretical framework shaping the process of data collection and data analysis of this study. The next four chapters (chapters 4 – 7) present the findings and highlight the process by which they were drawn out to provide the contributions of the study. Contributions discuss the complexities around the interplay of CIB, the national and organisational cultures, intergenerational difference, and the way that these factors impact the ability of the organisation to effectively and collaboratively share information. The objective of the chapters is to illuminate the overview of CIB and social media use in the MNC, overlaying this (already complex) set of activities with intergenerational difference issues in the company through a lens of AT. AT was employed as the analytical tool to conceptualise and frame data collection and analysis. AT provides an understanding of technology in the context of CIB in the MNC (Allen et al., 2011) and helps to identify multiple perspectives on both CIB and intergenerational difference through conceptualisation and analysis of relevant activity systems.

The data analysis was based on the findings from document analysis, non-participant observation, a focus group interview session and semi-structured interviews with 30 participants (see Appendix 1 and Appendix 2). Although it is useful to use multiple qualitative methods for data collection and analysis to provide stronger reliability and understanding of complex research phenomena (Eisenhardt, 1989; Manojlovich et al., 2015; Merriam, 1988), each method has its strengths and weaknesses and conflicting data between different methods was presented. This research reported the conflicting results from different methods as they were generated. Observation of the actual work environment showed that social media was used as a predominant tool for CIB activities among the technology-driven and older generations. Interview results demonstrated that older generations responded that they were not active social media users, preferred to use traditional tools, and set up the rule against social media use in the company. To resolve the conflicting data from observation and interview, these results were reported as they were presented by each method in this thesis. Most importantly, the findings of this research were verified and confirmed by the participants to avoid research bias and to strengthen the trustworthiness and credibility of this research.

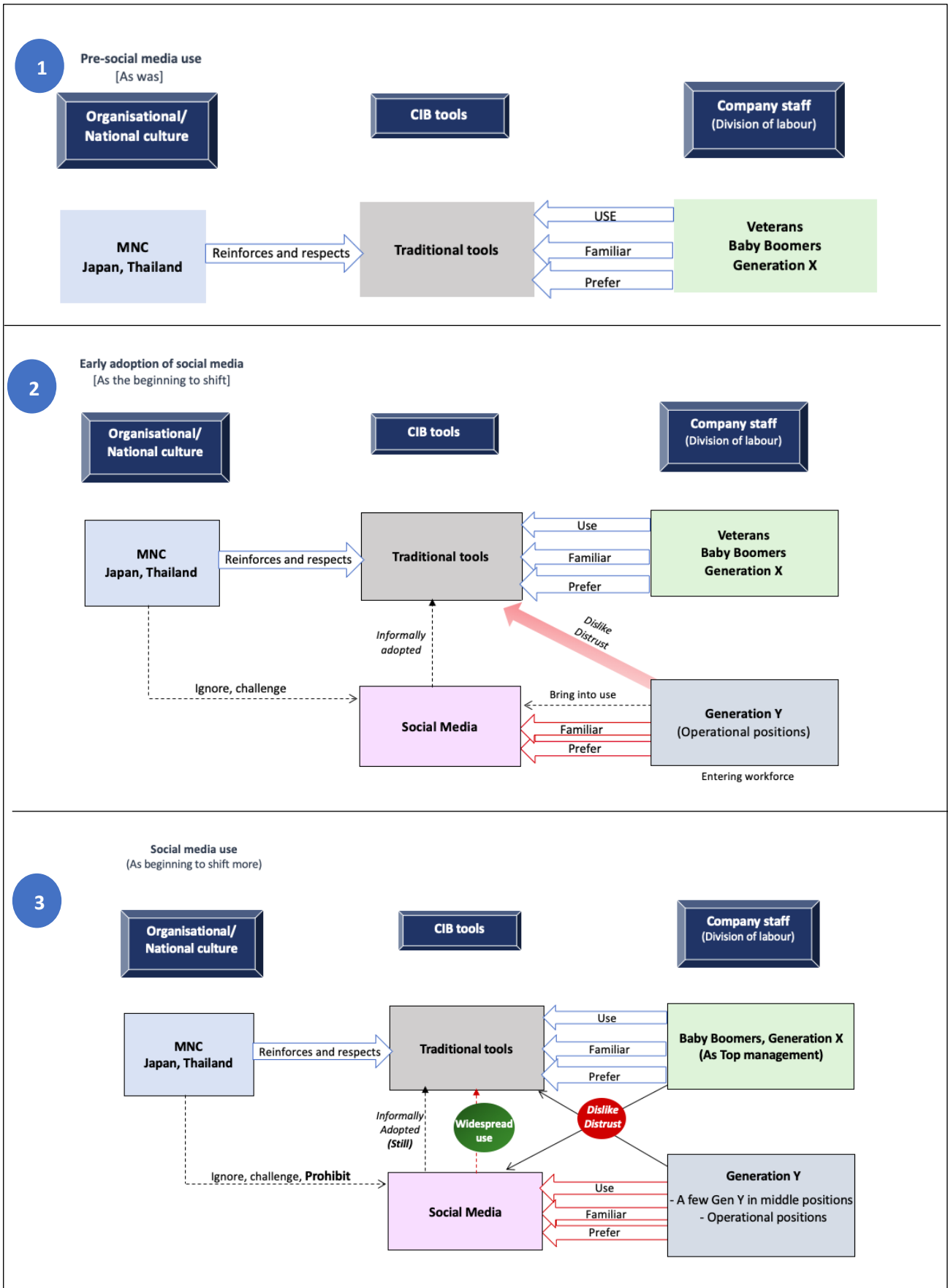
Chapter 4 sets out to explain the cultural-historical development of the activity systems. AT offers a framework not only to explore and analyse interactions of human behaviour but also the

cultural and historical aspects (Foot, 2014). Engeström (2001) suggested activity systems developed and evolved through a long history and actors (subjects) in an activity system bring their own histories. For the investigation, it is necessary to consider the cultural and historical aspects within the context of CIB in the MNC to explain the development and evolution of social media use in the MNC. Figure 11 illustrates a synopsis of findings and analysis through a lens of AT. To understand the overall research phenomenon of CIB, social media, generational difference, and cultural difference in the MNC, this chapter uses the cultural historical aspects of AT to present a background history of CIB in the MNC before social media, and the process by which the situation was developed for social media use in the MNC as shown in “as was (1)” in Figure 11. The goal is to provide a clear picture of how the MNC collaboratively shared information using traditional tools and the cultural and historical influence within the context of the MNC before social media use. After that, this chapter addresses when social media was introduced by the technology-driven generations depicted in Figure 11 as the “early adoption (2)”, and the process by which the company was shifted to social media use by the technology-driven generations and their approach to technology in Figure 11 “as beginning to shift more (3)”. The explanation of the shifting stages consists of providing an insight into the issue of generational difference and social media use for CIB activities – how social media came into the company and how employees from technology-driven generations initiated social media use in the workplace. It also explains the impact of social media use on how different generations in the company reacted towards the shift, more specifically the senior managers (older generations), and how this affected CIB and the existing traditional tools in the MNC.

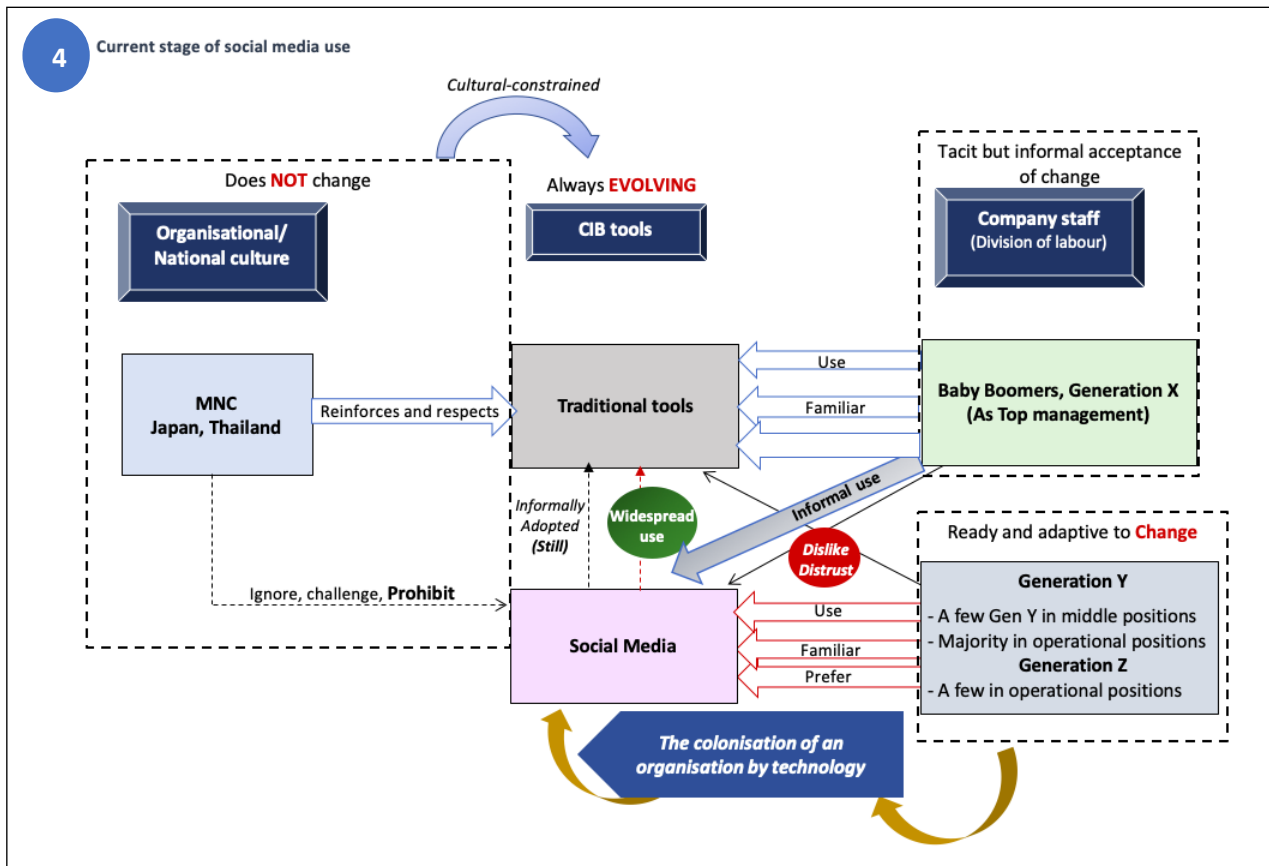
Chapter 5 illustrates the current social media use in MNC as indicated in Figure 12. The chapter builds on Chapter 4, drawing on the analytical tool of activity systems to paint a picture of the way the MNC developed through the background history to the current stage of social media use for its CIB activities. The core analysis of AT is activity (Karanasios, 2018). In this chapter, each component of the activity systems will be explained, including motivation, subject, object, shared object/outcome, tools, rules and norms, community, and division of labour (section 5.2). Analysis of the activity systems provides an understanding of CIB, the intergenerational difference and social media use in the MNC – how social media was adopted as a collaborative information-sharing tool in the MNC, and how employees of different generations interact and behave using social media (mediating tool) in the MNC context. It also helps in identifying the tensions and contradictions that occurred within the activity systems, which assists in diagnosing what barriers and differences can be influenced by the generational difference in use of social media by bringing out underlying causes of the issues. Chapter 6 will explain the tensions and contradictions in more detail.

Chapter 6 builds on Chapter 5 in terms of the current position of social media use illustrated in Figure 12, drawing on analysing the interacting activity systems of the third generation of AT and the structure of the activity (action, operation). This brings further insight, from Chapter 5, into how CIB activities were carried out in the MNC and delves deeper into the intergenerational difference and social media use by analysing their action and operation in the activity systems. Through a lens of interacting activity systems, different generations used social media to carry out CIB activities in the MNC, including collaboration, information sharing and team building (section 6.2). The chapter then examines the structure of the activity to evaluate the distinctions between technology-driven generations and older generations in the MNC, as well as why and how the former prefer to share information using certain technologies, such as social media, whereas the latter do not. By analysing the findings based on AT (*Chapter 4: cultural-historical aspects of AT, Chapter 5: activity systems, Chapter 6: interacting activity systems, action and operation*), it provides more evidence to demonstrate areas of tensions and contradictions, and highlights the interplay between various factors influencing the issues of CIB in the MNC setting. Through examining the tensions and contradictions in the activity systems, key issues were identified. These key issues were organised into themes: tool familiarity, level of comfort, attitudes towards technology, modality of use, language barrier, cultural issues, communication barriers, and tool preferences. The themes derived from the AT analysis will be discussed in further depth in Chapter 7 to answer the research questions.

Chapter 7 aims to answer the three research questions (section 1.4) based on the themes consolidated from the data findings and analysis of the previous chapters (chapters 4 – 6) and summary of findings shown in figures 11 and 12. The first research question presents the model of CIB in the MNC to provide a clear picture of CIB in the MNC, along with familiarity with the tools, level of comfort and attitudes towards technology will be the themes discussing how different generations used social media differently in the MNC. The second research question will discuss the barriers and differences influenced by the intergenerational difference and the different generations' social media use through three key themes – the modality of use, language barrier and cultural issues – as well as the model of the interplay between the national and organisational cultures with the intergenerational difference approach will present how culture influences different generations and their social media use in the MNC. The third research question will highlight two themes: communication barriers and tool preferences in relation to how overall issues can be managed and developed to improve internal efficiency. Chapter 7 also highlights the contributions made in this thesis.



**Figure 11 Synopsis of findings through AT - 1
(Developed from finding and AT analysis)**



**Figure 12 Synopsis of findings through AT-2
(Developed from findings and AT analysis)**

Having presented the outline of the remaining thesis chapters, this chapter turns to a rich description of the MNC and its cultural-historical context.

4.2 The period before social media use, from the 1990s to 2013

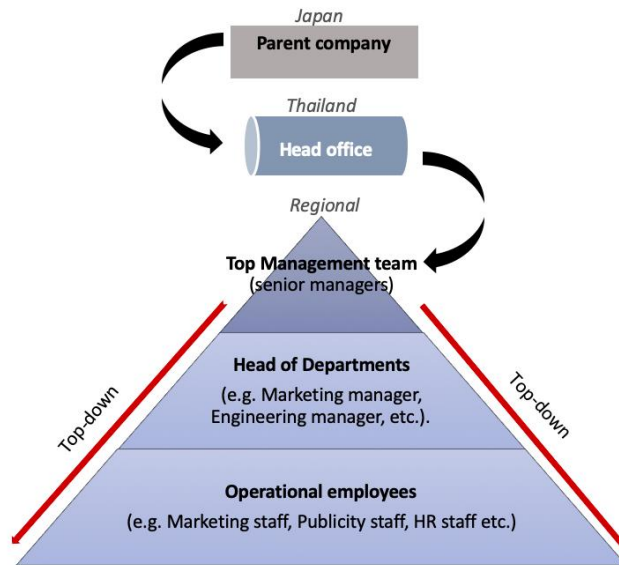
In applying AT to understand human behaviour in the context of CIB, this research explored the historical and cultural evolution of the collaborative information activities and tools currently and recently in use in this company. It is important to analyse the historical path as ways that people behave and act are shaped by their cultural values, and cultures are rooted in histories, and grow over time (Foot, 2014). Analysing the cultural-historical activity systems helps in exploring the background history to understand how the MNC has developed and evolved through social media use in the organisation. It also helps the investigation of the overall complex MNC setting and the interplay of different factors in the MNC, such as the issues of CIB, social media use, intergenerational difference, and cultural difference in the MNC setting which this research aims to explore.

Section 4.2.1 below presents the cultural and historical background of the MNC by firstly explaining the nature of work and the organisational structure of the MNC, based on the findings from the document analysis and qualitative data collected during the fieldwork visit to this major Japanese car distributor⁴ (MJCD) – the MNC case setting chosen for this study. This is to provide a clear picture of how the MNC collaboratively shares information and the cultural-historical influence within the setting. This builds an understanding of the development and evolution of how and why social media came into the MNC, and it helps analyse the situation from a holistic viewpoint.

4.2.1 The nature of the MNC and top-down organisational structure

To understand how the MNC collaboratively shares information, it is important to discuss the nature of work and the organisational structure in the MNC. Literature highlights that it is generally a challenge for MNCs to deal with a multicultural environment and management practices (Castaneda et al., 2013; Godiwalla, 2016; Vlad, 2018). This was also the case at the MJCD. In the MJCD, the complexity within the nature of the multinational environment was a challenge. The MJCD was one of the regional Japanese car distributors in Thailand where the head office was a Japanese automaker's wholly-owned subsidiary based in Bangkok, Thailand. According to the findings, the company dealt with the cultural mixes between the Thai and Japanese cultures. The Managing Director explained that the MJCD was both influenced by the parent company in Japan and the head office in Thailand. Figure 13 depicts the organisational structure of the MJCD, which was built from the document analysis and interview data.

⁴ The case setting is a multinational company (MNC) and the major Japanese car distributor or MJCD. These two terms will be used interchangeably throughout the thesis. The parent company is the automaker in Japan. its headquarters/head office is in Bangkok, Thailand.



**Figure 13 Organisational structure of the MJCD (regional)⁵
(Developed from document analysis and interview data)**

The review of organisational documents⁶ found that the parent company set up rules and policies, work ethics, and a code of conduct for all subsidiaries. The subsidiaries under the parent company are required to follow the same rules and operations globally as stated on the parent company's official website. The MJCD fundamentally applies the same rules and policies, which are influenced by both the parent company (Japan) and the head office (Thailand) in a top-down hierarchy (Figure 13). Regarding the business operations, the MJCD has to be responsive to the head office in terms of firm performance and productivity – the head office sets goals and targets for all the regional distributors in Thailand to reach a certain number of vehicle sales and customers (excerpt below). Both excerpts below show how pressure from the head office influences the nature of work in the MJCD.

“The head office sets up the goals every year for us to achieve. If we can't achieve [them], there'll be a penalty and something could get worse and we don't want that.” (Managing Director, Generation X, Born 1975).

Another Managing Director also stated that their overall firm and employee performance was a main concern for the head office, and the head office made frequent visits to the MJCD to assess their performance (below).

⁵ The figure showing the organisational structure of the MJCD is built from the interview data.

⁶ This research reviewed corporate guides and company annual reports (2018) available on the parent company's and head office's official website, and company documents provided by the HR department at the MJCD.

"Their concern [head office] is to make sure our employees and our company as a whole perform well. Boards of directors visit us quite often." (Generation X, Born 1976).

The MJCD was challenged by the complex multicultural work environment due to the two different cultures (Thai and Japanese cultures) inside the MNC. The first challenge was the head office monitoring MJCD's firm performance and productivity, which influenced MJCD's business operations. The second challenge was the influence of the parent company through corporate rules, policies and work ethics. It was also found that the multicultural work environment influenced the organisational structure of the MJCD.

As indicated in Figure 13, the MJCD was the top-down structure. The findings connote that, in the MJCD, authority and power were only distributed among the top management positions. In the existing CIB literature, people shift from individual information activities to collaborative information activities because of triggers (Table 2), such as complexity of information need, fragmented information resources, and lack of domain expertise (Reddy and Jansen, 2008; Reddy and Spence, 2008). From the findings, it was clear that there was a relation between the top-down organisational structure and how people collaboratively shared information in the MNC to satisfy information needs. At the MJCD, company employees had to seek formal approval from the top managers during their work activities. This included verifying the task allocation, decision-making process, problem-solving and business strategies, and these actions could only be completed by the top management team, whereas other company employees from either middle⁷ or operational positions lacked power in the organisation to make formal decisions and approval.

As stated, the top-down structure influenced how people collaborated in this MNC, and all departments had established routine operations. Employees worked within the departments with their colleagues and their department heads. Within the department, the head of the department was the person whom operational employees coordinated with and reported work to. When employees faced problems or issues arising during their work activities, the head of department would be the first person to whom they reported them. Then, the head of department had to approach one of the senior managers to handle the issues⁸. In most cases, it was beyond the head of department's power to make formal decisions; they had to ask the senior managers for approval before taking any action. When the senior managers had made approved decision,

⁷ In this research context, middle employees refer to the department heads in the company and also refers to the department managers. For example, Marketing manager, Finance manager, HR manager, etc.

⁸ According to the participants, problems or issues are all kinds of work-related or department-related problems, either big or small, about which employees have to keep the senior managers informed.

their final answer would be passed to the head of department and on to the operational employees in the department. This collaboration with the senior managers worked in both critical incident situations and routine operations. This was the nature of how they collaborated in the top-down structure in this organisation.

Although most research participants claimed that the nature of work at the MJCD (regional distributor) involved collaboration and information sharing in their routine operations within the departments and in work processes where senior managers had to be informed to formally act upon decisions and approvals, it was discovered that there were some collaborative information-intensive domain⁹ and others that were in the more routinised domain¹⁰ within the organisation. Some departments were more collaborative information intensive, meaning these departments collaborated closely with the top management team and their department work routines were collaboration-based, while some did not and were routine-based. Due to the nature of their collaboration-based activities, this research defines the collaborative-based activities as the collaborative information-intensive domain.

It was found that the collaborative information-intensive domain is core business operations of the company, which work towards vehicle sales and customer service, and which was why they had to collaborate intensively with the top managers (excerpt below).

*“Our work requires collaboration and sharing information in **teams**¹¹ on a daily basis because of our goals and missions towards customers’ satisfaction, high quality of service and team performance. We have to work closely with the teams to make sure our performance turns out the way we expect.” (Executive Vice President, Baby Boomer, Born 1950).*

Employees in the collaborative information-intensive domain collaboratively shared information between the top managers/senior managers¹² in their routine operations in the departments through the use of information sources or tools (organisational tools will be discussed more in section 4.2.2) to solve problems and to achieve common goals, congruent with Hansen and

⁹ **Collaborative information-intensive domain**, at the MJCD, is the departments that perform CIB intensively: Marketing, Publicity and Engineering.

¹⁰ **Routinised intensive domain** is the department that perform well-established routines: Finance, Service, Parts, Human Resources (HR), Vehicle, and General Affairs at the MJCD.

¹¹ ‘Teams’ refers to employees from the collaborative-intensive departments that work closely with the senior managers to achieve common goals, according to the Executive Vice President.

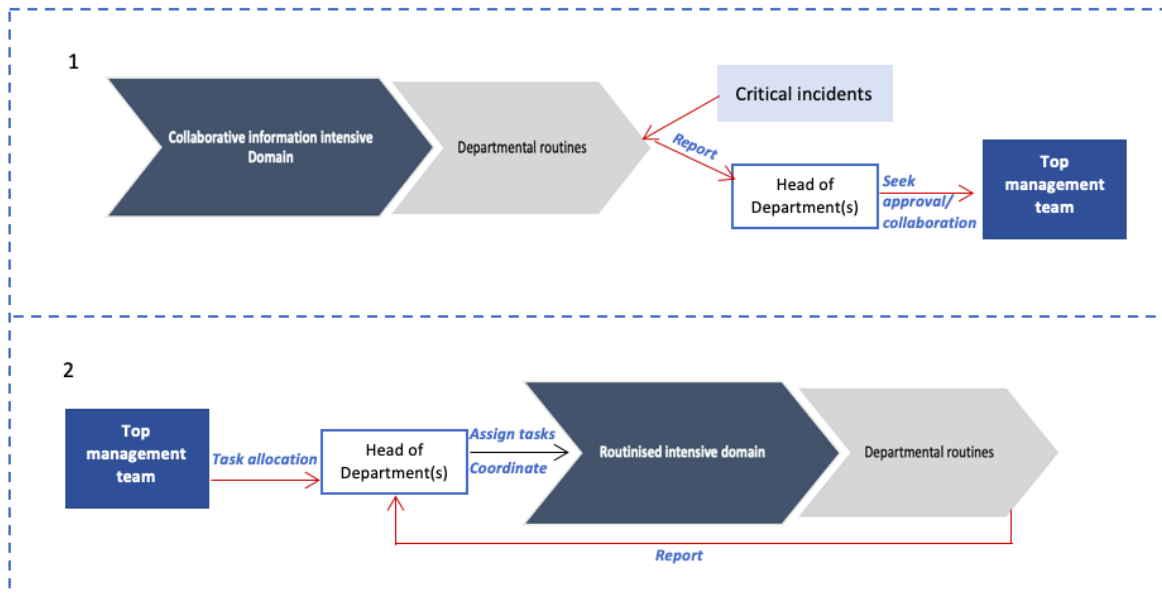
¹² The terms top managers and senior managers are used interchangeably to refer to the top management positions in the major Japanese car distributor – the multinational company – as well as to refer to the older generations and the digital immigrants.

Järvelin (2005) and Shah (2014) that people often collaborate and share information to create a solution to specific problem activities through accessing various types of information sources and tools to achieve mutual goals. For example, as found by the study, the Marketing department highly engaged in collaboration with the senior managers because the Marketing teams worked to achieve vehicle sales targets in which they shared mutual goals with the senior managers. They had to develop a sales strategy to pursue the target, build teamwork and reach customers, and they also had to submit their sales strategies and report their work progress to the Marketing manager (head of the department) and the senior managers to ensure that the teams worked to the expected sales target.

In contrast, departments in the routinised intensive domain performed their departmental work routines independently and did not engage in intense collaboration with the senior managers because their scope of work had established routine operations and did not require a high level of collaboration with the senior managers, according to the findings. In the Service department, for instance, the Service manager's response was "*We don't usually collaborate with our boss¹³. We work independently*" (Service manager, Generation X, Born 1978). The Service department at the MJCD had a set of established routine activities to implement according to the task allocation. The Service employees were responsible for providing a service to existing customers when they visited the company for their maintenance and after-sales services, which were regularly implemented in the more routine work processes and were quite independent within the department's function and so did not require constant collaboration with the senior managers or other, different departments.

Another example is the Finance department: from the findings, the Finance department also worked independently. The Finance manager indicated during the interview that the Finance department did not necessarily need to collaborate outside the department; most of its work comprised individual tasks rather than group-based ones, and the communication was internal communication between Finance employees and Finance manager. Figure 14 illustrates the two collaboration types in the MJCD which were indicated by the interview findings.

¹³ The research participants at the major Japanese car distributor referred to the senior managers as 'our boss' and their department manager as 'manager'.



**Figure 14 Collaborative information-intensive and routinised intensive domains
(Developed from interview data)**

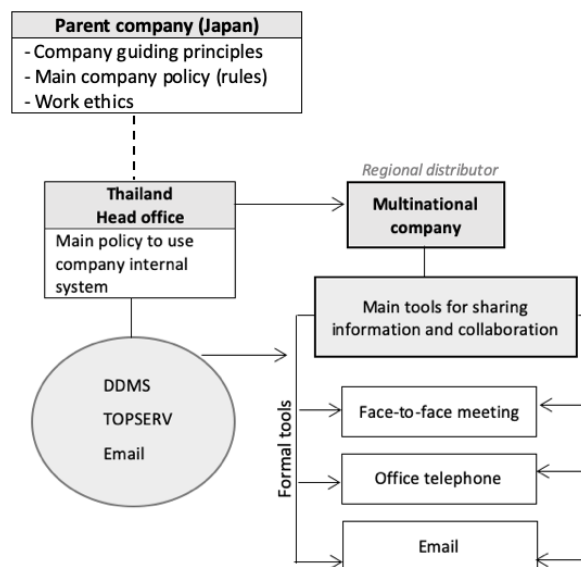
As indicated in Figure 14, the collaborative information-intensive domain and routinised intensive domain appear to collaborate differently. The collaborative information-intensive domain worked and collaborated closely with the top management team in their routine operations, whilst the routines for the routinised domain was independent and consisted of established routines. As shown in the second row of Figure 14, the work processes of the routinised departments were tasks allocated to be carried out independently within the departments. This was found to be the nature of CIB activities at the MJCD as departments and functions influenced by the complexity of the MNC setting and the top-down organisational structure. This research refers to the collaborative information-intensive domain to describe CIB activities in this MNC, and to explain that the nature of CIB activities mainly involves collaboration and information-sharing activities with the top management team. As the nature of work in the routinised intensive domain does not involve collaboration, this domain is not analysed in the context of CIB.

The next section will outline the adoption of organisational tools at the MJCD in the period from the 1990s to 2013. This will help better understand how they used these traditional tools for CIB activities during that period and the cultural-historical context within the MJCD.

4.2.2 Organisational tools

Following AT, the mediating tools are important in an activity because the concept of mediation in AT states that humans use tools to perform an activity (Nardi, 1996). For this reason, focus group and semi-structured interview participants were asked to identify what tools they used before social media became the predominant tool, in order for the researcher to comprehend how tools shape the CIB activities in the MJCD.

Formerly, the MJCD formally used organisational tools throughout the whole organisation. The senior managers claimed that the company employees collaborated and shared information through the aid of organisational tools which were formally provided before the MJCD recognised social media in the organisation. Figure 15 illustrates the organisational tools prior to social media use when some tools were entrenched by the head office (Bangkok, Thailand) for organisational routines, and some tools were mandated by the MJCD for information-sharing and collaboration purposes¹⁴. The findings showed that some of the organisational tools are still being used today. Therefore, Figure 16 presents the timeline of tools adopted at the MJCD from the 1990s to 2018. The timeline will be explained in detail later in this section.



**Figure 15 Organisational tools prior to social media
(Developed from document analysis and interview data)**

¹⁴ According to the analysis of relevant documents and interview findings, the tools used at all regional distributors across Thailand are only used in Thailand, not in other countries where there are subsidiaries of the parent company. The parent company in Japan does not have specific policies regarding tools; these are managed by the head office. The parent company has corporate policies, rules, work ethics, code of conduct and principles that all subsidiaries around the world are obliged to follow.

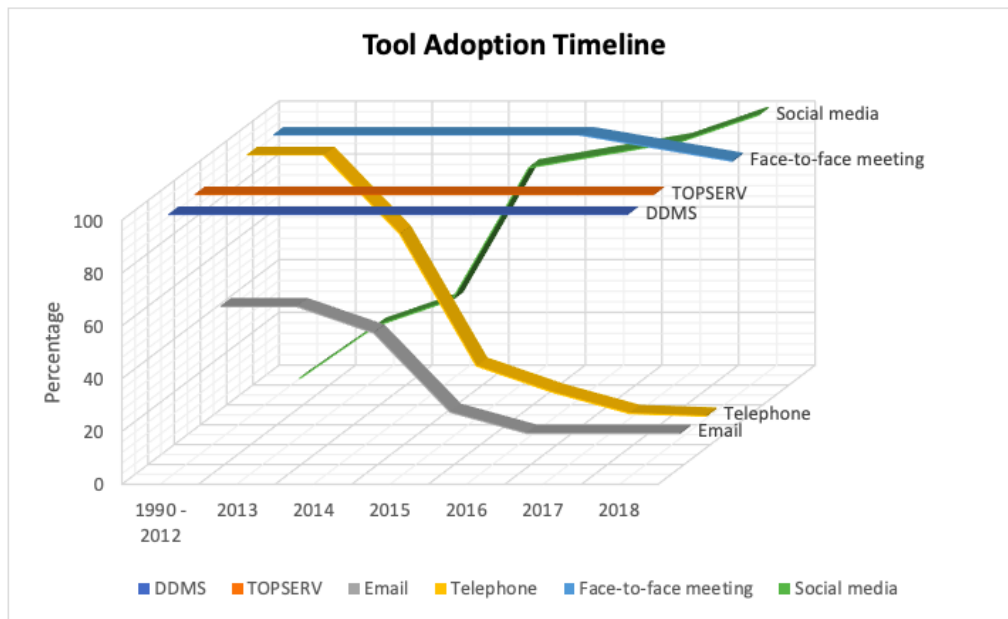


Figure 16 Tool adoption timeline
(Estimated based on interview data)

1) Tools mandated by the head office

The first tools to be discussed here are the information systems that were mandated by the head office in Thailand. In the review of company documents (rules and policies), the head office's policy of organisational tools applied to all major Japanese car dealers in Thailand in that they had to formally implement these tools in their organisational routines. Three tools were identified from the findings: 1) DDMS, 2) TOPSERV and 3) company email. From the findings, these tools are still used due to the head office's policies.

- **Dealer Distributor Management System (DDMS)**

The first mandatory information system is the Dealer Distributor Management System or DDMS. From the review of relevant documents, the DDMS is the company's intranet system and is designed by the headquarters for all dealers in Thailand. It was introduced in 1998 and has been employed since then. Its main function is for ordering products from the main assembly plant and storing information on all distributors, including company background, location, number of employees, size of the company and sales records. This can only be accessed by company employees. Distributors can access the DDMS to order products and manage their stock supplies.

At this MJCD, the DDMS is under the responsibility of the Marketing department. The top management team appointed one employee from the Marketing department as the DDMS officer to use the DDMS for work routines to order vehicles and auto parts to the warehouse from the main assembly plant in Thailand. The DDMS is only used for this purpose but the DDMS officer mainly has to collaborate with the top management team directly to get their approval on the product orders before ordering on the system. From the interviews, all company employees have to abide by the senior managers' decisions and approval on almost everything.

The top management team also uses the DDMS to oversee and control the entire business operations in the company. From what the top management team described, they use the DDMS for planning the marketing and sales strategies and stock control. They explained that, before they approve the DDMS officer's requests to order products, they have to access the DDMS to see information in order to plan their stock control and to support their decisions on approving product orders. Regarding the marketing strategies, top management members use the DDMS to see the availability of product supplies in the warehouse, which allows them to make decisions and plan their marketing and sales strategies. They shared that they plan a marketing and sales strategy based on the availability of cars in the warehouse using the DDMS to access the warehouse information. It allows them to set up goals with the Marketing sales team on how to sell all the cars in the warehouse and the new cars they ordered in a given period to achieve expected annual sales.

Moreover, another department that uses the DDMS to collaborate is the Engineering department. This department uses the DDMS to collaborate with the Marketing department when they require the DDMS officer to support their departmental work. As explained by the Engineering employee, the department employs the DDMS to check the inventory information from the company warehouse for auto parts and engines. In case there is a shortage of specific auto parts, the Engineering team can check on the DDMS, and then get in touch with the DDMS officer in the Marketing department to order and supply products to the warehouse. As requested, the DDMS officer will share information with the top management team to seek their approval before accessing the DDMS to order the products.

- **TOPSERV**

The second internal information system is TOPSERV. From the document analysis, TOPSERV is used by the technicians to carry out the organisational routines in the Engineering department in every branch across the 472 branches in Thailand. The system was first launched in 1993 and has

been developing ever since (Phithan, 2019). In the Engineering department, TOPSERV is the information system used to support their departmental routines. The main function of TOPSERV is to record and store customer data. Customers who bought cars under this Japanese brand from any distributor automatically have their information registered on TOPSERV, including their car details and personal details from the day they bought the car; for example, the insurance information, the Vehicle Identification Number (VIN), car model code, engine, body type, production number, year of production and colour code. This information is stored to keep records of customers as the compulsory tool for the Engineering department to perform their work routines in after-sales services, e.g. car maintenance and repair.

As the Engineering manager explained, the Engineering team will record each step of the service they provide as well as all products used with a customer's car during a service, and these are shared on the system. For example, when a customer's car needs repairing, the technician team will share the maintenance record, the descriptions of products replaced and how they fixed the car on TOPSERV. They also include their recommendations for services that should be implemented for the customer's next visit.

- **Email**

The third tool is the company email. It is the main policy from the head office that all employees are registered with the corporate email, which employees can use to communicate and exchange files/documents. Because of the main policy, email still exists in the organisation nowadays. From the findings, email was not the main tool even before social media was introduced. Most employees usually used telephones and face-to-face meetings for their CIB activities before social media was introduced. At the MJCD, their responses described how they have been using the company email: that email has been the main tool between company employees and the top management team; particularly, they have been using email to send and exchange important company documents/files¹⁵ with the senior managers. Rarely was email used between employees as they preferred to use other tools instead.

The results from the interview responses reported that the major reason for using email was that it was the only tool with the function to send and exchange files. There were no other tools that had a similar function to email. When the senior managers requested important documents to be sent, email had to be used (focus group participants). For example, the excerpt below is from a

¹⁵ As stated by a manager, the term important documents refers to the company's confidential information which is privately shared between the top managers and the department heads.

focus group participant clarifying how email has been adopted in the organisation and how information is shared now.

"We used email to send important documents to our boss [top managers] but now we can send it on the chat. We rarely use email." (Marketing Manager, Generation Y, Born 1982).

Additionally, it was also found that email was used more among the senior managers than their subordinates. According to the interview with the top managers, they explained that they have been using email because it is essential that they share company annual reports and official business documents as attached files with the head office in Bangkok through company email. Email is still used for the same reason by the senior managers. From what they explained, the head office has mandated email as the platform to directly communicate and share documents with the top management team in all distributors around the country. Only the top management team is in charge of sharing the reports to the Headquarters, as stated by a Managing Director.

"We only use email to send company documents to the Headquarters. We have to evaluate our firm and employee performance and productivity. We have to email them to the Headquarters after we finish the evaluation every year." (Managing Director, Generation X, Born 1976)

It may be that email was used in the company before social media became the main tool because email use was mandated as one of the company's main policies. As per the participants' responses, employees employed email when they had important documents to share with the top management team, which in this case also depends on the top management team's orders when they request documents to be shared with them. However, it was reported that email is not a popular tool to share information among employees. Mainly, it is a compulsory tool for the top managers to use to report the company's performance by sending relevant documents, such as annual reports, financial documents and other reports, to the head office in Bangkok

The organisational routines and information systems provided by the head office can be summarised as follows. The DDMS is used for the departmental work in the Marketing department by the DDMS officer to mainly order products and collaborate with the top management team and Engineering department in this company, while TOPSERV is the supporting mechanism for technicians in the Engineering department. The company email is provided for all company employees for any organisational use. According to the findings, these

tools are still in use because they are mandated by the head office; however, other tools have grown up alongside.

2) Organisational tools for information sharing and collaboration

The second types of tools are not formal systems in the sense that the section above highlights them but are the day-to-day tools for information sharing and collaboration. These were tools that the MJCD provided only in the sense that they are part of an office infrastructure. From the interviews, it was found that employees shared information and collaborated mainly through these tools, to be discussed separately below, before social media was introduced. The findings on these tools show that they were used to satisfy employees' information needs to seek collaboration with their colleagues and the senior managers during their organisational routines as well as for internal communication use.

- **Face-to-face meeting**

From the interview findings, face-to-face meeting/interaction was a common method of communication and collaboration for company employees. It was found that employees had a face-to-face meeting when they sought collaboration and/or communication with their colleagues in the same departments, different departments and with the senior managers. From observing the company and interview findings, it was noted that employees from the same department were usually co-located, so face-to-face meetings were convenient for them, and this was supported by the Marketing manager, who stated that the Marketing team considerably relied on face-to-face meetings/interactions before social media was used because their teams were in the same room (excerpt below).

"We had a lot of meetings throughout the day before social media. We still have meetings now but it is a lot less than before." (Marketing Manager, Generation Y, Born 1982).

On the other hand, the face-to-face meeting was a facilitating tool for those who collaborated with different departments and with the top management team where their offices were not co-located. During the interviews with the senior managers, most of them explained that, before social media was introduced, they had regular face-to-face meetings/interactions in their offices to discuss and communicate with the employees when the employees sought approval or important information from them, such as decisions they could not make, problems they could not solve, and general advice on assignments. Another interview finding related to this type of

collaboration setting is that the majority of participants from the focus group interview agreed that, when there was the need to collaborate with colleagues from a different department or simply to socialise, they usually had to visit their departmental office in the same building and meet them face to face before social media use.

Aside from what was mentioned about the face-to-face meetings, the company also has the conventional type of meeting for all employees to attend as part of their organisational routines, which was entrenched by the senior managers. From the interview findings, it was obligatory for the company employees to attend a morning meeting¹⁶ and a monthly staff meeting¹⁷ due to the company rules. The morning meeting is a ritual in the company and part of the organisational culture. It was stated in the company rules that *“all employees have to attend the morning meeting every day”* to pay respect to the national anthem together at 8 am and pray. It was also used as the channel to broadcast company news to all employee. As for the monthly staff meeting, the Executive Vice President expressed that it was arranged for employees from all departments to brainstorm and discuss openly with each other to generate ideas on business strategies and operations, decision making and solving problems in a collaborative setting.

From the findings, it is clear that the face-to-face meetings/interactions were implemented in the formal business setting and primarily served as the collaboration hub before social media use for when any employee sought help or collaboration, such as for advice, decision-making process, approval, information sharing and communicating.

- **Office telephone**

Office telephone was one of the company facilities provided at the desks of company employees in all departments in the company. This enabled them to interact with and seek information from their colleagues by calling an internal number. From the interview findings, the majority of participants explained that it was common to use the office telephone to seek help from and collaboration with their colleagues from different departments as well as with the top management team prior to social media use because their offices are not co-located. One of the participants from the focus group interview mentioned that, before social media was the tool, the

¹⁶ The morning meeting is a compulsory company morning activity where all employees line up at 8 am every morning to sing the national anthem before the official working day starts, to show respect to the nation. After they sing the national anthem, one of the top managers gives a morning speech, and managers from any departments will share information about their departmental work, company news and current news topic.

¹⁷ It is a company policy that it is compulsory for every staff member to attend the monthly company meeting. The findings indicated that the top managers used the monthly meeting to discipline employees, and it is also used as the channel for middle and operational employees to share information and news from their departments and offer ideas and report issues or problems their departments are facing to the top management team.

office telephone was the primary tool the employees used to call and ask their colleagues, or in some cases the top managers, for help.

For example, the Marketing manager shared that she used the office telephone to call one of the top management team members when her work required a top management decision or when a discussion with top management was highly essential.

"We use [the] internal telephone to call our boss to see if we're allowed to see them before we show up in front of their office. We have to let them know first why we want to meet them. For example, we want [them] to sign documents or discuss about something. We have to let them know first..." (Marketing Manager, Generation Y, Born 1982)

Similarly, the Publicity manager said that, before social media use, she used a telephone to call an internal number to reach the top management team, and that was how she collaborated to discuss her department's work, and ask for advice and decisions from one of the top management team.

"...we had to call to make office appointment and wait for them to confirm. After they confirmed, we would be able to see them to discuss about our work." (Publicity Manager, Generation Y, Born 1983).

Another tool employed for information sharing and collaboration was email, which was discussed in the previous section. Although, before social media became the tool, email was not used as the main tool. From the interview findings, people seemed to use the telephone and face-to-face meetings more than email. Email was only used in case of a top manager's request to send files/documents, which was dependent on their order.

Findings from this section portrayed the complicated way in which company employees collaboratively shared information within the MJCD, and what information systems and tools they employed to assist their collaborative information activities and serve information needs in such a complex work environment prior to the use of social media. At this stage of understanding, the way people collaborated and shared information during this period before it shifted to social media was through information systems and tools that were provided to facilitate the organisational routines, and the majority of communication and information-sharing activities was completed using the organisational tools.

Figure 16 summarises the timeline of tools adopted at the MJCD, and is developed from interview findings. The findings demonstrated that some of these organisational tools are still being used, whilst the use of others has significantly declined over time. TOPSERV and DDMS are the tools that have been in use since 1993 and 1998 respectively until today at the MJCD. TOPSERV is used by the Engineering department, specifically the technicians, for their departmental routines, whilst the DDMS is used by the DDMS officer in the Marketing department to carry out routine operations to order vehicles and auto parts. The reason for TOPSERV and the DDMS being current tools is because employees were mandated by the head office in the main corporate policy to use these two systems for technical work activities, and all regional distributors in Thailand were required to abide by this policy.

Similarly, it was found that email is also provided for all company employees as part of the corporate policy from head office. From the interview findings with the top management team, when participants were asked about the use of email at the MJCD, they replied that it is the head office's policy to offer and register all company employees on the company email, but it is not compulsory that all employees have to use email to communicate and share information in the organisation. Employees are allowed to use any formal types of tools, which consist of telephone and face-to-face meeting, for internal and external communication. From the findings, email was not a popular tool from the beginning, compared with the telephone. It was stated that employees only used email for formal business communication with the senior managers, particularly to exchange files and documents. When the company fully adopted social media in 2015, the popularity of email also declined, and now it is only used by the senior managers.

The same situation happened with the telephone users. Telephones were provided at the MJCD; they were the main tool for communication and collaboration in the past. As shown in Figure 16, telephones were used to a large degree from the 1990s to 2012. In 2013, the number of telephone users began to gradually decrease due to the arrival of social media at the MJCD, and the number dropped considerably from 2014 onwards, and telephone use became less common (almost disappeared). In contrast, the company continues to use face-to-face meetings for communication and collaboration in the current work environment.

The findings showed that a considerable number of face-to-face meetings had taken place in the company for a long period of time. There is the company morning meeting, which has been carried out as part of the organisational culture, and there is the monthly staff meeting with the top management team, which all employees are required to attend every month. These types of meetings have been adopted regularly and they cannot be changed, because they are part of the

organisational culture that has been carried out from generation to generation, as reported by the top management team. The frequency of morning meetings and staff meetings has remained the same over the years. Another meeting under this category of face-to-face meeting is the meeting between employees and senior managers during CIB activities. From the 1990s to 2017, people collaborated through face-to-face meetings during the day, and most research participants claimed that they remembered having plenty of meetings, visiting their colleagues' offices and senior managers' offices for collaboration and problem-solving activities. In contrast, from the findings, in recent years (from 2017 to 2018) this type of meeting slightly declined because most employees collaborated through social media instead, as illustrated in Figure 16.

In summary, the findings regarding the cultural-historical aspects of how and in what way the MNC used organisational tools to collaboratively share information before social media use showed that telephone, email and face-to-face meeting were affected by social media.

The next section will describe when social media was brought into the MJCD and the process by which it was introduced. This will provide a clear picture of the CIB and social media use overlaid with the issue of intergenerational difference, in which the development and evolution of the situation will help in further investigating social media as the mediating tool in activity systems in chapters 5 and 6.

4.3 The shifting process towards the adoption of social media

Through exploring the cultural-historical aspects, the process by which social media came into the MJCD was highlighted. It is an important part of the data analysis using AT to look at the complex situation in the MJCD from the holistic point of view, and understand how and why social media was introduced into the company. This brings an insight into the complexity of the setting and the interplay of different elements influencing the situation. Literature indicates that a new form of social media emerged in the mid-2000s for leisure use (Schlagwein and Prasarnphanich, 2014), and since then the rise of social media has led to changes in reshaping communication and collaboration in organisations around the world (Leonardi, 2017; Schlagwein and Hu, 2016; Van Osch et al., 2019). The findings of this study showed that a new form of social media application was first seen as a communication and collaboration tool in the company in 2013, which was unusual as the company did not allow external tools to be used without approval from the top management team, as demonstrated in Figure 15 showing how organisational tools worked in the MJCD, and there was no formal policy supporting the use of social media in the company. This section illustrates the findings on how social media was introduced to the MJCD in 2013 by

operational employees, who are technology-driven generations, and how their social media use and digital experiences caused social media to become the predominant tool, which has been used widely by employees since 2015 (as identified in Figure 16). The section presents the findings for the introduction period and the process of shifting from using traditional tools to social media. It also explains briefly the colonisation of an organisation by technology, which will be explained in more detail in the discussion and conclusion chapters (chapters 7 and 8).

4.3.1 When did social media come into the MJCD?

“When and how did social media come into the company?” This was the question that all the participants, from both the focus group session and the semi-structured interviews, were asked. From the responses, there was no exact period when social media was formally introduced into the company. When participants were asked about how social media came to the company, none of them were able to explain or even remember how social media was first used. The findings at least demonstrated that the MNC has been adopting the organisational tools (see previous section 4.2) for a long time, as it is how the organisational system is traditionally structured. One of the executive vice presidents explained that he experienced new technologies emerging but the company did not allow any new technology devices to be used inside the company. Employees were only permitted to use the information systems and tools provided according to the company’s main policies. The beginning of social media use was approximately in 2013, when employees, especially younger generations, started to own smartphones, which was when the shift initially happened (excerpt below).

*“I don’t remember when we started using social media. Probably **around 2013**. Now, we mainly use LINE [social media platform]. Since we’ve been using LINE, we [virtually] neglect the other platforms and tools we have.” (Executive Vice President, Baby Boomer, Born 1950).*

According to the Executive Vice President (Baby Boomer, Born 1955), smartphones were first seen in the organisation in 2013; this was the same time as social media was first recognised in the MJCD. At the time, the senior managers did not pay attention to any social media platforms being used in the company. They developed a level of hostility by setting up a company rule against using social media inside the company during office hours. All employees were only permitted to use traditional tools in the organisation. In 2013, traditional tools were mainly being used for the organisational routines as well as for CIB activities. As shown in Figure 16, social media use in the MNC first started in 2013 but did not gain attention as there was a rule

prohibiting its use inside the organisation. However, its use gradually increased and dramatically shifted from 2015 to the time of the research¹⁸, when social media had become the predominant tool (image 3 in Figure 11). At the same time, there was a rapid decline in the traditional tools, such as telephone and email.

The next section reports the findings of the process by which the MJCD dramatically changed from the use of traditional tools to a new tool (social media). It also describes the reaction of people when social media was brought in while there was the rule against social media at the beginning, and how this research recognised the colonisation of an organisation by technology.

4.3.2 Shifting from traditional tools to social media

It is worth discussing that traditional tools, e.g. telephone and email, had been formally used for a long period of time for CIB activities at the MJCD. In 2013, social media arrived and took over from the traditional tools within a few years. This happened although the top managers established a rule against social media use inside the MJCD. The rule clearly stated *“all employees are not allowed to use all kinds of social media platforms inside the company during office hours”* (Managing Director, Generation X, Born 1976).

From what the Executive Vice President stated, the process by which social media came into the company was not official. The interview findings indicated that social media came into the company from employee to employee, those from the technology-driven generations of the company (Gen Y) at the time. The shifting process began from this period, when the younger generations introduced social media to each other and used it in small circles within their departments. Then, the widespread of social media went on to different departments, managers and top managers, until the number of smartphones and social media users was unstoppable, despite the social media rule. This was the reason why people did not recognise when it became the predominant tool, because the way that social media was brought in was that groups of operational employees who were digital natives – born in the digital era and familiar with adopting and using technology – in the MNC used social media with their colleagues. According to the interviews with the technology-driven generations in the company, they did not feel that it was wrong to use social media, while they acknowledged the official rule against it in the company. This is congruent with the extant literature about the digital natives and their approach to technology (Bennett et al., 2008; Culp-Roche et al., 2020; Vodanovich et al., 2010), as the

¹⁸ The data was collected in 2018.

technology-driven generations used social media as part of their daily routine. The excerpt below describes the social media phenomenon in the organisation.

"The first smartphone was used by our employees, a lot among young employees for general communication. It gradually crept in to our work environment. Before we knew it, we all owned smartphone and we no longer use other tools." (Executive Vice President, Baby Boomer, Born 1955).

The President of the company, who was also the owner of this regional branch, also supported the unknown timeline of social media adoption, observing that:

"I don't remember how we started using social media. But as far as I remember is that we are in the digital age [where] everyone has a smartphone and everyone uses this social media and we use it now. Since then, we've been using it as the main tool until now." (President, Baby Boomer, Born 1945).

Even the top management team did not remember how the company shifted from using telephone and email to communicate, share information and exchange files/documents to using social media, which is strange given that they were the ones who had the highest authority in the company. This finding contrasts with extant literature showing that several organisations formally supported social media as the platform for employees to interact, collaborate and share information; for example, Enterprise Social Media (ESM) (Leonardi and Vaast, 2017; Pitafi et al., 2020; Schlagwein and Prasarnphanich, 2014). At the MJCD, the top management team, who were mostly in the Baby Boomer and Generation X generations, officially banned social media from being used in the company; however, surprisingly, the official rule was ignored, which is usually unlikely to happen in a top-down structure, as reported by the top management team. It was found that the top managers' views were against new technology because they were digital immigrants (Prensky, 2001; Vodanovich et al., 2010).

It can be inferred that the way social media was initiated in the MNC was not in line with the top-down organisational structure. Instead, it was established in a bottom-up manner because the process of shifting was informally generated by members of the technology-driven generation (Gen Y) who worked in operational position and usually had no power to regulate any company rules or policies or to make any decisions in the company. These operational employees went against the rule, which destabilised the system and replaced the existing tools, because of the differences in their generations and attitude towards technology.

The findings revealed that the technology-driven generations in the MNC already used social media in their daily lives, and this was simply how they communicated with their circle of friends (Bennett and Maton, 2010; Colbert et al., 2016; Jarrahi and Eshraghi, 2019). The results from the interviews showed that most younger employees responded along the lines of *“everyone is using it”* when they were asked why social media was used as the main tool in the organisation. To them, social media is part of their lives and is how people communicate in today’s modern society, according to what they said during the interviews. For example,

“The first thing I do every morning, the moment I wake up, is check social media.”
(Marketing employee, Generation Y, Born 1985).

This explains the technology-driven generations and their approach to technology, social media in particular: that it is how social media plays an important role in their daily lives and they did not view it as an issue to use social media in the company because they were born in the digital era (Bennett and Maton, 2010; Culp-Roche et al., 2020; Tapscott, 2008; Vodanovich et al., 2010). In contrast, most of the senior managers had the opposing view of social media. As one Managing Director (Baby Boomer, Born 1963) put it, it was seen as a *“toy”* when the director first encountered social media. From the interview findings with the top management team, it was clear that they intended to prevent social media from becoming a tool in the organisation. As the Executive Vice President explained, in one of the top management team’s meetings, they discussed the use of social media among company employees, and agreed to ban social media during office hours because they all agreed that social media would distract employees’ attention in the workplace¹⁹.

Most senior managers shared in the interviews that it was typical for their management structure that, when the top managers regulate rules or policies, the employees are obedient, but what happened in this instance was that none of the employees followed this rule. The more the top managers resisted social media use, the more the numbers of social media users rose. In 2015, operational employees and department managers used social media more openly, and from that point in time social media has overwhelmingly taken over the existing collaboration and information-sharing tools formally provided and become the predominant tool in the MNC. Even though the senior managers criticised social media use in the organisation, from observing their behaviour during their work practice, they all also used the social media platform that they had mandated against using.

¹⁹ The meeting was held in 2013 when they discovered some employees had started to use social media during working hours. As reported, one of the managing directors warned them in person to stop using it. Then, this was raised on the meeting agenda later on.

This finding recognised this phenomenon as the colonisation of an organisation by technology (Figure 17), which will be described in further detail in section 7.2.5 and section 8.2.1. This phenomenon has made a significant contribution to the extant literature on CIB, social media and generational difference in terms of technology adoption in this MNC setting (this will be explained further in Chapter 7 and Chapter 8).

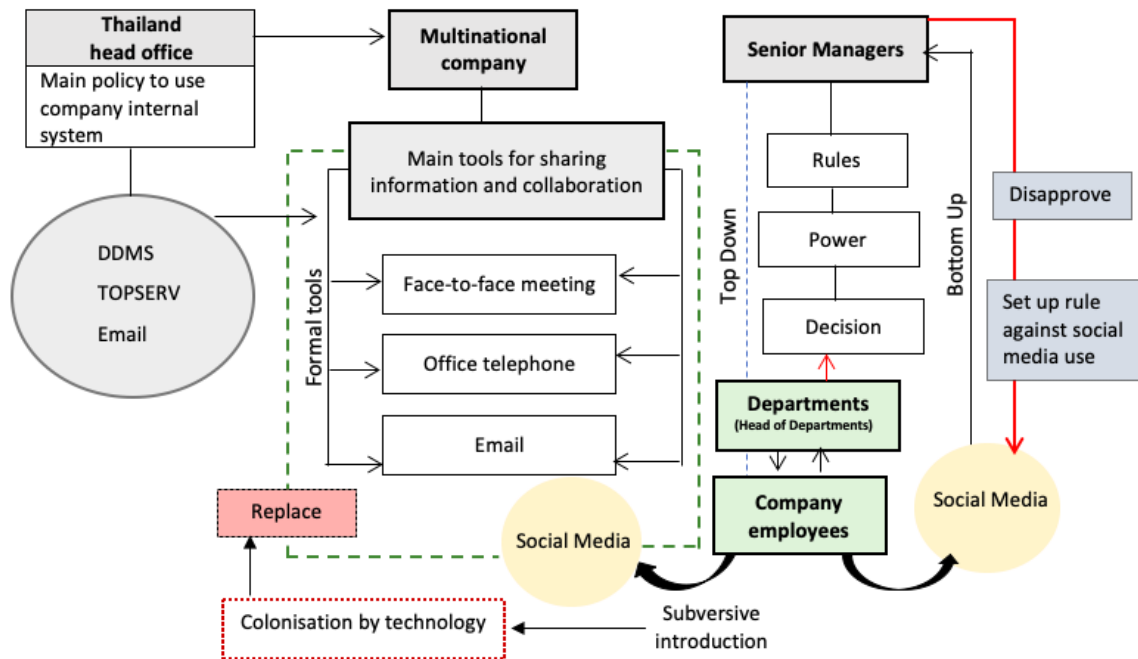


Figure 17 The colonisation of an organisation by technology

The findings presented in this section discussed how social media was introduced and highlighted in that the process by which social media came into the company was a subversive introduction (as shown in figures 11 and 17) and occurred despite the top-down management structure. Instead of being formally adopted, social media use grew from the operational employees, from a bottom-up approach, causing everyone to break the rule about using social media. The result of this was influenced by the factor of the intergenerational difference between technology-driven generations and older generations in the company and their different approaches to technology. The operational employees were mainly from the technology-driven generations, whilst the senior managers were mainly from the older generations. Additionally, AT helped to identify the cultural-historical influence within the context of a multicultural work environment in that there was an issue in terms of the cultural difference between Thai and Japanese cultures embedded in

the complexity of the MNC setting in the MJCD, which influenced the phenomenon (see section 7.2.2 for further detail).

4.4 Conclusion

This chapter described the cultural-historical development of activity systems as this research was guided by activity theory for the investigation and data analysis. When analysing activity systems, activity theory considers the cultural and historical aspects to understand the situation and context holistically because, in activity theory, it is acknowledged that an activity is formed through the cultural and historical influence (Vygotsky, 1978), and actors (subjects) in an activity system bring with them their own histories (Engeström, 2001). The cultural-historical aspects help to understand the overall complex situations of the MNC setting and the interplay of different issues influencing the complex setting and situation. Therefore, this chapter illustrated the background history of the MNC before social media was introduced, the period between the 1990s and 2013, and the process by which social media was brought into the company.

The chapter looked at the nature of work and the organisational structure of the MNC to understand the cultural-historical aspects of the MJCD influencing CIB and social media currently. It was identified that the top-down organisational structure and the cultural clashes between the national culture and organisational culture (Japanese and Thai cultures) within the work environment at the MJCD were significant factors that constrained and influenced the way that the organisation shared information and collaborated in the MNC, including how the traditional tools and systems were formally adopted. The tools timeline was presented to clarify the period when traditional tools and systems were in active use and when social media was introduced, and how the shift in division of labour affected social media use and the use of traditional tools that were already used (officially) in the MNC. This gave a clear picture of the background history of the tools used for CIB activities at the MJCD and the cultural and historical constructs within the setting. The timeline of tools also offered a clear view of how the MJCD developed and evolved through social media use.

Through analysing the process of how the MJCD developed to use social media, as summarised in Figure 12, the findings connote that social media came into the company in a subversive fashion, and no one knew when social media it happened. This means that social media was not formally adopted like other organisational tools. From the findings, the process by which social media was introduced was by company employees who were the technology-driven generations or so-called digital natives in the MNC. They started using social media without formal approval from the senior managers, also called the top managers. According to the findings, the technology-driven

generations were familiar with technology and already used social media in their personal lives; consequently, they started using it with their colleagues in the same way that they used it with their friends. From that, the number of social media users grew quickly and its use almost dominated the existing organisational tools provided by the company. Although the senior managers – who were the older generations, also called digital immigrants, in this study, and were the only people that could formally decide and approve all the actions in this company – set up a rule against social media to forbid all employees from using social media in the organisation, they were forced to shift to social media because most employees used the existing tools less than before and they all switched to using social media instead. It was then identified that the process by which social media came to be used in the MJCD was mainly influenced by the intergenerational difference and the different generations' approaches to technology, because the majority of employees were in Generation Y, which was categorised as 'digital natives' or 'technology-driven generation' in this study. However, the interplay between the national and organisational cultures was the key factor restraining the use of new digital technologies in the organisation.

As a result, the findings in this chapter recognised this phenomenon as *"the colonisation of an organisation by technology"*, in which technology was brought in and dominated the existing tools before it was formally approved by the authority or policy makers in the organisation, as displayed in Figure 17. The cultural and historical aspects of AT captured the process of the MJCD developing and shifting towards social media use, and how different generations reacted to the transformation process, as well as the impact on existing organisational tools, which came from the interplay of CIB, social media use, intergenerational difference, and cultural clashes between the national and organisational cultures influencing each other in the MNC.

The following chapter will present findings concerning when social media is implemented as the collaborative information-sharing tool, as portrayed in Figure 12, and how it is used in the MNC, drawing on the analysis of activity systems and the cultural-historical roots from this chapter to explore further the overall complexity of the MNC setting and the interplay of various factors influencing CIB, social media use, intergenerational difference, and national and organisational cultures in the MNC.

Chapter 5: SOCIAL MEDIA USE AND ACTIVITY SYSTEMS

5.1 Introduction

Chapter 4 presented the background history of the major Japanese car distributor (MJCD) and the cultural and historical influence within the context. It contemplated the overall complex nature of work and the top-down organisational structure, the timeline of organisational tools used for communication and collaborative information sharing, the period (from the 1990s to 2013) before social media was brought in, how these tools were used, and the process by which the MJCD developed and evolved towards the introducing of a new platform – social media – in the organisation, as illustrated in Figure 11. It also highlighted how people of different generations reacted towards the development of and shifted to social media use. The cultural-historical background of the MJCD provides an insight into the current use of social media as it highlighted how and why the MJCD adopted social media in CIB activities and identified the significant factors influencing CIB in the MNC, including the cultural clashes between the national and organisational cultures and intergenerational difference and approach to technology in the MNC setting.

Building from the cultural-historical development of activity systems, this chapter presents the findings of the current stage of social media use for CIB activities and different generations in an MNC setting (Figure 12), drawing upon an analytical tool of activity systems. Components of activity systems will be analysed including motivation, subject, object, shared object/outcome, tools, rules and norms, community, and division of labour. Activity systems are the core unit of analysis in activity theory (Engeström, 2001; Foot and Groleau, 2011). The activity systems will help to investigate the generational difference, the role of social media, the collaborative interaction among different generations in the MNC setting and the interplay of different factors within the activity systems, as well as to identify the tensions and contradictions within the activity systems to pull out key findings, which will be explained in more detail in Chapter 6. Thus, this chapter illustrates the components of activity systems in the MNC context and each component will be presented respectively.

5.2 Social media use and activity systems

This section explains the CIB of different generations when social media is used in the MJCD through a lens of activity systems. Findings showed the current position: that social media was adopted in the MJCD as the tool for collaborative information-sharing activities alongside some

existing tools like telephone and email, whilst it was not official as the rule permitting social media use in the organisation was not lifted. With social media being a CIB tool, the research discovered tensions and contradictions within the activity systems (this will be explained in more detail in Chapter 6). In analysing the activity systems, the findings showed that, apart from the complex MNC environment, the company faced the issue of intergenerational difference, especially in terms of the different generations' approaches to technology when they collaboratively shared information, and the interplay of other significant issues (CIB, social media use, and cultural clashes between the national and organisational culture) also influenced CIB activities in the MNC setting.

5.2.1 Activity systems

This study applied AT to frame the understanding of the overall complex issues of CIB and the intergenerational difference when social media was the mediating tool within the MNC. This section describes the phenomenon based on data findings from the fieldwork using AT to lay out what the actual situation was. Figure 18 below is developed from the analysis of the activity systems; it illustrates the activity systems of the MNC before and when social media became the tool, and is constructed based on the model of an activity system (Engeström, 1987, p. 78). The notion of activity systems for this analysis is the link between six nodes: subject, object, tools, rules and norms, community, and division of labour. Figure 18 displays eight nodes, including motivation and shared object/outcome. It is recognised that the subject in an activity system is driven by motivation (Karanasios, 2018). This research is guided by the third generation of AT, for this generation, at least two of the interacting activity systems will be analysed (the interacting activity systems will be described further in Chapter 6) to explore how social media was used both within and between activity systems. This is why the shared object/outcome was included, as it is important to understand how the interacting activity systems are connected by the shared object.

The upper triangle is the pre-activity systems before social media was used, and the lower triangle is the post-activity systems when social media is used in the company. Red lines represent the tensions and contradictions within the activity systems that occurred when social media became the mediating tool in the company (further detail on contradictions will be provided in Chapter 6). Briefly, the overall activity systems of the MJCD are illustrated in that company employees (Subject) adopted tools in the period before and after social media was used (Tools) to act upon the process of collaborative information sharing (Object) to achieve effective information sharing (Outcome). The company employees are governed by rules and norms when

implementing the activity, work roles are divided by the division of labour, and individuals who share the same goals form the community.

In this section, each component of activity systems will be described to provide an understanding of the current position of CIB, the generational difference and social media use, and of the overall complexity and the interplay between various elements in the MNC setting. It will explain motivation, subject, object, shared object/outcome, tools, rules and norms, community, and division of labour respectively.

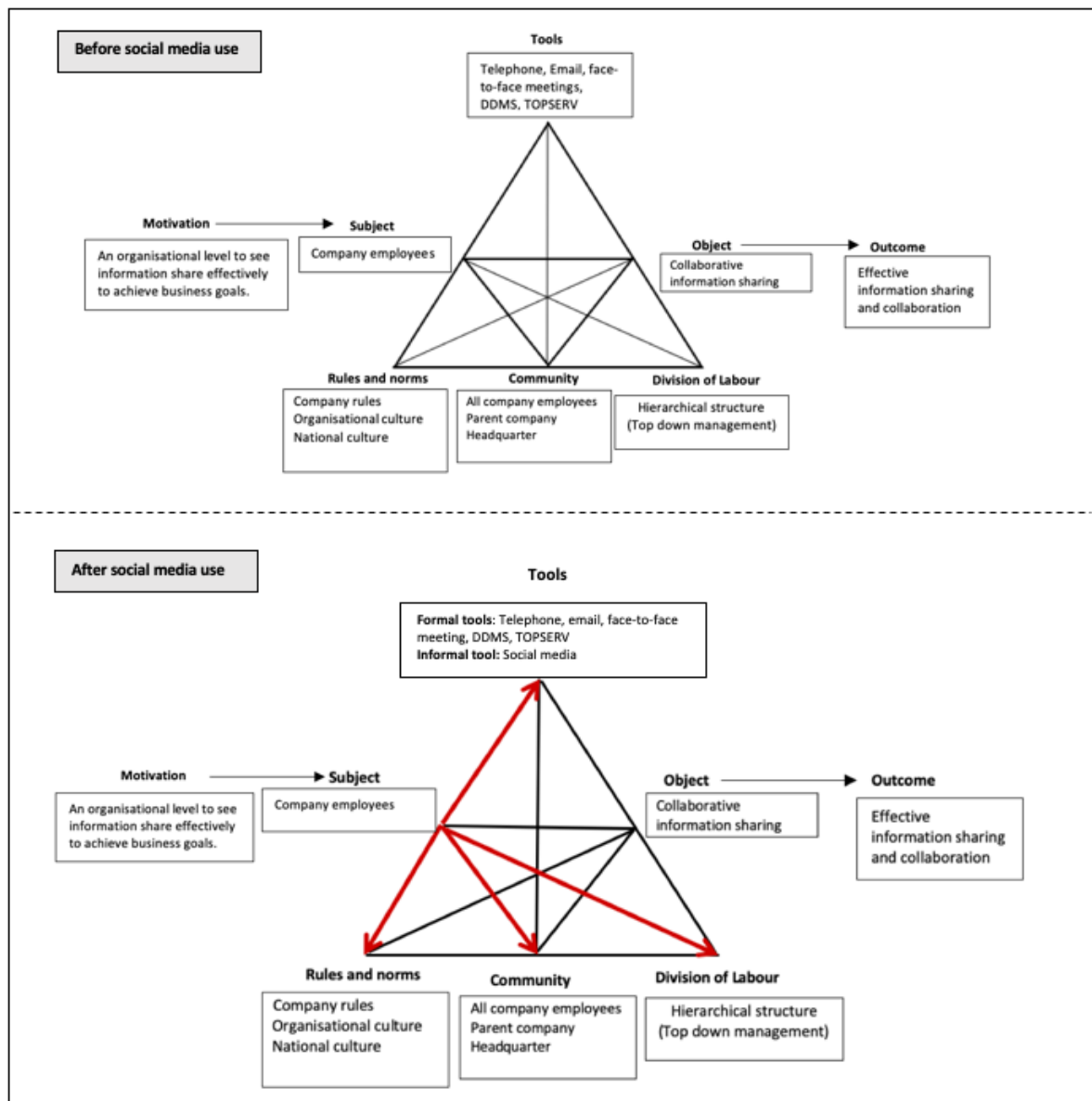


Figure 18 Pre- and Post-activity systems of the MJCD

5.2.2 Motivation

From an AT perspective, motivation drives a subject of the activity system to work on and perform a particular activity towards an object (Karanasios, 2018). In this case, the motivation refers to what drives the company employees to use social media, of all the different tools available, to collaboratively share information in the organisation. The findings reported that the key motivation or driver was mainly an organisational level to see information shared effectively to achieve business goals.

As displayed in Figure 18, the motivation towards the object has remained the same since social media was adopted. When participants were asked about the reason they adopted social media, the majority of interview responses revealed that the employees sought to find well-suited platforms on which they could share information effectively to achieve their goals in the MNC. According to Ng et al. (2017), social media can benefit team members in supporting them to overcome challenges in organisations. Similarly, the findings mainly indicated that the younger generations were the ones who brought social media into the MNC and used it in the MNC because it provided benefits to support their collaborative work at the MJCD, while the older employees developed a level of hostility towards social media when their younger colleagues were using it, because they were not familiar with social media and new technology. The findings highlighted that the MNC not only dealt with the complexity in the multicultural work environment (as identified in section 4.2.1), but was also challenged by external factors, such as the modern business environment. This drove the younger workers to seek digital tools like social media to share information for collaboration to achieve goals in such a complex environment and with these challenges, although their older colleagues did not know about social media and some of them ignored it. For instance, the two excerpts below are examples from the interviews with younger employees.

*"It's easy to use and accessible because everyone in our company uses social media. It's what we need for our company, we need something fast, convenient, and easy to use."
(Marketing employee, Generation Y, Born 1988)*

*"Using this platform is a lot faster and saves my time. For emails and office tools, I rarely use them. This is more convenient to work with colleagues."
(Vehicle Manager, Generation Y, Born 1984).*

Both excerpts indicate that technology-driven generations felt that traditional tools did not enable them to effectively share information like social media because of the business complexity they faced. According to the company employees, more specifically the technology-driven generations, they want fast collaboration to satisfy information needs and to pursue the company's goals. Since the technology-driven generations had already used social media in their daily lives, they then started to use it in the company to replace the traditional tools. This motivated other employees to switch to using social media across the organisation because they were all working towards shared business goals.

The study found five reasons the technology-driven generations adopted social media, which were derived from thematic analysis: social media is faster, easy to use, convenient, accessible, and time-saving to use for sharing and collaborating compared with the traditional tools like telephone and email. Figure 19 depicts the proportion of the participants' responses on their reasons for using social media in the organisation according to the semi-structured interviews with 30 participants. From all 30 participants, 26 responses mentioned that social media (LINE) is "convenient" to use, which accounted for approximately 86.6%; 16 responses (or about 53.3%) were related to "social media is faster"; 11 participants (36.6%) claimed social media is "less time-consuming" and "saves my time"; and 13 responses (43.3%) reported that social media was "accessible" and "easy to use" in the organisation because of its features.

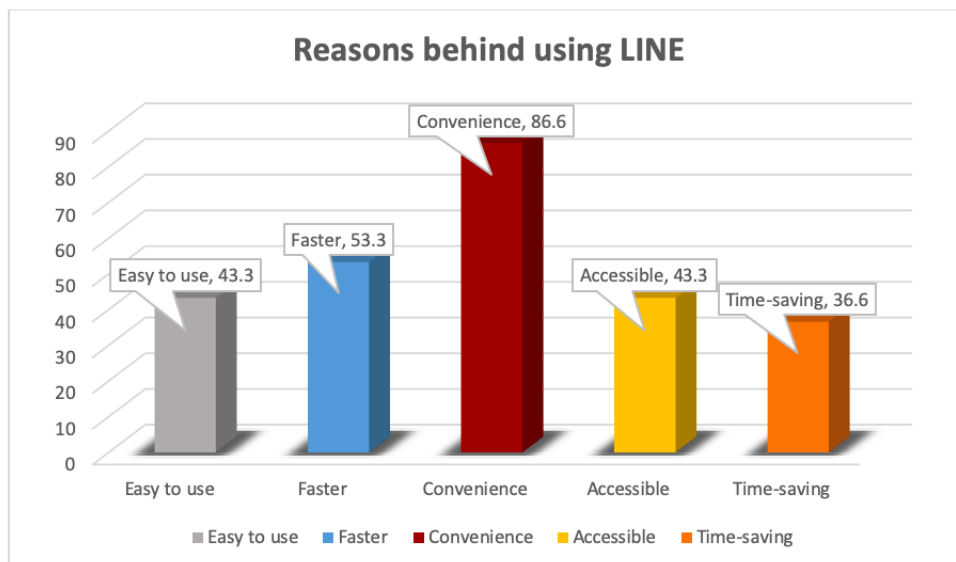


Figure 19 Reasons behind using social media

In the focus group interview, one of the youngest participants from the interviews made an interesting response: "Why would we use other tools when social media offers all the features for

us to get things done?" – (Marketing employee, Generation Y, Born 1990). From the findings, the explanation is that the majority of people, especially the technology-driven generations, prefer to use social media because they already use it and believe it helps support the collaboration and information-sharing activities more than the traditional tools, e.g. telephone and email. The quote below from the Publicity manager explained that using social media saves time and works effectively with the work activities in the organisation.

"I think it helps [make] communication faster, more convenient and more effective. It doesn't require any complicated set-up skills. Everything is done through social media. Photos, files and information can be sent fast, and this helps me work fast with my team in my department. We've only seen good results since we started using it. We're more productive because it saves us a lot of time." (Publicity manager, Generation Y, Born 1983).

It is also important to note that a greater number of the technology-driven generations in the MNC developed hostility towards the traditional tools (telephone, email) established by the company, seeing them as *"old-fashioned"*, *"out-dated"* and *"time-consuming"* to use in today's modern work environment because one of their business challenges relates to time, so processes cannot be time-wasting and employees do not want to battle with time constraints. This was found to be one of the reasons they gradually shifted to social media, which had an impact on the business operations and interaction in the organisation. An Engineering employee shared his opinion on using social media for working and interacting with colleagues in the modern business environment.

"Traditional tools are OK but not fast enough and do not have functions that can help us work in today's business environment. That's why we use social media as the primary tool because everything can be done on social media. We don't need many different tools; one tool is enough and complete." (Engineering employee, Generation Y, Born 1988)

Along the same lines, a Marketing employee had a strong opinion on social media use in today's modern business, as quoted below. This points out that most people were influenced by the fast-growing business environment, which made them seek a tool or platform for effective information sharing in the company or simply follow the world trend to catch up with the current situation.

“Social media is everything and what we need. Everywhere in the world uses social media. It makes communication, collaboration and everything a lot faster. It’s what we need in our work.” (Marketing employee, Generation Y, Born 1990).

Many respondents reported that social media makes their work more productive. For instance, a Marketing employee explained that social media helped increase sales and team productivity, and enabled the team to stay updated with the latest information:

“Our team performance is better. We’ve increased our sales when we fully use social media in our department and across departments. Everything can be done very quickly. It saves a lot of time and that’s why we can utilise time with work overload. Information is accessible and we can keep ourselves updated all the time.” (Marketing employee, Generation Y, Born 1985).

Consequently, the motivation for social media use at the MJCD was found to be at an organisational level to see information shared effectively to achieve business goals because of the nature of their business environment. The findings suggested that the technology-driven generations, who highly engage with social media in their daily lives (Dorie and Loranger, 2020; Hall et al., 2017), were attempting to find an appropriate tool that could allow them to work and collaborate faster in the current business environment to achieve the company’s goals. Due to that reason, they brought in social media to use inside the organisation. In their belief, social media can offer qualities and features in response to the current circumstances to facilitate CIB activities in the organisation.

5.2.3 Subjects involved

The term subject represents an individual or group of people who participate in a particular activity; their actions might be influenced by an object or goal, and they use tools in the activity (Wilson, 2006). As indicated in Figure 18, the subject of the activity systems is company employees who worked for the MJCD both in the collaborative information-intensive departments and in the routinised intensive domain. From the data obtained from the interview with the Human Resources (HR) manager, it was found that the total number of employees was 153²⁰ (Figure 20) and they were from different generations.

²⁰The total number of employees was based on data collected in 2018.

Regarding the generations (Figure 21), the majority of employees at the MJCD were Generation Y or Millennials, and the youngest and newest generation was Generation Z. According to Prensky (2001), these generations are known as 'digital natives' due to their approach to technology. This research refers to these generations as 'the technology-driven generations', 'digital natives' and 'younger generations' based on their birth year and technology-related experience. The generations with the most powerful role in the company were the Baby Boomers and Generation X, which this research refers to as 'digital immigrants' Prensky (2001) or 'older generations'.

Employee roles were influenced by the top-down organisational structure. The company employees who were involved in the activity were from all management levels, from top management, middle management and operational management levels. The top management team has the highest power in the organisation. Based on the findings, there were eight people in the top management team: a President, who was also the owner of the MJCD, two Executive Vice Presidents, and four Managing Directors. The main responsibilities of the top management team involved allocating tasks, following up tasks, making all decisions, and solving problems and issues when they occurred in the organisation. They also monitored employee behaviour.

In addition, the top managers were behind business operations and strategies; they collaborated closely in achieving business goals. The findings indicated that the top management team also participated in the Marketing, Publicity and Engineering departments to oversee the employees' performance and support their CIB activities, granting them permission when the departments sought collaboration and help.

The roles of the middle managers or department heads from all nine departments were defined by their top management team. From the findings, the middle managers were in charge of the designated departments, leading and managing their department teams, evaluating their team performance, and reporting problems or issues to the top management team during their routine operations. In the Engineering department, for example, the Engineering manager explained that it was their job to inform the top managers daily with respect to the evaluation of team performance and report problems or issues that the technicians faced during their work activities.

The operational employees worked according to their assigned routine operations in their departments with the department managers. For instance, in the Human Resources department, the employees' main activities involved recruiting and training employees, employee relations, and dealing with administrative work such as employee compensation, benefits, payroll, etc. In

the MJCD, the top-down organisational structure influenced how the employees (subjects) interacted throughout the organisation. If an employee encountered a problem during their work activities, he or she would need to report to the head of department through the aid of tools, then the head of department would report to the top managers in order to solve the problem.

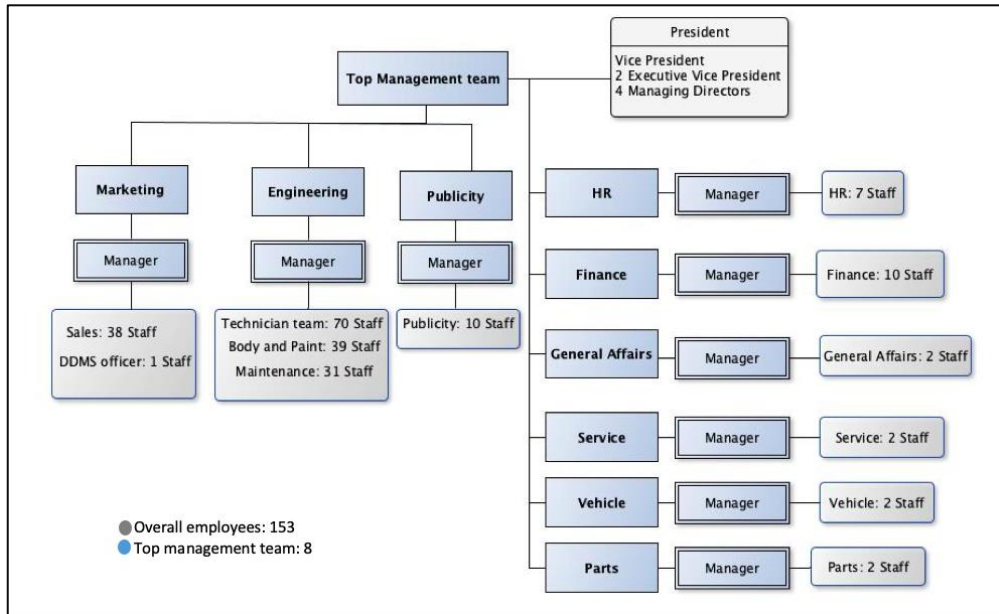


Figure 20 Organisational chart at the MJCD

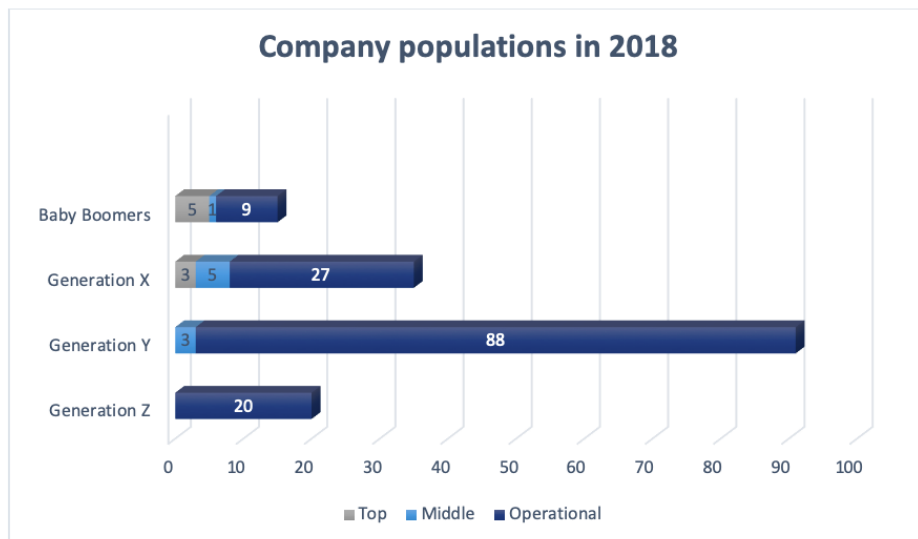


Figure 21 Company populations

5.2.4 Object

The object is the key to transform into an outcome. It can be a material thing, less tangible, or an intangible thing, such as a plan or an idea (Kuutti, 1995). The object guides employees' actions

when participating in an activity (Shaanika and Iyamu, 2015). In the multinational company context, the object driving subjects of the activity systems to act is collaborative information sharing.

Collaborative information sharing is a process that involves team members collaborating to seek, retrieve, share and use information to satisfy common goals (Hansen and Järvelin, 2005; Reddy et al., 2010; Shah, 2014). In the MJCD, this motivated the employees' (subjects) actions when implementing organisational activities through selecting and utilising appropriate tools or technologies (tools) in order to satisfy common information needs (shared outcome: next section, 5.2.5).

Due to its complex and multicultural environment, participants indicated that the ability to collaborate and share information was the key business strategy in this MNC. According to the observation findings, their organisational activities were overwhelmed with constantly sharing information and collaborating within departments in their routine operations, specifically in the collaborative information-intensive domain and the top management team as they had to set up group chats to support their collaborative activity with the top managers.

More importantly, the MNC was facing challenges, such as generational differences and the modern business world, which had an impact on the activity systems. As claimed by the President regarding the generational difference in the MNC,

"Our company goal is to make sure our employees collaborate and work towards what we aimed to achieve. We've been working like that for such a long time. Younger generations want everything fast and simple. That's why they're always bringing new tools in to help." (President, Baby Boomer, Born 1945).

The above statement can be interpreted as the object motivates the technology-driven generations of the MNC to "bring new tools" to achieve the shared outcome. It was found to be a challenge for employees of different generations to employ different tools to support and carry out their CIB activities. From the findings, there were tools mandated by the head office for some departmental routines (TOPSERV, DDMS) (section 4.2.2) as well as tools for sharing information provided by the MJCD which they had switched to social media. Although their motivations and object were the same, it was found that the intergenerational difference was the issue impacting the shift towards social media use in the organisation, which influenced the overall collaboration in information-sharing activities.

5.2.5 Shared object/outcome

In the third generation of activity, the shared object is constructed by at least two interacting activity systems that share a similar desired outcome (Engeström, 2001). It is the expected outcome of the connected activities, where employees of different generations participated in the activity collaboratively to transform the object towards the shared object. In the MJCD, the shared object is effective information sharing and collaboration.

Within the MJCD, from the findings, the main challenge faced by the company was to overcome the overall complexity of the MNC environment. The company employees adopted tools to collaborate and share information to achieve effective information sharing and collaboration, as the shared object indicated in Figure 18. However, it was found that, within the same shared object, there was a shift in tools over time in the activity systems. The findings discovered two distinct periods which consisted of the pre-social media period and the current stage, when social media was the mediating tool in the activity systems. This was found to be influenced by how the generations collaboratively shared information in the MJCD over the period of time. This research looked into the activity system of the overall MJCD in order to gain an insightful understanding of the CIB and the shift from existing tools towards social media in the MNC (Figure 22).

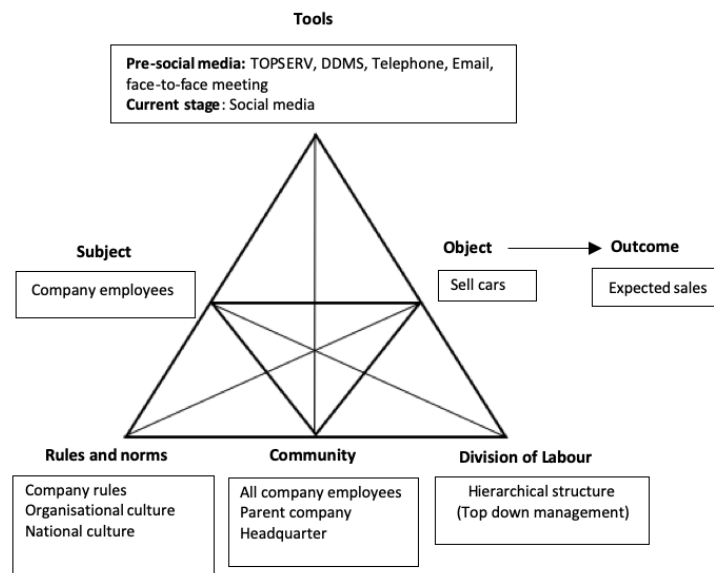


Figure 22 Activity systems of the MJCD

In Figure 22, it can be seen that the object of the company was to sell cars in order to achieve the expected sales (outcome). From the interview findings with the top management team, this was the company focus, and the senior managers explained that their work activities and work roles mainly dealt with marketing and sales to achieve the expected outcome. Most importantly, the

senior managers stated that they had to work very closely with sales teams in the Marketing department to find solutions and overcome complexity in their company work activities. From this, CIB can be drawn within this context in that there was a need for people to share information and collaborate in the company, more specifically in the collaborative information-intensive domain and the top management team because they worked according to the main company object (sell cars) towards accomplishing the desired goals (expected sales), consistent with the CIB literature (Hansen and Järvelin, 2005; Hertzum and Reddy, 2015; Reddy and Jansen, 2008; Shah, 2014) that people usually collaborate when they have similar goals and complex information needs.

In the interviews, participants were asked about how they collaborated and shared information in the company before and during the social media period; many research participants from the collaborative information-intensive domain, for instance in the Marketing department, shared that they had to constantly collaborate and share information with the top managers to seek approval through multiple face-to-face meetings. They also had several face-to-face meetings and interactions within the department during their CIB activities because their department required them to deal with sales, customers and marketing strategy towards the goal, and they required the top management team to support their work activities, as stated below.

“We had a lot of meetings. We had to discuss with our team to brainstorm [a] sales strategy and after that we had another meeting with the top managers to finalise our strategy. We need them to suggest and approve our plan. It was how we worked in our department.” (Marketing manager, Generation Y, Born 1982).

One of the Executive Vice Presidents also told the researcher that there was also a high level of collaboration among the top management team, which took up nearly half their workload as there were many problems to be solved and decisions to be made:

“We rely [greatly] on collaboration in our team, and because of this we have a lot of meetings going on daily, weekly, to collaborate and come up with [a] strategy to overcome problems.” (Managing Director, Generation X, Born 1975).

As stated by Reddy and Jansen (2008), information need for CIB activities is often complex, which made collaborative information activities in the company more prominent. The collaboration at the MJCD was already seen as challenging and necessary in their company top-down structure and multinational environment. It was essential that the company employees and top managers

employ tools to fulfil the CIB activities, consistent with extant literature regarding the role of technologies as the facilitating and interacting tools in CIB activities (Karunakaran et al., 2013; Reddy and Jansen, 2008; Shah, 2014). The findings indicated that employees adopted different tools to collaborate and share information. In the past, between the 1990s and 2012, they used internal organisational tools to carry out routine operations and to support the CIB activities, as previously discussed in section 4.2.2. During this period, it was compulsory to adopt these tools, following the main policy of the head office in Bangkok, and the existing tools were able to support their CIB activities effectively until this type of collaboration no longer worked the way it used to, due to the increasingly global business competition (Sekiguchi et al., 2016), globalisation (Thamhain and Asgary, 2013), and expansion and development of the information culture (Tayebi et al., 2019).

There was a shift in 2013 when the company employees, who were the technology-driven generations, introduced a new technology, which was the social media application called LINE, to the company. From the interview findings, many research participants expressed that their drivers caused them to switch to social media so that the way they collaborated in the past became obsolete. Then, a group of technology-driven employees in the company had the motivation that influenced their actions to achieve effective information sharing and collaboration, and so they began to seek new tools to serve the current stage of CIB activities. These technology-driven employees were asked to discuss during the interviews about using social media in the organisation, and their responses were the same – that *“everyone is using it”*.

Many participants mentioned along the same lines: that it was a challenge to collaborate in a modern business environment where there was a significant need to follow new digital technologies and the shift in how people communicated as people switched tools and no longer used traditional tools. To be responsive to the shared object and goals, they changed the tool with which they communicated and shared information from traditional tools like telephone and email to social media, as social media has increasingly become the communication and collaboration tool for many organisations in today’s environment (Leonardi and Vaast, 2017; Pitafi et al., 2020; Van Osch and Yi-Chuan, 2017). The pre- and post-social media activity systems are displayed in Figure 17.

Although it was shown in the current stage of the activity system at the MJCD that social media was now the mediating tool, this presented a contradiction with the view of the senior managers and other employees who were the older generations in the company. It was found that this was related to the issue of the intergenerational difference influencing the shift towards social media

use in the organisation, as the number of technology-driven employees surpassed the number of digital immigrant employees. The findings revealed the reason behind social media use in the MNC: that it was initiated by a group of technology-driven generations in the company. There were different levels of comfort of use regarding how different generations viewed and used tools when they performed activities, which were influenced by their experience and attitude (this will be discussed in more detail in Chapter 7). The findings confirmed the extant literature that the digital natives and digital immigrants had a different background in terms of their relationship with technology (Bowe and Wohn, 2015; Culp-Roche et al., 2020; Tapscott, 2008). Both digital natives and digital immigrants in the company were driven towards the common goal, to achieve effective information sharing and collaboration. However, the way they interacted with the tools towards the shared goal was different, as well as they had different views towards social media, which was congruent with the previous literature that younger generations were more likely to increase their familiarity and experience with digital technologies as part of their lives – such as social media in this case setting (Bowe and Wohn, 2015; Culp-Roche et al., 2020; Tapscott, 2008).

Older generations who were top managers in the company believed that *“effective information sharing and collaboration”* in the business activities and operations could be achieved by using the traditional tools (telephone, email, face-to-face meeting) they had been using to share information and collaborate with their employees. This was in contrast to the technology-driven generations, who had stopped using telephone and email and only used social media to perform their collaborative activities. Technology-driven participants explained that the reason why they were against traditional tools was that traditional tools were not effective for their current work activities and were less capable in terms of the results they were pursuing. These technology-driven generations believed that social media was more effective to use because of its functionality and accessibility. As one participant put it,

“I prefer to use this social media platform because of its convenience. Social media is only one second away from messaging, calling and all features. With existing tools, it’s time-consuming and involves many processes.” (Vehicle manager, Generation Y, Born 1984).

The participant clarified that for *“many processes”*: *“I didn’t need to contact their personal assistants to wait to talk to one of the top managers or wait in front of their offices until they are free to talk. Now, I send messages to the chat group. One of the colleagues will tell me, or one of my bosses will call me. It saves a lot of time and processes.”*

From what the participant experienced, it seems that social media has minimised some communication barriers and stages with the older colleagues compared to before social media was used. The findings demonstrated that, while the technology-driven generations and older generations have different views on social media, the shared object is what keeps them pursuing the same direction, and the intergenerational difference plays a significant role in their CIB and the overall activity systems.

5.2.6 Tools

In activity theory, tools can be “artefacts or abstract constructs” (Wilson, 2006, p. 4). According to Vygotsky, tools can be psychological tools and systems, for example, language, symbols, signs and drawings (Ditsa, 2003). In this case, the mediating tools in the post-activity system were categorised into two types: formal and informal. Formal tools were DDMS, TOPSERV, and email, telephone and face-to-face meetings (section 4.2.2), which were formally approved by the senior managers (older generations). The informal tool was social media, as the top managers disapproved of it and it was introduced informally to the MNC by their digital native employees. This section discusses the current position of social media use and how the company employees of different generations, the technology-driven generations and older generations (subject), used social media to share information in the MNC.

1) Social media platform

To comprehend how employees of different generations used social media for their CIB activities, the focus group participants were asked to identify what social media platform they used at the MJCD. This was to give a brief background of the tool they used, as there are various social media types and platforms from which organisations can choose (Leonardi and Vaast, 2017; Schlagwein and Hu, 2016; Schlagwein and Prasarnphanich, 2014).

Both focus group and semi-structured interview findings noted that they used a social media application called LINE²¹ at the MJCD. It is a communication application similar to WhatsApp but LINE is used widely mainly in Japan, Thailand and Taiwan, according to We Are Social (2019). From the findings, LINE is a social media platform that people can download and access. It is

²¹ LINE is a Japanese communication/instant messenger app produced and operated by the Line Corporation – the Japanese subsidiary of Korean internet search engine company Naver Corporation. According to We Are Social (2019), LINE accounted for 194 million global users in 2019 and was ranked 20th in the list of top popular social platforms. LINE provides various features such as instant messaging, voice calling, video calling, and social features, for example, LINE stickers, LINE taxi, LINE shopping, LINE TV, and upcoming features to be developed and launched, according to the LINE Corporation (2019).

different from Enterprise Social Media (ESM). ESM has been formally adopted in many organisations, many of which have their own ESM platform for employees (Leonardi and Vaast, 2017; Sun et al., 2020; Sun et al., 2019; Treem and Leonardi, 2012), but LINE is a social platform that serves a communication purpose rather than a professional social media platform.

According to the findings, all employees installed LINE on their smartphones, and they used their smartphones to access it. At present, LINE is the predominant tool that employees of all generations use instead of telephones and emails when they interact and share information within the company. The following will explain further details on how LINE is used in the MJCD.

2) How do they collaboratively share information using social media?

As derived from the findings, MJCD used LINE to share information within the company through three channels: 1) company group chat, 2) department group chat, and 3) direct instant messaging (Figure 23). These channels were the predominant channels for sharing information, collaboration and communication, according to the findings.

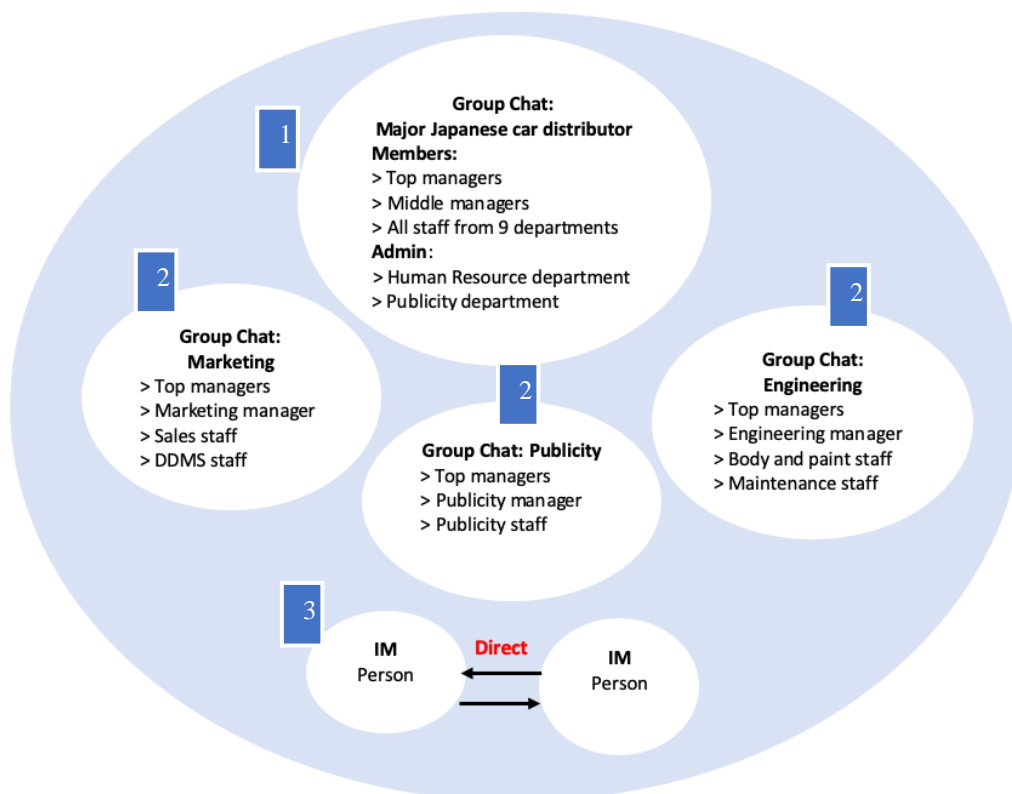


Figure 23 The three channels of social media use at the MJCD

- **Company group chat**

The MJCD used LINE to create a company group chat where every employee was in the group as well as the top managers. There was no data found on who was behind the company group chat as no participants remembered who created it. At the time of the study, the admin of the company group chat was the Human Resources and Publicity departments. The Publicity department was in charge of broadcasting information and creating content to share with the group, and the Human Resources department was in charge of managing members and bringing new members into the group chat.

The purpose of this company group chat was for the Publicity department to broadcast information related to the company, such as company news, new policies or rules set up by the top management team which all employees were obliged to follow, and company events. The Publicity manager explained that the Publicity employee were entitled to share information through messages and/or photos of posters made by the department for the company events when the top managers or the headquarters set up new rules. It was the Publicity department's responsibility to inform all employees about the updates to the rules. The Publicity department was also in charge of broadcasting information about events to be held by the company for the employees, such as company staff party, charity events, team-building workshops and CSR events, and employees were required to participate in all these events. Another responsibility of the Publicity department was to share photos from the events with everyone in the group afterwards. Overall, these tasks were part of the department routine operations in the Publicity department.

Another purpose of the company group chat was to act as a communication hub for employees to interact with their colleagues. It allowed them to enquire about an event or new company rules to avoid misunderstandings, and which they could receive answers at the same time as the employees or top managers in the group. It is worth discussing that some employees of the technology-driven generations believed that using social media and group chat would help reduce the communication gap between employees, managers and the top managers. As mentioned by a Human Resources employees, the intention of the group chat was to help reduce the communication gap between senior managers, department managers and operational employees:

"I think the group chat is a useful tool to let people from different positions like managers and subordinates be in the same group to get to know each other and communicate."

There might be some gaps between us so this would help, I think.” (Human Resources employee, Generation Y, Born 1990)

With social media, the findings claimed that it helped ease the communication gaps among employees, and it was much easier to communicate and interact with each other through the group chat.

As for the top managers (older generations), it was also found that they used the company group chat for employee relations. The interview results reported that the top managers’ routine on the company group chat was to send pictures with the words *“Happy Monday”* (or Tuesday, etc.) to their employees every morning, seven days a week, before office hours started. When asked why they did that, they said it was their way of greeting their employees every morning. One of the Executive Vice Presidents explained that they used social media as a channel to bridge the gap and maintain the relationship between top managers and employees of all management levels, and sending a photo every morning was sharing positivity with their employees.

“I sent photos to greet my employee every morning. We [top managers] do that. It’s a good way to start the day by motivating them and maintain[ing a] relationship.” (Executive vice president, Baby Boomer, Born 1950).

The above interview excerpt indicates that the top management team considered using the group chat to motivate their employees and maintain employee relations within the organisation as it was an easy way of doing this, because every employee was in the group chat. According to the findings, it was possible to say that the company group chat was used mainly as the tool for broadcasting information and for internal communication as well as for employee relations in the MNC.

- **Department group chat(s)**

Apart from the company group chat, this study found that there were group chats created separately for collaborative information-intensive domain with the top managers. As addressed in a previous section (section 4.2.1), the majority of collaborative activity in the MJCD was in the Marketing, Publicity and Engineering departments. It was found that Marketing, Publicity and Engineering created group chats for their departments and the senior managers were in the group chats as well.

The main reason why department group chats were created was to aid CIB activities within the departments and with the top management team. As stated, the MJCD operated a top-down management system; power was not equally distributed as only the top management positions were in charge of the decision-making process, strategic planning, setting up goals, leading and giving orders to subordinates, according to the interview findings. This affected their organisational communication, even though they used social media in the MNC. The interview findings with the managers from these three departments revealed that the role of senior managers was significant in their collaborative work activities as none of the employees were eligible to approve their own work themselves or make any important decisions concerning their work unless they received formal approval from the top management team. Therefore, they created department group chats to facilitate their CIB activities with the senior managers. They can directly communicate and share information in the group chats, and the senior managers can approve activities, make decisions, and monitor the employees through responding to them on the group chats.

- **Direct instant messaging (IM)**

The last channel is direct instant messaging (IM). This includes using messaging, voice calling and file/photo sharing on the LINE platform. The difference is that it is person to person, as they directly contact the person with whom they collaborated. This channel was found to be widely used throughout the organisation. The findings indicated that this method was mainly used when employees were not physically co-located and they wanted to communicate with their colleagues, for instance, in different departments. The quote below from the Engineering employee best described how employee used LINE to seek collaboration with others who were not co-located with them.

"We always use LINE in our team and [with] different departments. When I collaborate with different departments, there are times that a long discussion is needed, [so] I will go to their office. In that case, I will have to message the person on chat first to ask if I could go to their office or not, or set up a meeting. Something of that sort." (Engineering employee, Generation Y, Born 1988).

This excerpt suggests that LINE messenger was the primary tool when collaborating and communicating with a person from a different department or with any colleague who was physically not co-located. The majority of participants also shared the same view: that this is how

they share information and collaborate nowadays, by using LINE messenger to send a message to the person or call them, as mentioned in the quotation below.

“We mostly communicate on LINE in our company nowadays. But, in the case of an emergency or we need to talk with the person, voice calling on the application comes in handy...” (Marketing employee, Generation Y, Born 1989).

In addition, it was not only operational employees but also department managers and top managers who used LINE messenger to collaborate. From the observation findings, while it has been stated earlier in the chapter that the senior managers disagreed with the use of social media in the company, the researcher noticed that all senior managers used LINE messenger in a similar way as their younger colleagues; they used it for communication between the top management team and with their subordinates. The researcher observed that the senior managers used LINE to send messages and call their top management team and their subordinates to discuss work. Another situation was the senior managers also used LINE to send and receive files and photos for CIB purposes. For example, one of the Executive Vice Presidents sought collaboration with a Marketing employee by asking them to send documents via LINE messenger. Thus, this explains that the older generations used social media for CIB tools, even though they had developed a level of hostility against it.

5.2.7 Rules and norms

Rules and norms refer to rules and policies inside an organisation that govern employees of different generations in the organisation regarding their interaction and behaviour. It was discovered from the document analysis that the MJCD was mainly governed by rules and norms from the parent company in Japan and the head office in Thailand, as well as company rules can also be established at the full discretion of the senior managers in the regional distributor. The findings from the fieldwork indicated that a new rule was created because of social media, and the national culture (Thai) and organisational culture had a major influence on CIB activities.

1) Company rules

At the MJCD, people generally followed rules and regulations which were formally established by the parent company in Japan and the head office in Bangkok, Thailand. It was found, based on the interview findings that, apart from those rules, the senior managers at the MJCD could also create

official rules. These rules were meant to discipline and monitor employees' behaviour and actions at the MJCD.

In the case of social media being the mediating tool, the impact of social media use had caused the top management team to impose a specific rule concerning social media use in this organisation. In the interview sessions with top managers, they stated clearly that, when employees (technology-driven generations) started to use social media in the organisation, the top management team held a meeting about this. Their meeting agenda was to discuss the digital native employees and their social media use in the company. The consensus was to ban social media at the MJCD during office hours as they agreed that social media distracted employees' attention. This was shared by one of the Executive Vice Presidents, as illustrated below.

"We were concerned that social media would distract our employees' concentration on their work, and we all agreed that it is difficult and out of our control to manage their behaviour when they're using the application at the time they're working on their assigned jobs. I had a meeting with my team, and we all came to an agreement that we [would] set up the rule to ban the use of social media in our office. They are not allowed to use it at all costs." (Executive Vice President, Baby Boomer, Born 1955).

From the findings, the top management team had the power to enforce the rules in the organisation, and it was essential that employees followed the rules. However, none of the technology-driven employees seemed to follow the rule as they still used social media to share information. When technology-driven employees were asked about this, their responses were the opposite of the top management's. Their responses were *"social media is allowed"* and *"there is no rule forbidding the use of social media"*. The findings demonstrated that the technology-driven generations said using social media was ordinary for them since they had been using it to communicate in their daily lives and it was part of the environment they grew up with (Bennett and Maton, 2010; Tapscott, 2008; Vodanovich et al., 2010).

Most importantly, the technology-driven generations also used social media with the older generations (senior managers), even though the older generations were the ones who had banned it. From the observation findings, whilst the senior managers said they disagreed with and did not support the use of social media, they all accessed social media and used it as much as other employees did. The researcher spoke to two managing directors regarding the issue of social media rule, and their responses were as follows:

“It’s banned still. It’s just very difficult to discipline them. If any employee says that it is allowed, there’s a problem. No, we won’t allow that.” (Managing director, Born 1978).

“They are not allowed to use social media but I can’t control them all the time. So, I let them use it if they use it for a good reason.” (Managing director, Born 1978).

This caused the secondary tension in the activity system (Engeström, 2000) between subject and rule (further detail in section 6.4.1). It is worth discussing that the technology-drive generations and the role of social media were powerful in this MNC. Even though the top management team created the rule, in practice their actions were contradictory. They might use social media with their subordinates as a business communication and collaboration tool, but it was found they had developed hostility towards social media, which was congruent with previous studies that found this could be due to the difference in their approach to technology and how they grew up in a different environment (Bennett and Maton, 2010; Culp-Roche et al., 2020; Prensky, 2001; Tapscott, 2008; Vodanovich et al., 2010).

2) Organisational culture

From analysing organisational documents, including online and offline information sources²², the influence on the rules and regulations at the MJCD was from the parent company in Japan and the head office in Bangkok, Thailand, as well as from the MJCD. According to Wang and Chompuming (2015), the organisational culture is influenced by the national culture as organisations engage with the national environment of certain countries. For this case, the MJCD interacted with two cultural clashes in the organisation, organisational Japanese and local Thai culture. The MJCD shared the same principles, code of conduct, set of values and beliefs, and corporate policies with the parent company and the head office. The findings also discovered the organisational culture existing in the MNC which influenced how employees of different generations collaborated and shared information.

In the review of relevant company documents, *‘teamwork’* was one of the principles under which the employees at all levels were expected to operate and perform work activities in the MJCD. Teamwork was a requirement in their organisational culture, which was mainly influenced by the Japanese parent company to rely on this practice, as clearly stated in the company documents

²² Online documents: corporate background and history, company report, and company work ethics and guiding principles.

Offline document: documents provided by HR department at the MJCD. For example, employee package, training materials that includes company policies, rules and regulations.

(corporate website, company guide, training guide). This culturally influenced the working environment and how the organisation was operated and managed at the MJCD.

One of the Managing Directors stated that Japanese and Thais shared a similar approach in working as a team. According to Hofstede's cultural dimension, Thailand and Japan were both in the high index of collectivist cultures (Hofstede et al., 2010), although the Japanese culture concentrated more on teamwork in work behaviour (Swierczek and Onishi, 2003; Wang and Chompuming, 2015). The Managing Director explained how the top management team promoted collaboration in the MJCD: there is a reward system, in which each team collects a point when any team member performs well, and the team will be rewarded monthly and the final reward is the annual reward. This is one of the strategies to enhance the quality of employee performance which originated from the parent company in Japan and which have been transferred to the subsidiaries. Participants explained that it persuaded them to work together in a team, and most of them found that they relied on working with their team more than working individually. During interview sessions, most employees referred to themselves as "we", referring to the whole team members in the organisation, when answering interview questions. They also said that they relied on teams and collaboration, specifically the Marketing, Publicity and Engineering departments, when they carried out activities.

3) National culture

The interview analysis presents that the national culture was embedded in the MJCD. The management and business operations were influenced by the national culture (Thai) and company traditions. Some aspects of culture between Thailand and Japan seemed to overlap, Japanese work ethics and principles directed the overall MNC setting, but how the MNC operated and interacted within the organisation was mainly based on the national culture, as the company President stated during the interview,

"We mainly follow our ethics as well as work process and system set up by the Headquarters in Japan. At our company, we also have our own organisational culture and tradition that we've been doing for a long time." (President, Baby Boomer, Born 1945).

The President provided an example of the morning meeting as part of the company culture in how they practised their organisational rituals and routines, which included Thai cultural elements in the activity. Another cultural issue mainly mentioned by digital native participants

was “*respect and obey the elders*”. This is the root of Thai culture (Wang and Chompuming, 2015). All participants expressed that this is an important cultural rule for Thai people (Atikomtrirat and Pongpayaklert, 2010). The elders, in this case, refers to the top managers and digital immigrant colleagues. The interview analysis found that employees’ behaviour was monitored. Some participants, who were the younger generations, were reluctant to provide information during the interviews, and they asked the researcher to make sure they would not get into trouble for discussing the senior managers and their older colleagues, while most of the participants (younger generations) shared that their behaviour was being controlled as well as how they used language and tone of voice when communicating with the “*elders*”.

“We, younger generations, have to be very careful with older generations because it’s part of Thai culture that we have to respect [our] elders and it’s a must when we talk to older generations that we use the right language, because [otherwise] it will look like we’re rude and we disrespect them without intention.” (Publicity employee, Generation Y, Born 1987).

The interviews with the top managers highlighted that they viewed it as a company value to maintain the quality of employees’ performance, and it was common that the younger generations had to be polite and respect the older generations. The top managers raised concerns about the intergenerational difference because of how inappropriately younger generations behaved in terms of the language they used with the elders, which appeared to be impolite and disrespectful in terms of the Thai culture.

5.2.8 Community

Community in the activity system refers to “multiple individuals and/or sub-groups who share the same general object” (Ditsa, 2003, p. 214). It considers all individuals who share similar goals or interests. The community within the context of the MJCD includes all company employees, the parent company in Japan, and the headquarters or head office in Bangkok, Thailand.

Within the MNC, the findings highlighted that the parent company and head office existed in the company environment. It was compulsory that the MJCD followed the policies, principles and work ethics, as discussed, of the Japanese parent company. This was rooted in their organisational culture and the activities they carried out. Additionally, the head office was also considered to be the community in the activity system. The interviews with top managers indicated that the head

office had authority over and a huge influence on the distributors all across the country. As a Managing Director indicated:

'Country Headquarters puts a lot of pressure on us. They have very high expectations and high standards' (Managing Director, Born 1976).

From what the director further explained during the interview, the head office had a mission to follow the parent company's business strategies, practices and principles, and modify practices to local adaptation. The director then explained that the headquarters had expected targets to meet each year, which were shared with the branch companies all over Thailand as the annual goals with the expectation that they would be accomplished. This finding is significant in that, in both parent company and head office from the MNC, all company members were engaged in business activities and shared the same interest and goals to achieve effective information sharing and collaboration.

- **Intergenerational difference**

From the findings, the MJCD was encountering the issue of intergenerational difference in the company. The intergenerational difference had an influence on all employees in the company's community. According to the analysis of the findings, the impact of intergenerational difference presented challenges that led to tensions and contractions in the activity system. What was found to be the problem in the MNC was the interaction between different generations with social media being a mediating tool. From the findings, older generations resisted social media and were not willing to use it, from what they reported in the interviews, but this was not the case in reality.

The interview findings presented negative feedback from the older generations regarding social media interaction in the organisation. The majority of their responses, especially those of the top management team, showed their views that social media should not be used inside the company for two main reasons. The first reason was expressed by one of the Managing directors, that the social media application the company used was not considered a professional tool:'

"I don't like using it at all. It is informal not professional. It can cause you addiction, and, if it's not for work purpose, I won't use it." (Managing Director, Generation X, Born 1976).

Another director added that “*organisational tools*” were designed for use in a professional work setting, and it was unnecessary to use a new tool in the company.

“Formal tools are supposed to be used for working in the company. They’re working fine. I don’t think it’s necessary to use social media or a new tool.” (Managing Director, Baby Boomer, Born 1963).

The second reason seems to be related to the control issue. Several member of the older generations found social media to be a distraction and felt that it was difficult to control employee behaviour concerning how they use social media. The below excerpt illustrates their concern about the control issue.

“We can’t control our employees when they use their smartphones during office hours because we don’t really know if they really are working or just using it for personal reasons. Our company policy does not permit employees to use social media – to control and discipline employees’ behaviour. But, well, it is quite difficult to control this matter because sometimes some employees talk to our customers, and using this platform is very convenient. We have to observe their behaviour from time to time.” (Human Resources manager, Generation X, Born 1975).

Another excerpt was from a Managing Director sharing their concerns about the same issue:

“We set up the rule not to allow them to use social media at work to control and discipline employees. They will lose concentration. They won’t be able to work at their fullest potential, and this will affect their work performance.” (Managing Director, Generation X, Born 1976).

From both excerpts above, it seems that their concern was about not being able to “*control and discipline employees*”, which was related to how the older generations resisted the social media use as it was challenging to control it and it may influence employees’ work performance when they were on their devices. However, despite their concerns, they were unable to resist the use of social media in the company as it is now the main communication and collaboration tool.

The Human Resources manager explained that: “*We don’t want to use social media but we have to because everyone is using it.*” This could be the “*pressure*” from “*everyone is using it*”, and everyone, from what the manager refers to, is the technology-driven generations. Another possible driver

seems to be the control issue. From the analysis of findings, it could be that, since the technology-driven generations did not seem to stop insisting on the use of and convincing others to use social media as the tool, this drove the older generations to switch to social media, because formal tools tend to be used less by the technology-driven generations and, as reported, the majority of employees were Gen Y (technology-driven generation). Thus, older generations were conscripted to use social media in order to be able to communicate and collaborate with the majority of employees at work, as well as it could allow them to “*control employees’ behaviour and performance*”. The below excerpt derived from the interview with the Vice President clarifying the issue.

“Now everyone uses social media and young people rely on social media so much in our company. To be honest, I don’t like to use it for work but it is hard and almost impossible not to use with them because we have to communicate, collaborate and share information all the time. If they use it, we have to be able to control their behaviour.”
(Vice President, Baby Boomer, Born 1960).

Another, similar response was from one of the Executive Vice Presidents:

“They’re not using formal tools a lot now, [only] very occasionally. If we use formal tools, it’s like we’re talking to nobody. We can’t control the platform they use but we have to control how they use the platform.” (Executive Vice President, Baby Boomer, Born 1945).

These excerpts are similar in that they talk about the “*control*” issue, and it seems that control was incompatible with the tool the technology-driven generations had decided to use. This drove the older generations to switch to social media because it might allow them to control their employees, according to the older generations’ responses.

The interesting finding is how the technology-driven generations were the major influencers of social media use in this organisation, although all of them discussed the need to “*respect and obey the elders*” (section 4.4.6), and some of them seemed to be reluctant when referring to the older generations during their interviews. Thus, intergenerational difference existed in the community and greatly impacted social media use in the multinational company.

5.2.9 Division of labour

Division of labour indicates the division of tasks between the members in the system or community, and it reveals their level of power and status (Ditsa, 2003). It describes the different tasks and responsibilities of individuals in the community engaging in an activity to achieve the desired outcome. In the MNC, the division of labour was found to be based on a hierarchical structure in the company.

As discussed in section 4.2.1, the MJCD has a top-down structure. The findings indicated that this hierarchical structure had a major effect on the work roles and the entire organisational system as well as on the CIB of different generations. The analysis of interviews showed that the hierarchy and power distance were quite high, which influenced the top-down management approach in their management style. The hierarchal structure supported the allocation of work roles and responsibilities, and a high degree of power distance indicated how power was distributed unequally in the management structure. The MJCD applied a top-down management structure, where the top management level held the authority and power, and all decisions and problems were finalised by them.

Moreover, the middle and operational management levels had little to no control in the organisation. Middle managers were not eligible to participate in any decision-making process in the organisation; they could only be part of the brainstorming process, as explained by a Publicity manager during the interview,

"I don't have the power to decide any decisions. I have to ask and wait for my boss. Otherwise, work can't be done." (Publicity manager, Generation Y, Born 1983).

It seems that employees accepted the unequally distributed power in the organisation, according to their responses, and this could also be associated with the Thai cultural aspect of *"respect and obey the elders"* that was embedded in Thai culture. In terms of using social media, the division of labour had become an issue causing tension between company employees and the process of collaborative information sharing in the activity system in how they used social media (section 6.4.3). Since the top managers were authorised to regulate the rules and control employees' behaviour, they enforced the new rule to prohibit social media use in the organisation.

In addition, the findings showed another issue between subject and division of labour was related to how different generations used social media. Many digital native participants expressed that

social media was a useful tool for urgent collaboration, and they found no problem using it with others from the same generation. However, sometimes social media was not useful; for example, when top managers did not interact with it and respond in urgent cases, because the final decisions could only be made within the top management team. A Marketing employee shared their experience,

“They [top managers] are very slow. Sometimes they don’t respond at all. It really makes the whole work slow. Customers get angry and it’s all on me to confront them. But, most of the time, I can’t decide on my own. I have to wait for my boss or top managers to tackle the issues. It’s out of my power.” (Marketing employee, Generation Y, Born 1988).

The above excerpt indicates the issue occurring in the real work scenario. It may be explained in two points. First, the hierarchical structure affected the interaction between company employees sharing information through social media use because employees did not have sufficient power to make decisions. This was the influence of the top-down structure as well as the “*respect the elders*” approach, which this research refers to as the culture constructed in the interplay between the national (respect the elders) and organisational culture (formal rules – top-down structure). Second, although the younger workers were not allowed to use social media, they still used it significantly, despite the established rules and norms and the “*respect the elders*” cultural value. This could be the root of the problem in that they failed to achieve effective collaboration in the activity because of the interplay in terms of the issues of CIB and intergenerational difference, social media use, and the cultural clashes.

5.3 Conclusion

As mentioned in Chapter 3, this research is guided by the third generation of AT. Activity systems are the unit of analysis in AT. In this chapter, the activity systems were applied to analyse the current position of social media use in the MNC, building from the cultural-historical background in Chapter 4. It was identified in Chapter 4 that the complexity of the MNC was found in the nature of its top-down structure, which was influenced by the cultural clashes between the national and organisational cultures, and there were the issues of intergenerational difference and the different generations’ approaches to technology influencing CIB in the MNC. It also informed the cultural and historical influence within the MNC context through its development – how the process shaped the MNC to the current social media use.

This chapter delved into the current social media use and the issue of intergenerational difference in the MNC by analysing the components of activity systems, comprising motivation, subject, object, shared object/outcome, tool, rules and norms, community, and division of labour, while interacting activity systems will be explained in Chapter 6. In the course of this research, social media was the mediating tool. Pre- and post-activity systems were analysed and displayed in Figure 18. The process of investigating CIB, different generations and social media use through the activity systems helps to better understand the overall complexity of the MNC setting and the interplay of different issues influencing how people of different generations used social media to share information collaboratively. It also helps to outline the tensions and contradictions within the activity systems.

The findings in this chapter indicated that, when social media was used in the MNC, several problems and challenges were spotted which manifested into the secondary contradictions occurring between two elements of the activity systems (Forsgren and Byström, 2018). The contradictions were pointed out as follows:

- Secondary contradictions between subjects and rules and norms
- Secondary contradictions between subjects and community
- Secondary contradictions between subjects and division of labour
- Secondary contradictions between subjects and tools

These contradictions will be addressed in the following chapter. They enable a deeper and clearer picture to be painted of how different generations differ in social media use, identifying the barriers and differences of social media use in the MNC setting, and how these complex issues can be managed to improve their ability to share and collaborate. Also, analysing the activity systems of the MJCD highlighted the interplay between different factors embedded in the MNC setting, which were the issue of intergenerational difference, the cultural difference (between Thai and Japanese), and the interplay between national culture and organisational culture. The interplay of these factors shaped the activity systems in terms of the employees' ability to collaborate and share information effectively in the MNC.

The next chapter will delve into more detail about how social media is used in the collaborative information-sharing activities in the MNC setting through an analysis of the interacting activity systems and the structure of activities (action, operation). The tensions and contradictions will also be addressed as well as the key issues which are aligned to the research questions.

CHAPTER 6 INTERACTING ACTIVITY SYSTEMS AND CONTRADICTIONS

6.1 Introduction

The previous chapter (Chapter 5) discussed the overall phenomenon of CIB, intergenerational difference and social media use in the MNC setting through the lens of activity systems. It analysed all the components of activity systems: motivation, subject, object, share object/outcome, tool, rules and norms, community, and division of labour when social media was the mediating tool in the MNC setting. Analysing activity systems provided a holistic picture of the overall complex situation of different generations' use of social media as a CIB tool in the MNC setting and the interplay of different issues interacting within the setting. Through the analysis of activity systems, it was identified that there were tensions and contradictions in them which will be further described in this chapter.

This chapter further illustrates the current position of social media use as a collaborative information-sharing tool and the intergenerational difference in the MNC (Figure 12, p. 109), drawing upon the interacting activity systems and the structure of activity (action, operation). It describes how the MNC used social media to collaboratively share information in three activities (collaboration, information sharing, and team building) to achieve shared goals in this complex setting and the intergenerational difference in use of social media for CIB activities. Then, it delves into the area of tensions and contradictions uncovered in the activity systems when social media was used for collaborative information sharing and used across different generations. Building on these stages of development through social media use in the MNC, this highlights the interplay between various factors in the complex MNC setting, which identifies key findings to the research questions and areas of contribution. The last section of this chapter summarises the key areas to be discussed in Chapter 7 to address the research questions and contributions underpinning this research.

6.2 Interacting activity systems

In the third generation of AT, Engeström (2001) expanded the general model of AT (Figure 6) and incorporated networks of interacting activity systems into the analysis (Figure 7). The interacting activity systems are a minimum of two connected activity systems working towards the shared object (Engeström, 2001). This research analysed the interacting activity systems in the MJCD to explore how social media was used as a collaborative information-sharing tool towards specific goals and how people behaved in the multicultural work environment.

The findings revealed two domains in the MJCD: collaborative information-intensive domain and routinised intensive domain. Figure 23 presented the activity systems of the two domains at the MJCD. The findings reported that collaborative information-intensive domain was departments that had intense collaboration within the departments and with the top managers, whilst routinised intensive domain was more engaged with well-established routine operations than collaboration. This research focuses on CIB. Therefore, the activity systems of the collaborative information-intensive domain is analysed and explained in this section. The findings discovered four activity systems were interconnected (Figure 24). These four activity systems in Figure 24 is the collaborative information-intensive domain in the MNC, which are the Marketing, Engineering and Publicity departments and the top managers. Each department has its own goal (object) but collaborates and shares information (interacting activity systems) through using social media (tool) to achieve similar goals (shared object/outcome) of this MNC.

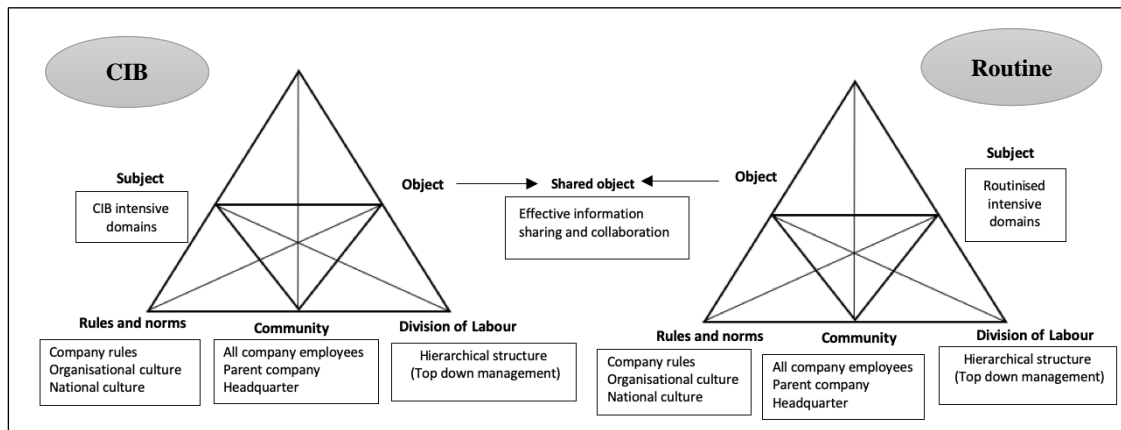


Figure 24 Interacting activity systems between two domains

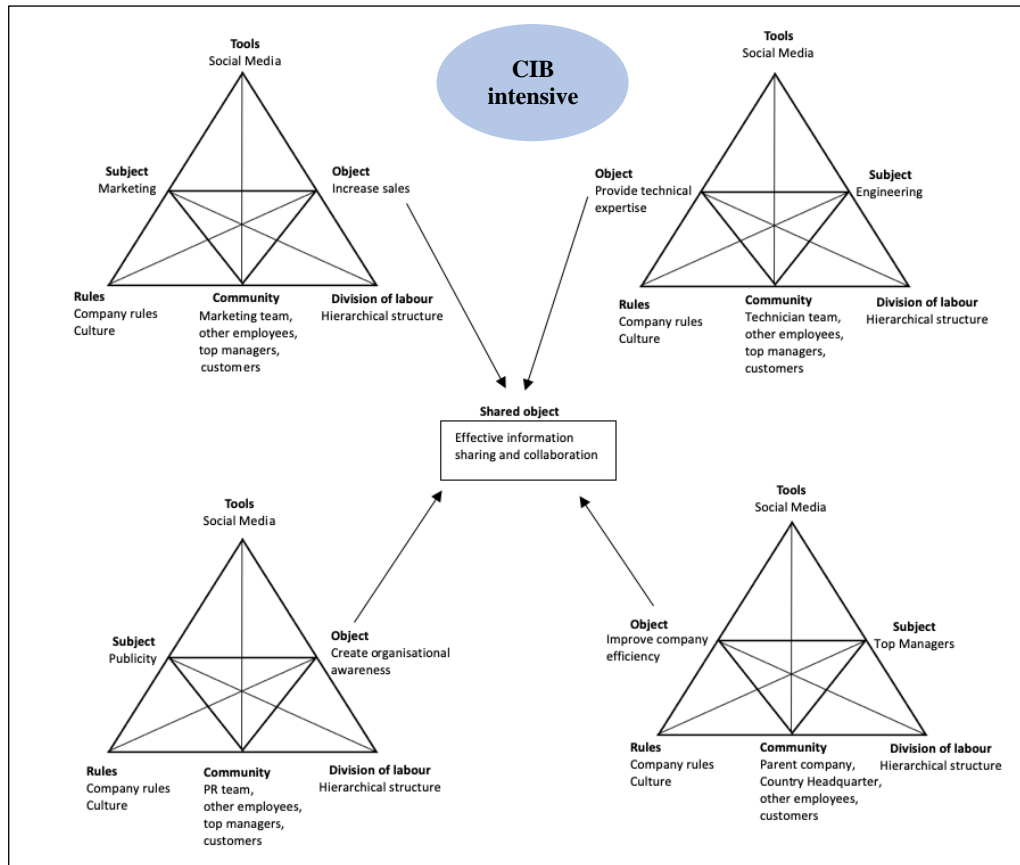


Figure 25 Interacting activity systems in the CIB-intensive domain

From the findings, the Marketing, Publicity and Engineering departments were the three core departments at the MJCD, and so the interacting activity systems consisted of them interacting with top managers to share information collaboratively. From observing the company, only these three departments were highly engaged in interacting and collaborating with the top management team. The top management team's responses claimed that this collaboration was most required because the three departments contain the core operations of the company and their performance can determine the company's achievement. As reported by one of the managing directors, these departments were the collaborative information-intensive domain and the top managers worked more closely with them to qualify the working standards to achieve the company's goals.

"Our company is a car distributor. Customer satisfaction comes first. It's our principle. To achieve that, our main tasks involve services, before and after sales service, communication with customers. That's how we collaborate most with Marketing, Publicity and Engineering to deliver the best product and service to our customers."
(Managing director, Baby Boomer, Born 1963)

The rest of the departments were excluded from the interacting activity system shown in Figure 25 as their scope of work was performed independently, with well-established department routines, and did not require intense collaboration, compared with the Marketing, Publicity and Engineering departments. Figure 25 was developed based on the data collected at the MJCD and the third generation of activity theory was employed to analyse the engagement of the Marketing, Publicity and Engineering departments and the top managers in collaborative information activities with the same shared object.

In activity theory, the activity systems enable the micro-level analysis (Mishra et al., 2011). There is also a concept of the hierarchical level of activity: activity, actions and operations (Leont'ev, 1978). An activity consists of actions that are goal-oriented and conscious actions and also consists of operations that are performed unconsciously (Kuutti, 1996). With the collaborative information-intensive activities, the activity systems analysis was able to identify the three activities in which the teams participated and used social media to pursue the desired goal. From the findings, the activities consisted of collaboration, information sharing, and team building, while actions and operations were found to be related to the intergenerational difference and the different generations' social media use in the organisation.

The following sections will describe how the activities were performed, and the actions and operations that existed in the activity systems.

6.2.1 Activity 1: Collaboration

Collaboration is a necessary activity among the collaborative information-intensive domain in this multinational organisation. Two types of collaboration existed in the company system: collaboration as the routine collaboration in the departments and critical incident collaboration, as discussed in section 4.2.1. The findings reported that the top managers and the employees from these collaboration-intensive departments used social media on their smartphones to create group chats to implement collaboration, such as Marketing group, Publicity group and Engineering group. The top managers participated in every group chat to monitor the employees.

- **Routine collaboration in the CIB-intensive domain**

In the routine collaboration, it was found that the CIB-intensive domain's job was dependent on the task allocation and formal approval from the top management team, who were the older generations in the company. The top managers play a significant role in the CIB-intensive

domain's in the work routine because the domain requires intensive collaboration with the top managers in the work routine. Since the organisational structure of the MJCD was a top-down management structure, business operations, tasks and goals were monitored by the top managers. During the interviews, participants from the CIB-intensive domain was asked to explain how they performed their collaborative information-sharing activities and what tools they implemented. All respondents claimed that their CIB activities were primarily carried out on social media group chats through the use of messaging and file/document sharing with their colleagues in the departments. They communicated and interacted through the social media platform (as previously discussed in section 5.3.6).

For example, within the sales teams, they had to develop sales strategies to sell the expected number of cars, build teamwork and reach customers. The most important part of their job was that they also had to submit their sales strategies and report their work progress to the Marketing manager and the senior managers to ensure that the teams worked accordingly to the expected sales target. In their collaboration activity, there was a group chat on social media for the sales team which the Marketing manager and the top managers were also in. Participants from the sales team explained that they used this group chat for collaboration and for sharing information with their colleagues and their bosses. Before they used social media, they had countless meetings to propose their sales strategies through presentations with the senior managers, as these required formal approval from the senior managers before the sales team could act upon the strategy. Currently, they can exchange files of their presentations with the senior managers and receive answers from the senior managers through the social media platform. They can also use social media as the platform to carry out CIB activities with their colleagues in their routine collaborations. The excerpt below indicates how people currently use social media collaboratively.

"We mostly communicate on LINE [social media application] in our teams nowadays. We do everything [via] LINE now. We chat, send photos, send work files, and call [if] we need to. We rarely use telephone and email because of LINE" (Marketing employee, Generation Y, Born 1989).

- **Routine collaboration of the top managers**

According to the findings, the top management team has the highest power in the organisation. The main responsibilities of the top management team involved allocating tasks to all departments through their department heads and following-up tasks with the heads to evaluate

the work progress. They also had to make all decisions and solve problems and issues when these occurred in the course of the organisation. They also monitored employee behaviour, and employees were not able to start new tasks without formal approval from the top managers. The interviews with the top managers found that they were strict in that everything had to be under their control, and all employees were obliged to follow the rules and carry out their work activities according to them.

In addition, the top managers were behind business operations and strategies. They closely collaborated among their team to achieve business goals. The findings indicated that the top management team participated in the CIB-intensive domain to oversee the employees' performance and support their CIB activities to grant them permission when the departments sought collaboration and help from the top management team. The findings reported that participants used social media to implement their collaborative work activities with the top managers, such as instant messages and document sharing, and voice calling was also used during critical incidents when messages the top managers could not be reached by messages.

- **Critical incident collaboration**

From the findings, critical incident collaboration usually happened when employees were facing difficulties during their work activities. When that happened, it was mandatory for employees to report the issues to the department managers to seek help and collaboration from the top managers. The group chats made the top managers accessible to all employees, as described below:

“Whenever I seek information, I will always message on our LINE group and I do the same when I want to ask for help or collaboration. It's easier and faster. If you need any file or photo, they can just send it back to you in the group.” (Marketing employee, Generation Y, Born 1988).

In the case of urgent collaboration, it was found that there were times when employees were unable to reach the top managers in the group chats. All participants reported that, if employees required a prompt response from the top managers in the group chats when they were encountering issues, they could call one instead, using the voice-calling feature on the social media.

*"I think it's better to call them or meet them in person to make everything clear."
(Marketing employee, Generation Y, Born 1986).*

Moreover, the Marketing manager observed during the interview that many employees collaborated with the top managers when they had problems and asked for their help to solve the problems.

"We have to collaborate with the top managers when we have problems because we are not the ones to decide. We normally seek their help on the group chat. If it takes too long for them to reply, I'll call instead." (Marketing manager, Generation Y, Born 1982).

It is notable that, before social media was used, communication was more formal. With social media, employees can communicate and collaborate directly with the top managers in group chats without having to report to the department managers and wait for them to contact the top managers to solve the problems.

6.2.2 Activity 2: Information sharing

Based on the research findings, information sharing is one of the key activities in the company. The Publicity manager and Marketing manager stated during the interviews that: *"Information is shared a lot across the company. We share a lot of information"* (Publicity manager, Generation Y, Born 1983), and *"Sharing information is the main activity we do every day because we live in an information age nowadays and we have to keep up with the news and information all the time because it changes very quickly"* (Marketing manager, Generation Y, Born 1982). From the observations, it was true that plenty of information was shared throughout the day. It included both one-way information sharing and two-way information sharing. The one-way information-sharing activity was how the Publicity team broadcast information and related news on the company group chat, whereas the two-way information activity was how the employees communicated and interacted throughout the day on their department group chats.

At the MJCD, it was necessary for employees to be updated with internal news and issues to be aware of the current situation in their company and industry. This is under the responsibility of the Publicity department, to manage company communications and share information on the company's group chat. The Publicity manager explained that,

“Before social media, we used to put every internal news [item] and upcoming event organised by our branch on the notice board. We decorated the board and shared information about our company and any announcements. Now, we do it on social media. We share one message, and everyone can see it. It’s quicker and faster.” (Publicity manager, Generation Y, Born 1983).

During the observation of the Marketing chat group, the manager sent messages related to the daily goal which team members were expected to achieve on the day. For instance, their goal was to reach 1,000 people at an exhibition. Throughout that day, the team exchanged and reported information on their performance at the exhibition back to the manager on the group chat. After that, they shared photos with the Publicity team, and the Publicity team was able to share current news and events with different departments on social media.

The researcher was not on the Engineering and Publicity group chats, but an interview participant from the Engineering department explained how team members in the department exchanged information during the day to update the rest of the team on their performance.

“We always use social media in our team and different teams. We share and report our work with our manager using social media.” (Engineering employee, Generation Y, Born 1988).

Thus, it might be possible to explain that company employees of different generations mainly communicated, interacted and shared information on social media. It was utilised as the main channel in the information-sharing activity and was used extensively during the day.

6.2.3 Activity 3: Team building

It was found that team building was an important activity, and the motive behind it was to maintain employee relationships. The analysis of findings showed that social media was used to facilitate team-building activity in the company. In the observation and interview analysis, it was found that top managers used social media as a medium to bridge the gap between employees of all levels. Motivating employees was one of the activities that the top management teams were concerned about. The researcher observed the company and Marketing team chat groups, and discovered that the top managers had created a tradition to greet their employees and share motivational quotes every morning before working hours. During the interview with one of the Executive Vice Presidents, he clarified this behaviour, observing that,

"I send photos to greet my employees every morning. We [top managers] do that. It's a good way to start the day by motivating them and maintain[ing a] relationship." (Executive vice president, Baby Boomer, Born 1950).

On the contrary, this caused confusion for the younger generations, as a participant from the Engineering department explained,

"My boss and [the] older generations have this habit or routine, if you may call it, to send a photo every morning to greet us. Can you imagine, they all send a photo every morning? I don't understand this. My parents do the same thing." (Engineering employee, Generation Y, Born 1988).

Many digital native respondents felt the same as the above respondent. Another participant had a similar experience,

"Older generations send a lot of photos. That makes me confused more." (Publicity employee, Generation Y, Born 1990).

Observing the Marketing chat group showed that the team supported its members by communicating on the social media platform. When a team member asked for help, the other team members would respond in the group chat and provide support, such as providing information and solutions. A marketing employee member shared their experience during the interview,

"I like using social media with my team. It's fast and, when I need help, I message in the group, so anyone in my team can support me." (Marketing employee, Generation Y, Born 1990).

Another Marketing employee respondent shared a similar experience,

"Whenever I seek information, I will always message in the chat group and I do the same when I want to ask for help. It's easier and faster. If you need any file or photo, they can just send it back to you in the chat group." (Marketing employee, Generation Y, Born 1988).

From the findings, it is also significant to point out that, since the top managers cannot stop employees from technology-driven generations using social media in the company, they used

social media to discipline employees. The senior managers monitored the employees' performance and behaviour on social media. The below excerpt highlights how the senior managers adopted social media to monitor their subordinates.

"Actually, social media is banned in our company, but they all use it because it is useful. It's quite difficult to monitor their behaviour. So, we [top managers] are in the chat groups to oversee their behaviour, and we [tell] them what not to do and say in the chat group." (Managing Director, Generation X, Born 1978).

The director stated that the top managers were in the group chats to observe their employees' behaviour there, which allowed the top managers to monitor their employees' performance and behaviour. Along similar lines, the Human Resources manager stated that,

"We can't control our employees when they use their smartphones. Social media makes it more difficult to control and monitor employees' behaviour. We have to observe their behaviour from time to time, and give them a warning in case of inappropriate behaviour." (HR manager, Generation X, Born 1975).

It was explained earlier that the company had strict rules and a high level of hierarchy. The role of senior managers and middle managers affected how they used social media with their subordinates. It was found that, when they were in the group chats with their subordinates, they attempted to monitor employees' performance and behaviour to make them use appropriate language and communication. Thus, the interplay between the culture and the intergenerational difference influenced the way generations used social media for CIB activities in the MNC.

The following section will discuss actions and operations between digital natives and digital immigrants in the MNC to understand the intergenerational difference and the different generations' approaches to technology when they used social media during CIB activities.

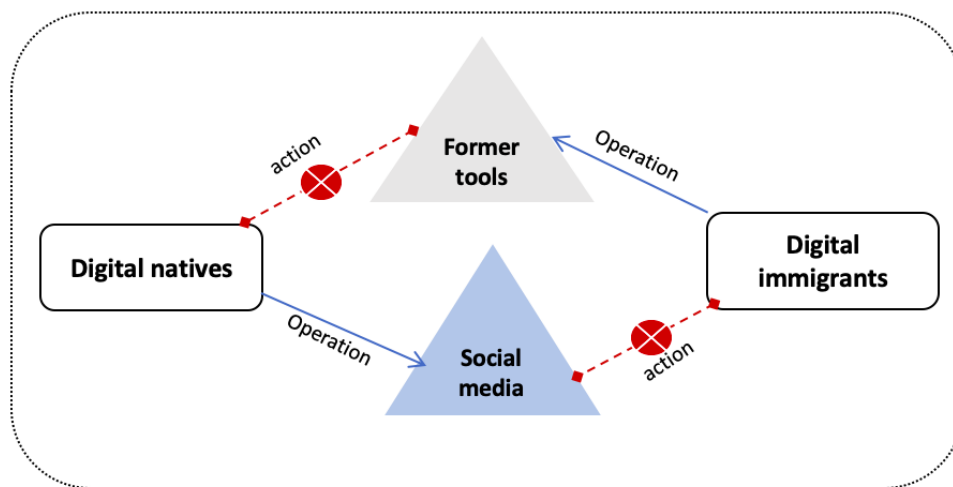
6.3 Actions and operations

Analysing actions²³ and operations²⁴ helps to better understand the underlying issues of how different generations differ in their use of social media to collaboratively share information in MJCD. Based on these three activities (identified in sections 6.2.1, 6.2.2 and 6.2.3), there were

²³ Actions are conscious procedures that are carried out in order to achieve goals, and they are related to operations (Kaptelinin, 1996; Kaptelinin and Nardi, 2012).

²⁴ Operations are routine procedures (Kuutti, 1996) that can turn into actions when previous operations are hindered requiring transformation (Leont'ev, 1978).

actions and operations which were found to be connected with the intergenerational difference and the social media landscape in this MNC. From the findings, the technology-driven generations and older generations had similar motives for activities but they differed in their actions and operations towards using the tools in the organisation, as portrayed in Figure 26. The findings indicated that the process by which social media came into the company was via a change from operations to actions in the activities between different generations. Traditional tools were replaced where older generations had to learn and adapt to a new tool in the organisation. The findings of this section are linked to the result of the colonisation of an organisation by technology in section 4.3.2.



**Figure 26 Actions and operations of different generations
(Developed from interview data)**

Before social media was used, company employees adopted formal organisational tools (section 4.2.2). This was how the employees' operated from the 1990s to 2012 as they had used these tools to implement the collaboration, information-sharing and team-building activities for a long time; in turn, this was already an unconscious operation for them, especially employees who were from the older generations (i.e. digital immigrants, Baby Boomers, Gen X) in this context. In 2013, there was a shift in mediating tools, which changed the information landscape of the whole company from operations to actions. This was found to be influenced by the digital native employees (i.e. technology-driven generations) in the company. The findings of this study supported the extant literature about digital natives and their experience with technology: that they cannot live without technology as they were born in the digital era (Culp-Roche et al., 2020; Prensky, 2001; Vodanovich et al., 2010). For the digital native employees, using social media and digital technologies was nothing new to them. They used social media automatically as part of

their lives. To them, social media was part of their operations, while they developed a level of hostility towards the traditional tools in the MNC, feeling that they were time-consuming and outdated for today's business environment, and were unfamiliar to them in terms of the level of comfort and use. From the interviews, all the digital native participants said they would rather use social media for work activities and would use newer digital technologies in the future to replace social media in order to work effectively and achieve company goals.

In contrast, for the digital immigrant employees it was a challenge when social media became the predominant tool in the MNC. The interview findings indicated that they were still unfamiliar with using social media to work and share information with their colleagues. Congruent with the generational difference literature, the older generations resisted new technology because they were introduced to technology later in life and they generally had only limited experience of using technology compared with the younger generations (Prensky, 2001; Vodanovich et al., 2010). This was similar to the digital immigrants at the MJCD as they also developed a level of hostility and had a negative attitude towards social media use in the MNC. During the interviews, many of the responses from the top managers claimed that the younger generations were difficult to understand and preferred technology and anything that offered them ease and accessibility in their lives, for example, see the excerpt below from the Managing Director:

"I find for me it is hard to understand the younger generations. They use too much technology growing up. There is an adverse effect on their creativity and performance. I can see that in younger generations with our employee. They prefer technology and anything or any tools that are easy and fast. This is something I am concerned [about] because their work performance is not effective, given the fact that they use technology to help make it easier for them. Still, they cannot reach my expectation." (Managing Director, Generation X, Born 1976).

Most digital immigrants said that they did not want to use social media for CIB activities because they were not familiar or comfortable with using technology. Most of them found it was difficult to communicate and collaborate through social media applications, as stated below.

"I have to admit that I [am] still learn[ing] how to use the platform daily. They have new features and functions all the time. I can't keep up at all." (Vice President, Baby Boomer, Born 1960).

Through a lens of AT, the use of social media for CIB activities was considered actions for the digital immigrants in the activity system because their responses demonstrated that they were still learning to use the tool (social media) and were in the process of familiarising themselves with it in the organisation, despite the fact that social media had been the predominant CIB tool for a few years. It can be stated that the use of social media for CIB activities was considered operations for the digital natives because they would rather use social media to carry out activities. Social media was their unconscious choice of tool because they had already been using it with their circle of friends. In contrast, the digital immigrants would opt for old ways of communication, for example, face-to-face meeting, and, when they did use social media, they would prefer to use the calling feature because it was the same function as using telephones, which they were familiar with. This demonstrates that the use of traditional tools was considered operations for the digital immigrants.

Different generations had different actions and operations, despite using the same tool and carrying out the same activity. The level of social media use among digital natives changed CIB in this MNC. It was the digital natives who unconsciously influenced the change in the use of the traditional tools (actions) to social media (operations), whereas the digital immigrants were attempting to establish rules against it and ban it (operations) but were not successful. The whole company now followed the digital natives, who made up the majority of employees in the company, and used social media with them, partially because the digital natives would not change their way of communicating through technology, and it was also because of the external factor – that things work differently in the modern business environment.

Nevertheless, collaboration, information-sharing and team-building activities were the connected activities carried out to achieve effective information sharing. From the analysis, there were relating issues found in the activity systems, which were the intergenerational difference issues and social media use in the MNC found in actions and operations that existed in the CIB activities. People of different generations had different approaches related to technology use in their actions and operations when they had to collaboratively share information in the MNC. The analysis of activity systems also identified the national and organisational cultures to have an impact on the intergenerational difference in the company. The issues of intergenerational difference played a major role in the activity, causing tensions and contradictions in the activity systems.

The following section will discuss the tensions and contradictions discovered within the overall activity systems of collaborative information sharing and social media use in the MNC setting, and point out a set of themes that are the focus of the discussion chapter (Chapter 7).

6.4 Tensions and contradictions

Tensions and contradictions are one of the tenets of activity theory that occur within and/or between activity (Engeström, 2001). Contradictions are not problems or conflicts that occur in an activity system (Engeström, 2001; Foot, 2001); contradictions are “a sign of richness in the activity system” (Foot, 2001, p. 67) and “sources of change and development” (Engeström, 2001, p. 137). Engeström (2001) proposed four levels of contradictions in the activity systems (section 3.4.4.1, Figure 8). The principle of tensions and contradictions enables this research to draw out key issues and the interplay of different factors that occurred in the complex setting of the MNC to understand the phenomenon in reality.

Building on the cultural-historical development of activity systems, interacting activity systems and the structure of activity (actions, operation) (from Chapter 4 to Chapter 6) allows the researcher to depict tensions and contradictions in the activity systems, which demonstrated how the MJCD developed and evolved through to the current position of different generations using social media predominantly to collaboratively share information. After analysing the elements of activity systems in the MJCD and the activities, many contradictions were found in the activity systems, mainly secondary contradictions – which occurred between two elements in an activity system (Forsgren and Byström, 2018). These contradictions were influenced by the issue of the intergenerational difference in terms of the different generations and their different approaches to technology use and experience as well as the cultural clashes between Thai and Japanese cultures. Figure 27 presents the tensions and contradictions that existed in the MJCD.

In this section, activity theory was employed to identify the tensions and contradictions between elements in the activity systems of collaborative information sharing in the MNC setting. The analysis was based on the findings of document analysis, observation, focus group and semi-structured interviews collected at the MJCD.

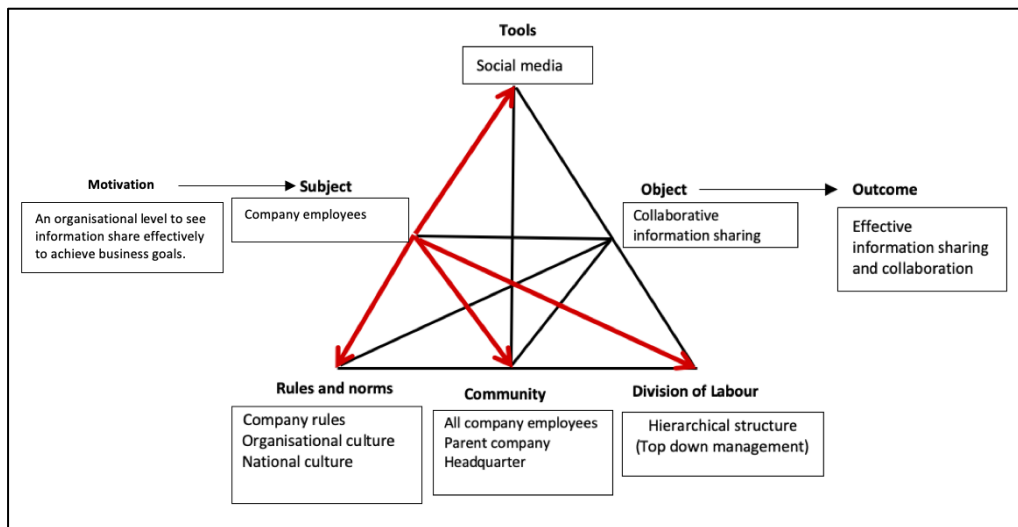


Figure 27 Tensions and contradictions

6.4.1 Secondary contradictions between subjects and rules and norms

The analysis found contradictions between subjects (company employees) and rules and norms. A major issue was that all company employees from technology-driven generations were against the rule regarding no social media use. In this multinational company, when the technology-driven generations introduced social media to the company, the top management teams (older generations) agreed to establish a rule forbidding social media use in the organisation during office hours. In practice, it was found that the technology-driven generations used social media as the main collaborative information-sharing tool in the organisation, including to carry out activities to accomplish company goals with their older colleagues. During the interviews, participants were asked how social media was implemented in the MNC context and about the rule on not using social media. The majority of the interview respondents reported that social media was still used extensively as the collaborative information-sharing tool at the time, while some were aware of the rule and some were not.

"It's very convenient. It has been used for a very long time. Probably since when it first launched. Everyone uses it." (Marketing employee, Generation Y, Born 1990).

As this Marketing employee stated, *"everyone is using it"*, which means that employees' behaviour in the actual working environment contradicts the rules of the organisation. One of the participants expressed that social media is not allowed, but it is a useful tool for facilitating work activities, and this could be the reason why everyone was against the rule:

"We all know that it's forbidden but without using it I don't know what could be more beneficial. I think if we are able to manage our time and use it properly, it will only benefit us." (Publicity employee, Generation Y, Born 1985).

The themes that emerged from the analysis of contradictions between subjects and rules and norms were familiarity with tools and attitudes towards using the tools. The familiarity with tools is related to the experience of using social media for collaborative information-sharing activity. The findings discovered the difference between the older and technology-driven generations in their experience of social media use, which was influenced by the generational difference. In this particular MNC, the technology-driven generations might be exposed to technology from a young age, while the older generations might have less experience of using digital technologies. This reflects of the differences in their familiarity with using social media, according to the analysis of their responses. The second theme is attitudes towards using the tools. This theme refers to how different generations perceived social media when it was being used extensively as the main tool. Older generations had developed a level of hostility towards the use of social media in the MNC, which was why they enforced the rule against it, but still used the tool. This theme explains that the different generations differed in using social media in terms of their attitudes. However, they did not differ in terms of its use, because social media was being used actively by all generations throughout the company. The findings suggest they have different perceptions of using social media, and such different attitudes were influenced by the generational difference. These are the key points to provide answers to the first research question: how different generations use social media differently, and this will be further discussed in Chapter 7.

6.4.2 Secondary contradictions between subjects and community

From the analysis, what was found to be the issue causing tensions and contradictions between subjects (company employees) and community (intergenerational difference) was the interaction between different generations in the MNC when using social media.

In this study, the results derived from the interviews revealed that the intergenerational difference had an impact on the ability to share information effectively in this MNC. The President of the company stated that: *"Different generations are a problem. I think it's the most challenging problem in our company now"* (President, Baby Boomer, Born 1945). What the top managers and the older generations found to be the issue when they interacted and shared information using social media with the younger generations, who were technology-driven, was the modality of use in terms of language use with older people, and appropriate behaviour with them. From what the

older generations described, they were concerned that, when they used social media to communicate with the younger generations, some of their younger colleagues' behaviours, such as the words they used, were inappropriate to talk with older people, and they felt it was offensive.

On the digital native participants' side, they also experienced a similar intergenerational difference issue but with different viewpoints. Modality of use is the key area that the digital natives were struggling with when interacting with the older generations as well, but in terms of speed of response and the generation gap in language use. For example, one participant voiced the following opinion,

"My main problem [in working] with the older generation is how they respond to my messages. They are very slow in responding, and that affects my work a lot when you need their help and their collaboration at the time. It makes everything slow." (Publicity manager, Generation Y, Born 1983).

From what the digital native participants explained, language use causes misunderstandings between different generations as the older generations understand the language differently, as the meaning of words changes over time. Thus, to them, something may appear to be impolite but it may have a different meaning for the younger generations. For example, this participant shared their experience,

"I experienced a lot of difficulty talking to my boss. I think we both grew up [in] different eras. I have to be very careful talking to my boss and older people in our company because they always think we are rude by how we talk, but you know a lot of newly invented words and it's understandable they don't understand, but it's very difficult talking to them." (Marketing employee, Generation Y, Born 1989).

Another Generation Y employee shared a similar opinion:

"We are from different generations is the only explanation. Our bosses and I were born in different times, and that explains everything. We even view the same thing but understand it differently." (Marketing employee, Generation Y, Born 1988).

The analysis of the findings discovered that modality of use, language barriers, and Thai cultural issues are the major issues of the intergenerational difference in the MNC, which influences how they collaborate and share information, and can impede the progress to achieve company goals.

The modality of use, language barriers, and cultural issues are the key themes which are related to the second research question: what barriers and differences can be influenced by different generations' use of social media as a collaborative business communication tool?

The findings suggest the modality of use to be one of the themes which have led to the barriers influenced by different generations. When the younger and older generations used social media, the younger generations faced problems with the speed of response from the older generations. The older generations also disagreed with how the younger generations used social media, for example, one older person observed that, "*Younger workers have a habit [of sharing] a lot of information.*" (Managing Director, Baby Boomer, Born 1963). This is one of the barriers suggested in the analysis.

The language barriers refer to the language participants used on the social media group chats. From the findings, both younger and older generations said these barriers were influenced by the different generations. One barrier involves the generation gap in terms of language, when the same word means something different to different generations because the meaning has changed over time. Another language barrier was how older generations were reacting to how younger generations used language to talk with them; this is because the Thai language has different levels and a hierarchy of appropriateness when communicating with people. The third theme that emerged, Thai cultural issues, is derived from the "*respect and listen to the elders*" approach. The findings indicate that it is an important and challenging approach when both generations communicate. The responses from the older generations highlighted that younger generation employees did not behave how younger Thai people should behave, and appeared to "*disrespect the elders*" in some cases. The responses from the younger generations reported that the Thai cultural issues influenced them to re-check their messages and conversations before sending them to the older generations, to avoid conflicts. However, they still are facing "*respect the elders*" cultural barriers. Thus, the modality of use, language barriers, and Thai cultural issues will be discussed in Chapter 7 to address the second research question.

6.4.3 Secondary contradictions between subjects and division of labour

Contradictions were also found between subjects and division of labour. According to the analysis, the top managers hold the highest power and authority in the company, which affects employees' work roles as they are unable to make any decisions in the company. This creates tension and contradiction in the activity as employees have no control of the situation or of problems occurring during the activity. This influenced their performance to share and receive

information as well as their productivity when dealing with customers, as stated by participants. The issue between the subject and division of labour is a challenging one as it involves power distance and cultural issues.

The high degree of power distance and cultural issues play a critical role in this MNC. According to the majority of interviewees, employees were afraid to discuss the intergenerational difference, and some of them expected the researcher, as a native Thai, to know the answer about this, saying: *"It's part of Thai culture, you know how it is"* and *"Well, it's our culture. You know that."* Still, most of them stated that *'respect and listen to the elders'* is in every part of the organisation, and a Marketing employee explained that, *"If you want to survive, you follow and listen to [the] elders, that won't get you in any trouble"* (Generation Y, Born 1985). Due to this issue, employees cannot effectively perform collaborative activities as they have to follow the orders of the top managers and older generations (elders) in the company.

This will be examined in Chapter 7 to discuss the second research question about barriers and differences influenced by different generations, along with the key themes that emerged from the analysis related to the issues including power distance and hierarchy in the organisation. It was found that the power distance in this organisation was quite high, which caused a gap between the older generations and younger generations when they communicated due to the power inequality. The majority of the younger interviewees made comments such as, *"I have to be careful when talking to my boss [top managers]"*, and *"I'd rather say nothing or, if I have to say anything [to] them, I will think a lot before I say it"*. Another barrier is the hierarchy in the organisation. The interview and observation analysis demonstrated that all decisions could only be made by the top management level in the MNC, and employees from the middle and operational management levels did not have such power to make decisions, which is considered to be one of the barriers found in the MNC.

6.4.4 Secondary contradiction between subjects and tools

Another contradiction was found between subjects and tools. In the MJCD, different tools and channels were accessible for employees of all management levels, and they were categorised into formal and informal tools. As claimed by data findings, social media was the CIB tool in the MNC, and was most used by the digital native employees. The contradiction that emerged between employees and tools, in this company, was that different generations preferred to use different tools, while all generations used social media to collaboratively share information in reality.

The interview responses from the digital immigrants/managers stated that they did not use social media as the predominant tool with their employees. For example, below is an interview quote from one of the directors:

"My employees know where my office is. They can meet me at my office anytime when I'm available. If they message me on social media, I will not read the message, nor will I reply. It affects my working time." (Managing Director, Generation X, Born 1975).

The observation findings and the interview responses from the technology-driven generations reported the opposite of what the top managers claimed. The finding highlighted the contradiction that social media was used extensively by both technology-driven generations and older generations in the MNC. It was found that their experience of using social media might differ, which was shaped by culture and generational heritage, as the older generations/managers might have been exposed to technology later than their younger employees and their sets of beliefs and values towards technology and the younger generations were influenced by the national culture as they were in a position of receiving recognition and respect.

While the digital immigrants were more likely to engage with the formal tools, this was the opposite for the digital natives, as they started to shift business operations by gradually replacing the existing formal tools with social media. This issue may influence the overall organisational system and operation as the digital natives stated that they were willing to change if there was an opportunity to replace some of the existing formal tools, such as Human Resources training activities. One of them mentioned that, *"We can do that online on video streaming or it can be an online workshop and course"* – (Engineering employee, Generation Y, Born 1988).

From analysing the issues, themes that emerged include the level of comfort, communication barriers, and tool preferences. Level of comfort can be used to answer the first research question that discusses how different generations use social media differently, and this can contribute to the different attitudes to and experiences of using the tools. The level of comfort refers to the level of comfort when different generations use social media in the MNC. As the findings highlighted, the younger generations were more comfortable using social media, which is the opposite for the older generations because, even though the older generations currently used the social media tool, they seemed uncomfortable with doing it. This contradiction explains their difference in social media use, which will be further explained in Chapter 7.

Tool preference and communication barrier themes lead to the explanation of the third research question and suggest how to improve internal efficiency when the intergenerational difference and the cultural issues play a major role in the MNC setting. The responses from research participants indicate that tool preference combined with communication barriers should be the lens through which to understand and manage the barriers and differences, as the findings suggest that different generations preferred to use different tools in the MNC, which caused communication barriers within the organisation. The theme “*tool preferences*” discusses how barriers and differences can be managed using the tool the different generations prefer. When the younger generations prefer social media and the older generations prefer formal tools, the findings recommend that understanding their preferences may help reduce the barriers, as suggested by one of the Marketing employees in the below excerpt:

“We need to think of what type of communication channel to use and with whom every time before we do it, because older generations are not good at messaging on social media and they sometimes don’t understand what we mean from what we wrote. I have to use the voice-calling feature to call them instead, to reduce the misunderstanding that may [be caused], but I always use social media with my colleagues. We’re the same generation.” (Marketing employee, Generation Y, Born 1990).

The theme “*communication barriers*” was derived from the research participants who identified what seem to be the barriers of communication among different generations and how to manage such barriers. The findings show that the root problem of barriers and differences influenced by the generational differences is categorised as “*communication barriers*”, which include the interplay of different factors discussed in this thesis, such as generational heritage, cultural aspects, power distance and hierarchy in this organisation. The tool preferences and communication barriers will be identified further in Chapter 7.

6.5 Conclusion

The activity theory framework provides a lens to identify and understand tensions and contradictions in the activity systems of collaborative information behaviour, which supports the focus of this research and enables the analysis of intergenerational difference and social media use in the MNC.

This chapter pointed out that social media was used in three collaborative activities in the MNC, which were collaboration, information-sharing, and team-building activities, based on the

analysis of the interacting activity systems (section 6.2). From the intergenerational difference perspective, evaluating actions and operations enables the understanding of the intergenerational difference and the different generations' approaches to technology. It was clarified that different generations were born and bred in different environments. Findings showed that technology-driven generations were more exposed to social media use in the MNC, while the older generations were less experienced with technology, not familiar with social media and were against the use of social media. These differences reflected the choices of tools which they used in the MNC as well as their attitudes towards using the tools. The older generations preferred traditional tools and technologies. On the other hand, the technology-driven generations rejected use of traditional tools and most preferred social media.

Analysing the cultural historical paths of the collaborative information activities in the multinational company setting (Chapter 4), the components of activity systems (Chapter 5), interacting activity systems and actions and operations (section 6.2 and section 6.3), several significant tensions and contradictions were identified by 11 themes (section 6.4). The themes are: the level of comfort of use, the familiarity with tools, generational heritage, cultural issues, attitudes towards using the tools, language barriers, modality of use, power distance, hierarchy in the organisation, tool preferences, and communication barriers. This chapter highlighted the interplay of CIB, social media, intergenerational difference, and the cultural clashes between the national and organisational cultures influencing these key themes, which will be discussed in more detail in Chapter 7.

From the analysis, the attitudes and experience of using the tools, level of comfort of use, familiarity with tools, and generational heritage will be discussed in Chapter 7 and answer the first research question of this study, which is "How do generations differ in their use of social media as a business communication and collaborative information tool internally in a multinational company setting?"

The second set of themes, modality of use, language barriers, cultural issues, power distance, and hierarchy in the organisation will be illustrated in Chapter 7 to explore the second research question, "What barriers and differences in such a setting can be influenced by different generations' use of social media as a collaborative business communication tool?"

The third research question, "How can such barriers and differences be managed and developed to improve collaborative information behaviour for internal efficiency?", will be illuminated with the tool preferences and communication barriers themes in Chapter 7, as these two themes

suggest possible strategies to put into practice regarding the way barriers and differences should be managed and developed for internal efficiency.

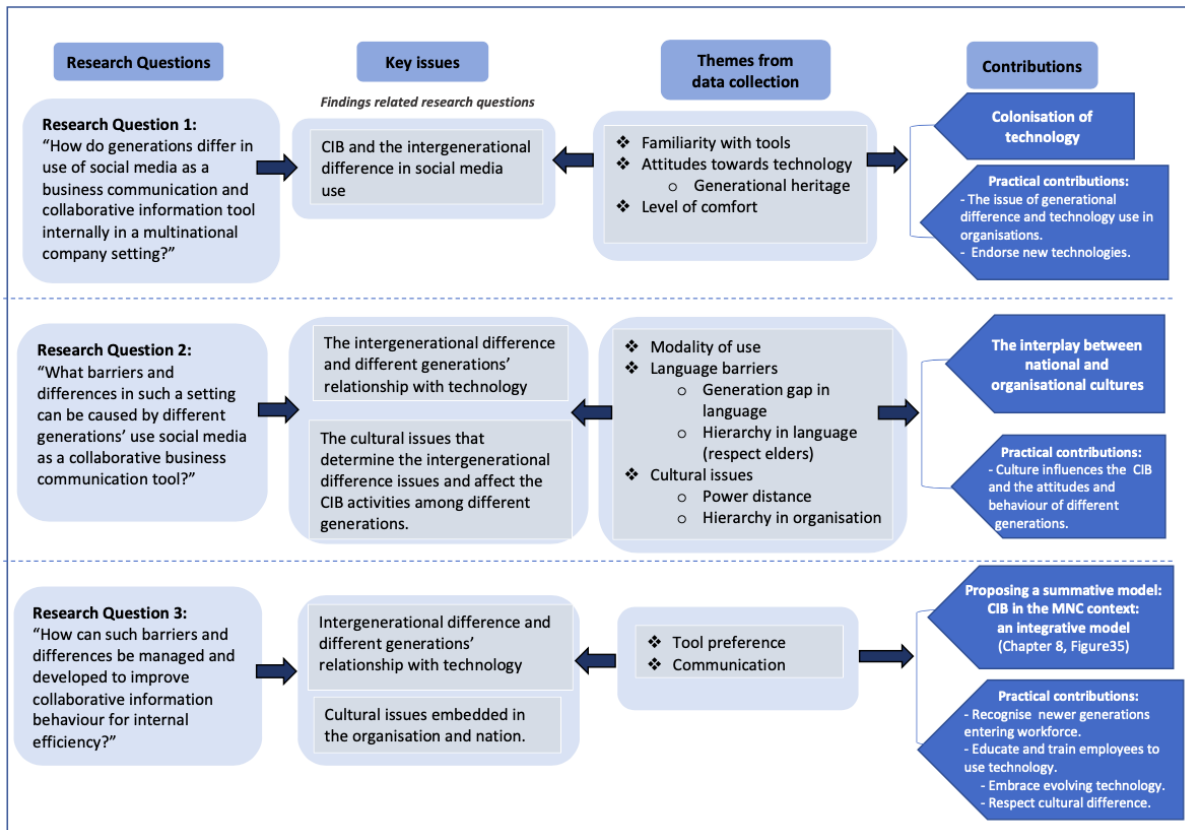
The following chapter is the discussion chapter. It will discuss key findings which are aligned to the research questions and highlight the contributions made in this thesis

CHAPTER 7 DISCUSSION

7.1 Introduction

The previous three chapters (from Chapter 4 to Chapter 6) presented findings drawing on the findings from the data collection and utilising structure from the analytical tool of activity theory. The cultural-historical development of activity systems was outlined to provide a clear picture of how the MNC developed and evolved to use social media in the organisation – how CIB worked, what tools were used before social media, the process by which social media came into the MNC, and the cultural and historical influence within the context (Chapter 4). Activity systems, interacting activity systems, and the structure of activity (action, operation) helped to clarify the current position of social media use in the MNC (chapters 5-6). Activity systems enabled the analysis of how social media was used as the collaborative information-sharing tool in the MNC and the interaction within the multicultural work setting and the interplay of different factors in the activity systems. Interacting activity systems and the actions and operation were also analysed to provide a deeper insight into how social media was used in CIB activities and how different generations differ in social media use in the MNC. Building on these stages of development through social media use in the MNC, tensions and contradictions were discovered that pointed out the key issues and the interplay of different factors influencing these issues (Chapter 6). These provided a foundation to structure the discussion and areas of contribution in this chapter.

This chapter aims to discuss key findings in relation to the research questions and shed light on the contributions of the research through discussing the links between the extant literature (Chapter 2) and the findings drawn from the analysis of collected data (chapters 4, 5 and 6). This research sought to explain the overall complexity of the MNC and the interplay of different factors influencing the MNC in terms of CIB, social media use, intergenerational difference, and the national and organisational cultures with three research questions which aim to help fill the gap in the literature reviewed in Chapter 2. The process of research to produce this thesis has enabled the development of theoretical contributions to the extant literature on collaborative information behaviour, social media, generational difference, and cultural difference in the MNC as well as methodological contributions and practical contributions – contributions which discuss the overall complexity of the MNC setting, and the interplay of key issues influencing the complex situation in the MNC.



**Figure 28 An outline diagram of the key findings and contributions
(Source: Developed from thematic coding analysis)**

Figure 28 illustrates the research questions and the synopsis of the key findings that emerged from the themes and codes from the data collection, and the contributions of this thesis. Based on the results of the findings and data analysis, and using activity theory as the analytical tool in chapters 4, 5 and 6, some of the findings are found to be congruent with the extant literature. Some are found to nuance and extend the existing literature, whereas some are novel and further investigation is recommended. From there, this research developed three models to conceptualise and discuss key findings. These three models have shed light on the issues posed in the research questions by addressing the overall complex issues and the totality of influences in how people of different generations share information collaboratively using social media as a business communication and collaborative information-sharing tool in a multicultural work environment. These three models are:

- CIB in the MNC setting
- The colonisation of an organisation by technology
- The interplay between the national and organisational cultures

The model of *CIB in the MNC setting* (Figure 29) is overlaid with the influence of intergenerational difference and further complicated by the interplay between the national and organisational cultures on collaborative information activities. This model highlights how people collaborate during the information activities using social media and the impact of intergenerational difference and the cultural issues affecting their information behaviour in a multicultural work setting. It was highlighted in the literature review chapter (section 2.2.3) that CIB researchers have developed models of CIB but these have limitations in the context of the MNC setting because they were based on empirical studies, mostly in the healthcare setting. This research helps to fill the gap in extending the knowledge to understand CIB in the MNC setting.

The model of *colonisation of an organisation by technology* (Figure 17 and Figure 33) was created to illustrate the process by which technology, in this case social media, was introduced into the organisation not by formal edict and policy but by gradual and incremental adoption – a form of colonisation of the organisation. The model identified that the process of how social media came into the MNC was in a ‘bottom-up’ fashion, which explained how social media was introduced by the company employees (operational level) who were the younger generations, and how the shift affected the respect of elders issues. It was found that the younger generations and their approach to technology influenced the shift towards a new digital platform – social media in the MNC – while the senior managers, who were the older generations, developed a level of hostility towards social media as they perceived that the younger workers did not respect them as being ‘elders’ in ‘top management positions’, as they used social media without their approval. Then, the senior managers set up the rule against social media. However, it turned out that they were unable to prohibit social media use in the MNC, and social media outcompeted the existing formal tools and destabilised the well-established ‘top-down’ management structure of the company.

The model of the *interplay between the national and organisational cultures* was developed to understand the interplay between the two in terms of how different generations collaboratively shared information in the MNC (Figure 34). This model adds two cultural dimensions – the national culture and organisational culture – to understand the way different generations collaborated and shared information, because the findings highlight that the national culture and organisational culture influenced CIB and social media use among the different generations in terms of their attitudes towards technology and the issues of the generational difference.

These three models also provide a baseline to structure the contributions of this study to three areas: the current body of literature addressing CIB, social media use and generational difference, methodological contributions in AT, and organisational implications of the research; in turn, this

research proposes a new, summative model – *CIB in the MNC context: an integrative model* – in Chapter 8 (Figure 35). It serves as a guide to understanding the totality of CIB, social media use, intergenerational difference and the different generations' approaches to technology as well as the cultural issues embedded in the multicultural work environment, specifically the interplay between them in the MNC setting.

In this chapter, the key issues underpinning the contributions will be discussed according to the themes that emerged from the research findings and data analysis in chapters 4, 5 and 6. The chapter begins by addressing the key research findings related to the first research question: *“How do generations differ in their use of social media as a business communication and collaborative information tool internally in a multinational company setting?”* It discusses the findings of the overall context of CIB, social media use and the intergenerational difference in the MNC and four themes that include the familiarity with tools, level of comfort, attitudes towards technology, and generational heritage to address the first research question. Two models (Figure 29 and Figure 33) will be presented in this section. The model of CIB in the MNC (Figure 29) will be introduced to explain the CIB in the MNC overlaid with the intergenerational difference and the multicultural issues. The model of the colonisation of an organisation by technology (Figure 33) will be illustrated to highlight the process by which social media came into the organisation and interpret the differences in social media use among the different generations.

The chapter next addresses the findings of the second research question: *“What barriers and differences in such a setting can be influenced by different generations' use of social media as a collaborative business communication tool?”* The modality of use, language barriers and cultural issues are the three themes to discuss the barriers and differences influenced by the intergenerational difference in use of social media. The model of the interplay between the national and organisational cultures (Figure 34) will be introduced to show how the cultural clashes determined the intergenerational difference issues and influenced the CIB activities among the different generations in the MNC.

Finally, the chapter answers the third research question: *“How can such barriers and differences be managed and developed to improve collaborative information behaviour for internal efficiency?”* by presenting two themes, in which the tool preferences and the communication barriers were found to be related to the third research question. The chapter then summarises these discussions in a concluding section.

7.2 CIB and the intergenerational difference in the MNC

This research addresses the research gap in the literature by looking at the complex issues of CIB, social media use, intergenerational difference, and cultural difference in the MNC setting in totality and investigating the interplay between these factors influencing each other in the MNC setting. In order to do this, the three research questions first posited in Chapter 1 have guided this investigation.

This section discusses the first research question: *“How do generations differ in their use of social media as a business communication and collaborative information tool internally in a multinational company setting?”* It sets out to understand the holistic picture of how different generations carried out CIB activities via using social media in a multicultural work environment and to identify if there were differences in terms of CIB, social media use and the intergenerational difference within the MNC context.

The findings show CIB processed differently in the MNC because of the complexity of the setting and the interplay of many factors in the MNC setting, which will be discussed in section 7.2.1 through a model of CIB in the MNC setting. Additionally, the findings indicated that digital natives and digital immigrants differ in social media use as the collaborative information-sharing tool in the MNC; this is organised into three themes, consisting of the familiarity with tools (section 7.2.2), the level of comfort (section 7.2.3), and the attitudes towards technology (section 7.2.4). Thus, from the investigation of the first research question, the contribution was found in the process by which social media was brought into the organisation, which will be addressed through the model of the colonisation of an organisation by technology (Figure 33) in section 7.2.5.

7.2.1 CIB in the MNC setting

One of the contributions of this research is to propose a new model of CIB and the intergenerational difference in the MNC setting. This research employed AT to investigate and analyse the CIB of different generations and social media use in an MNC. From investigating the research questions, using AT analytical tools helped to identify a bigger picture of CIB in the MNC in terms of their CIB, social media use, and the intergenerational difference in a multicultural work environment.

It was highlighted in Chapter 2 that the extant literature has focused on the issues of CIB, social media use, intergenerational difference and cultural difference in an MNC setting in single 'siloed' aspects in the main. Some literature has touched upon combinations of these issues, such as how social media is adopted as a CIB tool (Ng et al., 2017; Kuegler et al., 2015; Nisar et al., 2019; Razmerita et al., 2014), how different generations share information differently in the workplace (Widén et al., 2017), and the impact of culture on social media use (Gibbs et al., 2015; Pirkkalainen and Pawlowski, 2014; Schlagwein and Prasarnphanich, 2014). From investigating the totality of the influences in the MNC setting, the findings of this study suggest that CIB activities were carried out differently in the MNC through the model of CIB in the MNC context (Figure 29).

In CIB literature, two existing models of CIB by Reddy and Jansen (2008) (Figure 30) and Karunakaran et al. (2010) (Figure 31) have been widely discussed and applied in CIB research. However, these models did not address the multicultural work environment and thus ignored the cultural difference embedded within the MNC context of this research which might influence CIB activities, social media use, and intergenerational difference. Based on the findings and analysis in Chapter 4, the model of CIB in the MNC setting (Figure 29) extends the understanding of CIB in the complex setting of the MNC to explain the way that company employees in the collaborative information-intensive domain shared information to achieve business goals and explores the interplay of different factors influencing the issues of CIB in the MNC, such as CIB social media use, intergenerational difference, and cultural difference.

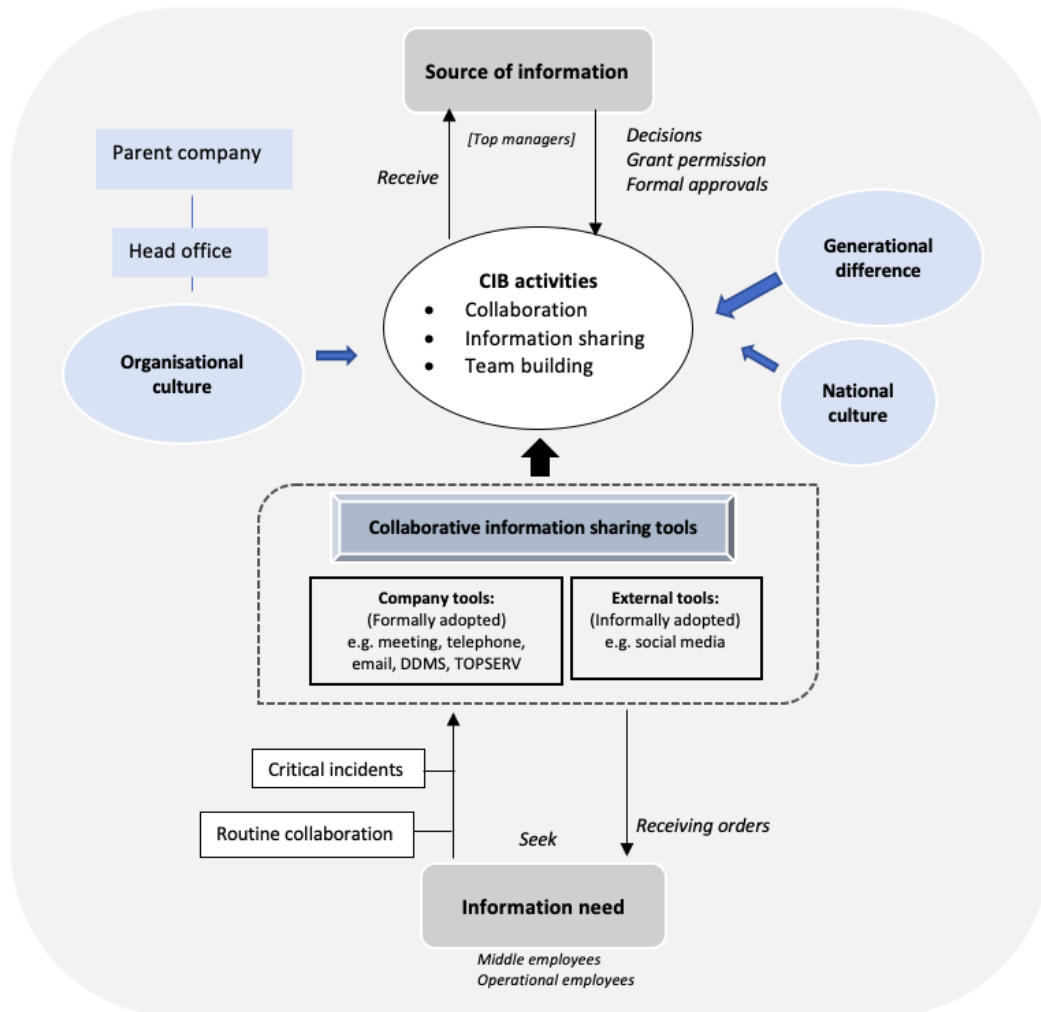


Figure 29 Model of CIB in the MNC context

The model above offers an alternative model of CIB to the existing models by Reddy and Jansen (2008) (Figure 30) and Karunakaran et al. (2010) (Figure 31) and highlights five different areas that influenced how CIB activities were carried out differently in the MNC setting:

- The nature of CIB activities in the MNC
- Triggers leading the IIB to CIB activities
- Collaborative information-sharing tools
- Intergenerational difference (see sections 7.2.2, 7.2.3, 7.2.4, 7.2.5)
- The interplay between the national culture and organisational culture (see section 7.3)

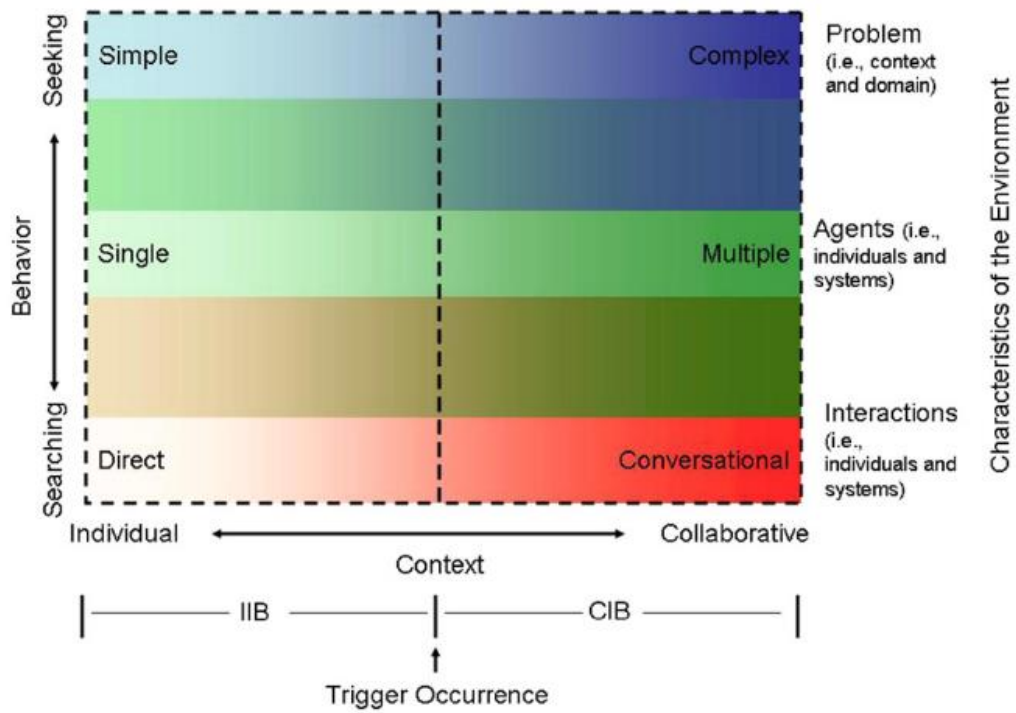


Figure 30 Reddy and Jansen's (2008) CIB model (Reddy and Jansen, 2008, p. 266)

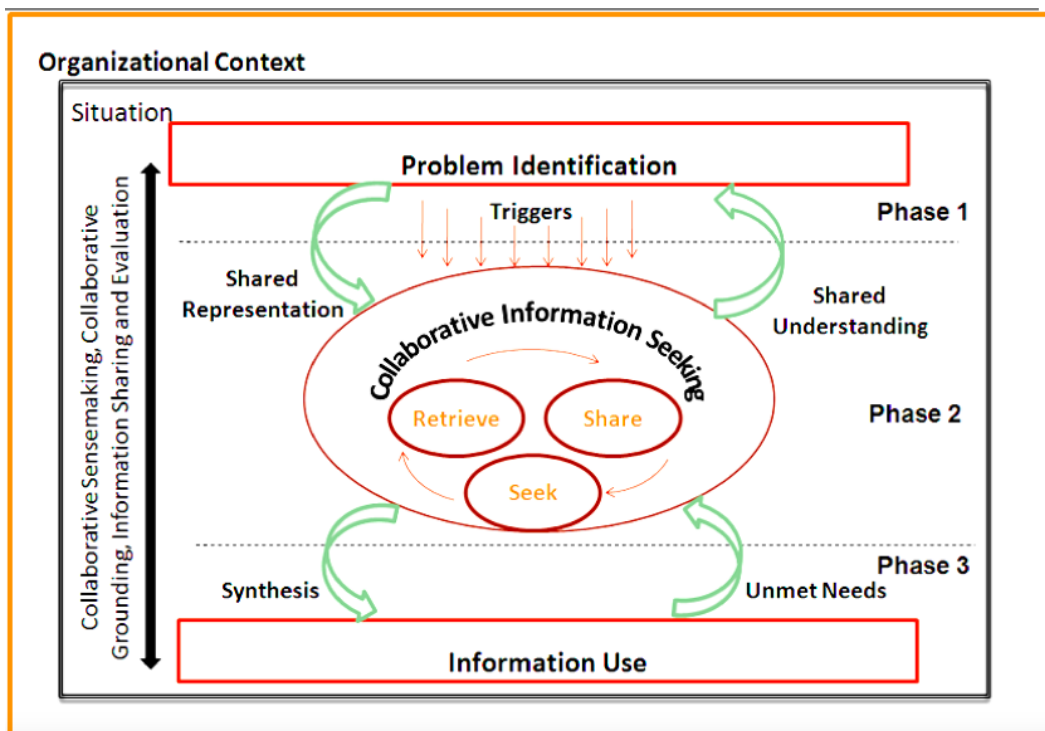


Figure 31 Karunakaran et al.'s (2010) model of CIB in organisations (Karunakaran et al., 2010, p. 3)

To describe the CIB activities in the MNC, according to Figure 29, it was found that CIB was initiated at the individual level when a company employee faced a problem or the need to find information, and the employee was motivated to collaborate with department colleague(s) or team member(s). This initial stage is in line with the extant CIB literature (Karunakaran et al., 2013; Karunakaran et al., 2010; Reddy and Jansen, 2008; Reddy and Spence, 2008). However, the difference lies in the complex nature of the multicultural work setting, the triggers leading an individual to collaborate, CIB tools, the intergenerational difference, and the interplay between the national and organisational cultures. The existing models of CIB (Figure 30 and 31 above) emphasised the understanding of CIB activities in an organisational context through analysing the complexity in the CIB activities, the triggers shifting an individual to collaborate, and CIB tools such as intranet, technology and shared representation. The findings from this research add that the five key areas noted above should be considered to understand a bigger picture of the CIB in the MNC because of the interplay of the various issues. These complex issues in the MNC setting cannot be looked at as 'single issue' domain as the findings show that they influenced each other, and this complex reality in the MNC should be looked at using a holistic view which will help to understand the totality of influences in the setting.

The next section will expand on the above and explain how these five areas add to the understanding of CIB in the MNC.

1) The nature of CIB activities in the MNC setting

This research applied activity theory to explore the cultural and historical background of CIB in the MNC to understand the nature of work and how CIB worked in the MNC, and to identify the complexity within the MNC setting (Chapter 4). CIB literature highlights the complex nature of collaborative work settings and that people usually seek information and collaboration when work activities become complex, and when a problem or situation is too complex for an individual to disentangle (Shah, 2010; Shah, 2014; Reddy and Jansen, 2008; Hertzum and Reddy, 2015). Reddy and Jansen (2008) also stated that, in CIB activities, information needs are complex, which is one of the triggers leading an individual to collaborate (section 2.2.2). In the MNC context, prior studies stress the importance of a cultural difference between the national and organisational cultures in MNCs in that it influences and shapes organisational communication (Hofstede, 1997; Trompenaars and Hampden-Turner, 1997; Hall, 1989), and organisational culture and management (Godiwalla, 2016). Schlagwein and Prasarnphanich (2014) also provided evidence that the national culture can have an impact on social media use in organisations.

The findings add nuance to the complexity in that the collaborative nature of work was bounded and constrained in the top-down organisational structure, which was influenced by the national and organisational cultures embedded in the organisation as the MNC faced the challenge of dealing with two cultures (Thai and Japanese), based on the findings in section 4.2.1. The findings extend the extant literature (Choo, 2006; 2013; Jarvenpaa and Staples, 2000) in that it is not only information culture that affects people's attitudes towards information behaviour and communication in organisations, but also the cultural clashes between the national and organisational cultures can influence the way people share information collaboratively in the MNC context.

When using activity theory to examine rules and norms in the activity systems (section 5.2.7), it was noted that the parent company in Japan established the same rules and policies, work ethics, and a code of conduct for all subsidiaries, which passed through the head office (local subsidiary) to the MNC. That was how the MNC received the top-down organisational culture. It was also demonstrated that authority and power were distributed to the top management of the MNC almost exclusively, in line with Thai culture. That is to say, all company employees were required to collaborate closely and share information with the top managers, both in their routine collaborations and in critical incident situations, in this top-down manner. Only the top management team can grant permission and make decisions in the company, whilst employees act upon the orders from the top management team. Thus, the source of information was put on top of the model and information need was on the bottom of the model to give a clear picture of the 'top-down' structure in the MNC.

2) Triggers leading the IIB to CIB activities

Reddy and Jansen (2008) and Reddy and Spence (2008) reveal that an individual initiates collaboration because triggers motivate them to collaborate. They said that, in CIB activities, the complexity of information need is a trigger causing people to collaborate. People are likely to collaborate more to find information when the information need is highly complex, or there is a lack of expertise and lack of access to the information (Table 20). The findings of this study add nuance to the triggers transiting individual information behaviour (IIB) to collaborative information behaviour in that (CIB) was found to be related to the top-down organisational structure (Table 20).

Table 20 Triggers causing an individual to collaborate in the MNC

CIB researchers	Triggers leading the IIB to CIB	Results from findings
Reddy and Jansen (2008) Karunakaran et al. (2010)	<ul style="list-style-type: none"> • Complexity of information need • Fragmented information resources • Lack of domain expertise • Lack of immediately accessible information 	Top-down <ul style="list-style-type: none"> • Lack of power • Lack of expertise
Reddy and Spence (2008) Spence et al. (2005)	<ul style="list-style-type: none"> • Complexity of information need • A lack of expertise • A lack of immediately accessible information 	

This research found that lack of power and lack of expertise were two key triggers leading an individual to collaborate in the MNC, and these triggers were associated with the top-down structure of the organisation. The findings add nuance to the extant literature and explain that the top-down organisational structure influenced CIB activities, and the need to find and share information was highly dependent on this top-down organisational structure. From the analysis of activity systems in Chapter 5, the top-down management approach determined the role of employees and how tasks were divided (division of labour). That is, the way employees collaborated and communicated was based on the hierarchical structure of the company (top-down approach). The employees' role was to receive orders and obtain approval from the top managers because employees did not have the power to decide in the organisation. This finding is supported by the below excerpt from the Publicity manager.

"I don't have the power to decide any decisions. I have to ask and wait for my boss. Otherwise, work can't be done." (Publicity manager, Generation Y, Born 1983).

All CIB activities utilised a cyclical, top-down approach including collaboration, information sharing and team building. Reddy and Jansen (2008) stated that a lack of expertise was when an individual requires help from people who know particular subjects that he or she does not know. It was found that the lack of expertise in the MNC was linked to the top-down structure, as the interview responses from participants indicated that, due to the top-down structure, employees

have to obtain the final answer to all problems from the top managers. Although they might ask other team members, the query will reach the top managers in the end and only they can make a decision. Therefore, the triggers were constrained and limited by the top-down structure which required senior management approval and negated the local initiative which is posited in many extant studies. This was very clearly driven by the influence of the national and organisational cultures.

3) Collaborative information-sharing tools

The role of tools has been recognised as the supporting mechanism of CIB activities because the process of CIB requires interaction and is carried out through accessing various types of information sources and tools to help solve problems to achieve mutual goals (Prekop, 2002; Shah, 2014; Karunakaran et al. 2013). CIB researchers, in the technical perspectives, have developed IR technologies to support CIB activities, such as Ariadne (Twidale and Nichols, 1998), SearchTogether (Morris and Horvitz, 2007), MUSE (Krishnappa, 2005) and Coagmento (González-Ibáñez and Shah, 2011). More recently, social media literature highlights that social media is a new phenomenon which has changed the way people communicate, and this has also influenced many, if not most, organisations to adopt social media for CIB activities (Huang et al., 2013; Leonardi and Vasst, 2017).

This research extends the understanding of the role of tools in CIB activities and overlays that with the intergenerational difference approach in the MNC setting. Analysing the cultural and historical development of activity systems in Chapter 4 and tools (section, Chapter 5) helped in discovering collaborative information-sharing tools in the MNC. The findings highlight that the MNC adopted internal company tools and external tools, which confirms the findings of previous social media studies that new technologies like social media platforms are used extensively as CIB tools (Chen and Wei, 2020; Leonardi and Vaast, 2017; Nisar et al., 2019; Razmerita et al., 2014; Schlagwein and Hu, 2016; Sun et al., 2019), along with other company tools.

However, social media was not formally adopted in the MNC, which is not in line with previous studies as literature highlights that many organisations used social media officially. This research found that the process by which social media was brought into the MNC was subversive. Based on the findings and analysis in Chapter 6, it was identified in section 6.4.1 that there was a secondary level of contradiction between social media and rules and norms in the MNC setting. It was found that a group of employees (younger generations/digital natives) introduced social media in the MNC, while the top managers (older generations/digital immigrants) exerted their

power as the top management level to set up both an explicit rule against social media use in the MNCs and norms disapproving of its informal use. This did not, however, effectively stop the use of social media in the MNC, and the findings demonstrated that social media proliferated in the organisation and social media platforms were widely used as CIB tools in the MNC over time. Regardless of this, however, the rule was not lifted, leading to a situation of unofficial use of an officially forbidden tool being tacitly accepted while formally ignored. Thus, this research referred to this phenomenon as the colonisation of an organisation by technology, which section 7.2.5 will discuss in more detail. This research also stressed the relation between the role of CIB tools and the intergenerational difference and the different generations' approaches to technology. Organisations should understand that the younger generations are tech-savvy and they always look for new, evolving tools because this is the nature of digital natives who grew up in the digital era. This is, however, hugely constrained by the cultural influences of elder-respect (Thai) and formal rule compliance (Japanese). Therefore, the findings of this research suggest future research may usefully consider the intergenerational difference and the different generations' approaches to technology to advance the understanding of CIB in an organisational context, and chart ways in which organisations could be proactive in adapting formal rules in this fast-changing world so as to educate their employees, across the generations, in adopting new, evolving technologies for CIB activities.

4) The intergenerational difference

This research demonstrates that the intergenerational difference is an important issue contributing to the understanding of the CIB activities and multiple generations in organisations, and that it is also hugely entangled with cultural issues in both the national and corporate cultures. The findings support the literature highlighting the divide between the technology-driven generations and older generations and their relationship with technology (Bennett and Maton, 2010; Colbert et al., 2016; Culp-Roche et al., 2020; Prensky, 2001; Vodanovich et al., 2010), which suggests that the technology-driven generations and older generations use and perceive social media differently because they were born in different eras. This will be discussed in more detail in sections 7.2.2, 7.2.3 and 7.2.4. Additionally, the findings contribute to the understanding of CIB, social media use and the intergenerational difference in the MNC through the model of the interplay between the national and organisational cultures (see section 7.3.3). It was found that the intergenerational difference in the MNC setting was not only because of the age-related factors that influenced different generations to share information differently as well as the attitudes towards technology. The interplay of national and organisational cultures was also a

key factor influencing generations in terms of experience, attitudes and information behaviour in the workplace and social setting (see section 7.3 for further detail).

5) The interplay between the national culture and organisational culture

The influence of culture is a significant factor in the MNC (Scheffknecht, 2011; Schlagwein and Prasarnphanich, 2014) as the nature of the MNC is a multicultural work environment, which involves cultural differences between the host country and home country. Literature highlights the impact of culture on social media use in organisations (Gibbs et al., 2015; Pirkkalainen and Pawlowski, 2014; Schlagwein and Prasarnphanich, 2014). The findings of this study extend the knowledge on CIB and how different generations use social media and/or new digital technologies in that the interplay between the national and organisational cultures plays a large part in influencing generations to use social media to share information collaboratively in the MNC.

In section 5.3.7, rules and norms in the MNC activity systems were analysed and it was identified that the MNC received influence from both national and organisational cultures. The influence of the parent company was mediated through principles, code of conduct, set of values and beliefs, and corporate policies, reflecting the MNC's organisational structure (top-down) and culture. The national culture was influenced by the country in which the MNC operated. In this case, the MNC was in a country (Thailand) with a hierarchical national culture (Duan, 2019), and the findings highlight that they considered '*respect the elders*' immensely important in the case company. The '*respect the elders*' approach influenced how people treated and behaved with others based on the age difference. Younger people were supposed to treat older people with respect (see section 7.3 for more detail).

The findings suggest that the '*respect the elders*' approach largely influenced the CIB activities in the organisation as most of the top management team were from the older generations, and the younger generations had to respect and obey the older generations, according to their social and cultural context. This influenced the way younger employees communicated and shared information collaboratively with older employees (top managers/senior managers). Younger employees had to be careful when they worked with the senior managers as the senior managers expected younger employees to communicate and behave according to the '*respect the elders*' approach. For example, the language used with the older generations: the older generations expected the younger generations to use proper words and sentences to communicate with them because there was a hierarchy in the language in their national culture (Thai) (section 7.3.2).

From this, this finding explains that the interplay between the national and organisational cultures is a significant element in the complexity in the nature of collaborative work in the MNC, which influenced CIB activities in the MNC to collaborate and share information differently from other organisational settings.

Overall, the model of CIB in the MNC presented in this section (Figure 25) extends the current CIB literature (Hansen and Järvelin, 2005; Hertzum and Reddy, 2015; Karunakaran et al., 2013; Shah, 2014; Widén and Hansen, 2012) offering an understanding of CIB in the context of the MNC and the interplay of various factors in the context. The model (Figure 25) highlights the five key issues found in the MNC that explained how CIB in the MNC differs from the extant model. It adds nuance to the complex nature of work in the MNC and the triggers of CIB – highlighting that it was not entirely about difficult work tasks, as addressed by several studies (Hansen and Järvelin, 2005; Hertzum and Reddy, 2015; Karunakaran et al., 2013; Reddy and Jansen, 2008; Reddy and Spence, 2008; Shah, 2014), but was influenced by the cultural clashes between national and organisational cultures. Even though information culture in organisations has been recognised in previous research (e.g. Choo, 2006; 2013; Jarvenpaa and Staples, 2000), the cultural clashes on CIB activities in organisations are still understudied. It is suggested that both the national and organisational cultures should be incorporated when discussing the CIB in MNCs, as well as the interplay of different issues mentioned here (CIB, social media, intergenerational difference, cultural difference) in the MNC. Additionally, the study also found that there is an issue of intergenerational difference in the MNC, which influenced the CIB activities and the role of CIB tools, such as social media and/or new digital technologies being adopted in the organisation. More importantly, the model of CIB in the MNC setting (Figure 25) helped structure significant elements to propose a new summative model – CIB in the MNC context: an integrative model in the MNC setting (Figure 32), which will be described in Chapter 8 (section 8.2.3). This summative model (Figure 32) was developed by looking holistically at the overall complexity of the MNC setting and the interplay of various factors influencing each other in the context of the MNC, building on the findings and analysis from chapters 4 to 6.

The following section will discuss three themes about how digital natives and digital immigrants differ in their use of social media as a business communication and collaborative information tool internally in an MNC setting: *7.2.2 Familiarity with tools*, *7.2.3 Level of comfort*, and *7.2.4 Attitudes towards technology*. The concept of contradictions was applied to draw out significant issues in the activity systems to address the research questions and their aim – to understand the overall complexity of the MNC and the interplay of factors in the MNC. The reason for analysing contradictions is because, in activity theory, contradictions are “sources of change and

development” (Engeström, 2001, p. 137), which help in examining the root cause of the issue(s) occurring in the activity systems in the complex context which this research was investigating. As a result, this research identified these themes from analysing the tensions and contradictions in the activity systems in section 6.4, as well as other themes to be discussed in sections 7.3 and 7.4 in this chapter. Tool familiarity will be addressed first.

7.2.2 Tool familiarity

Based on the findings in section 6.3, AT was applied to analyse the actions and operations of the CIB activities among different generations in the MNC. When analysing the mediating tools for CIB activities in the MNC, it was found that tool familiarity is one of the differences between the digital native and digital immigrant employees in the MNC (section 4.2.2 and section 5.2.6), and it is a key factor influencing employees’ choice of tools when they carry out the CIB activities. Tool familiarity, in this research, was found to be associated with digital fluency, which was the generations’ skills in using technology.

In section 6.4.1, tool familiarity was drawn out from analysing the tensions and contradictions between the subject and rules and norms. In CIB activities, technologies (tool) used for looking for information and collaboration are essential as technologies support the CIB activities and enable people to collaborate and coordinate (Karunakaran et al., 2013). This study found that, when the MNC adopted social media to implement CIB activities, the familiarity with social media use among different generations was the reason the older generations set up the rule against social media use in the MNC, because they had developed a level of hostility towards social media as they were not familiar with it, and it was brought in by the technology-driven generations without their formal approval.

The findings of this study support previous studies that the technology-driven generations develop familiarity with technology more than the older generations because the technology-driven generations have more opportunity to use technology, given they grew up in the digital period (Culp-Roche et al., 2020; Naim and Bulinska-Stangrecka, 2019; Zhang et al., 2017). It was found that the digital natives were highly engaged with social media in this MNC (Bowe and Wohn, 2015; Li et al., 2018; Verčič and Verčič, 2013; Zhang et al., 2017). In CIB activities, due to tool familiarity, the digital natives were driven to use social media to support their CIB activities within their collaborative information-intensive departments to fulfil the information needs. The way they chose to use social media is in line with what past studies have claimed: that the digital natives already use social media in their personal lives and are familiar with using digital devices

without having to refer to instructions, as they grew up with and are immersed in technology as well as surrounded by the digital environment (Prensky, 2001; Tapscott, 2008; Vodanovich et al., 2010). All digital native participants responded that they used social media because everyone used it and they did not see anything wrong with using it.

In contrast to the digital natives, the findings demonstrated that the digital immigrants in the MNC were the senior managers and they were the only ones in the company who could exert power to make decisions and grant formal approval. Tool familiarity also affected their choice of tool when they shared information and collaborated. The findings are consistent with previous studies: that the senior managers are less familiar with digital tools as they are from generations that were born without digital technologies and accessibility, unlike today, and the emergence of technology has only occurred during their adult lives (Prensky, 2001; Tapscott, 2008; Vodanovich et al., 2010). The senior managers resisted technology and faced difficulty in accepting it (Vodanovich et al., 2010). It was found that they were willing to stick to the traditional tools with which they were familiar, such as organisational tools like face-to-face meetings and telephones which were provided by the company itself (section 4.2.2), and developed a level of hostility towards new technology that enables the capabilities of young generations (Prensky, 2001). The excerpt below shows how they were against social media and the differences between generations.

"I don't understand these young generations at all. I don't understand why they rely on social media. I don't like it." (Managing Direction, Generation X, Born 1978).

The result of this finding contrasts with previous studies which found that the issue of generational difference does not exist in organisations (Jarrahi and Eshraghi, 2019; Rudolph and Zacher, 2020; Widén et al., 2017), and there is an increasing use of social media among older generations (Culp-Roche et al., 2020). Widén et al. (2017) also found the generational difference is not a direct determining factor of differences in information-sharing activities in the MNC. They found the organisational experience to be the reason clarifying the differences in the information-sharing activities and attitudes in the MNC, which is not related to the generations' approach. The findings of the current research argue that different levels of tool familiarity between generations still exist. All the digital immigrants in the study were against social media use and set up the rule against social media use in the MNC when it first came to the organisation, as they did not approve of new technology in the organisation without their consent and they preferred to use traditional tools (section 5.2.8). Simultaneously, the technology-driven generations and their familiarity with technology have influenced the shift towards social media use in the MNC – the colonisation

by technology (section 4.3.2 and section 7.2.5), regardless of the well-established top-down organisational structure and rules and norms in the MNC. The interview excerpts below illustrate the differences in familiarity with using social media among the different generations. The first is an interview excerpt from one of the Executive Vice Presidents, who was considered to be a member of the older generation in this study.

“Don’t get me wrong. Social media is a helpful tool to use but I personally think that in some cases social media cannot be the solution. For example, we need a meeting to bring all employees or the team to sit down and discuss. You can’t do that with social media. You might use video calling but still it is not complete.” (Executive Vice President, Baby Boomer, Born 1960).

From the excerpt, the older generation in this study expressed that social media is not the solution to all problems, and it is necessary to use some traditional tools like meetings in the organisation. The second excerpt is from an interview with a digital native employee.

“I like our company to use social media as the main tool especially for communication because it’s easier and more convenient. Sometimes meeting takes too long to finish and, well, I can’t say anything to complain.” (Marketing employee, Generation Y, Born 1989).

The findings reveal that the senior managers believed that it was necessary to use and maintain traditional tools in the MNC, while most of the technology-driven employees in this study responded in the opposite way, in that they preferred to use social media and were willing to give up the traditional tools. The technology-driven generations were more familiar with social media and were more open to adopting new digital technologies. Therefore, the findings indicate that tool familiarity is the difference between them, which is similar to what previous studies highlighted about the technology-driven and older generations being born in different eras (Culp-Roche et al., 2020; Prensky, 2001; Tapscott, 2008; Vodanovich et al., 2010). However, some recent researchers suggested that the generational difference does not exist and is not the direct determining factor of information-sharing activities in organisations (Jarrahi and Eshraghi, 2019; Rudolph and Zacher, 2020; Widén et al., 2017). The findings in this study argue a different view from these recent studies: that the issue of intergenerational difference exists and is the direct determining factor of differences in CIB activities in the MNC, and that tool familiarity shaped the different generations’ tool choice in the CIB activities. The findings suggest that many organisations need to face the challenges of managing the organisational tools and technologies

they provide to facilitate collaboration and information-sharing activities, given the newer generations entering the workforce.

7.2.3 Level of comfort

The second theme arising from the findings related to the first research question is the level of comfort. This is different from the tool familiarity. In this research, tool familiarity was found to be related to skills in using technology, while the level of comfort means the experience of using the technology based on three findings: frequency of use, level of satisfaction and confidence when using technology. These are linked to the experience of using technology and how comfortable generations are with technology, according to interview responses. Thus, when participants mentioned being "*comfortable*", they referred to a pleasant experience of using social media and being confident in and relying on social media. This research supports the findings of prior studies (Culp-Roche et al., 2020; Colbert et al., 2016; Naim and Lenka, 2017; Naim and Bulinska-Stangrecka, 2019) that the level of comfort explains that technology-driven workers were more comfortable using social media than the older workers, meaning the younger workers were more relaxed and at ease when sharing information via social media, but the older workers were uneasy about sharing and collaborating on social media platforms.

The findings indicated that the senior managers had experience with the existing organisational tools more than social media, as they had never used social media before, which was why they were more comfortable using existing traditional tools like face-to-face meeting and telephone. According to the senior managers, social media was an informal tool and should not be used as a formal CIB tool. When one of the Managing Director (Baby Boomer, Born 1963) was first introduced to social media, he perceived it as a "*toy*". This was the reason the top management team was not comfortable using social media and developed a level of hostility to it, setting up the rule against social media, because their experience with social media was perceived as "*informal*".

Although literature highlights the increasing use of social media among digital immigrants, it is still the case that digital natives are more comfortable with technology compared with digital immigrants (Culp-Roche et al., 2020). The finding of this research claimed that the senior managers first encountered social media when it was introduced to the MNC, and they were unaware of social media and did not use it before the technology-driven generations brought it into the company. Their experience with social media was inadequate, which made them uncomfortable, and they had a difficult time accepting that it should be incorporated into the

company. Thus, the findings are consistent with what previous studies have mentioned (Culp-Roche et al., 2020; Venter, 2017; Vodanovich et al., 2010): that the older generations were uncomfortable with using social media as the CIB tool with their younger colleagues in the organisation.

With respect to the technology-driven generations, the findings point out that they were more highly reliant on technology than the digital immigrants were. Today's digital natives have never known a world without technology, and the way the technology-driven generations process information is different from the older generations because of the different environments in which they grew up (Shtepura, 2018). Literature identified that digital natives and their reliance on technology influenced their workplace attitudes (Bencsik et al., 2016; Magni and Manzoni, 2020; Stewart et al., 2017). The findings report that the technology-driven generations outnumbered the older generations in the company, as indicated in Figure 21. It was found that it was the younger generations and their level of comfort that influenced the CIB activities in the organisation in terms of tools.

Findings suggest that, due to its level of comfort, all technology-driven employees shifted to use social media instead of the traditional tools provided by the company, and then the senior managers also had no choice: because the employees no longer used the traditional tools, they too had to shift to the social media platform. The findings report that, since the adoption of social media, younger employees no longer seek information and share information through email and telephone; additionally, face-to-face meetings are used less. The technology-driven generations refused to use traditional tools as they had more experience with technology growing up, so they then felt that the traditional tools were outdated for use in today's business environment. This forced the older generations to switch platforms because the younger employees made up the majority of the company's population, so, when the younger employees no longer used the traditional tools, this forced the older generations to use social media.

Another important finding that adds to understanding the level of comfort with social media is that the digital immigrants were not comfortable with a new way of communication and sharing information via instant messages on social media group chats, and they developed hostility and a negative attitude towards using social media as a formal tool in the MNC. As a Managing Director shared,

"I don't rely on social media at all. Employees have to come to my office or call me if they need information and collaboration." (Managing Director, Generation X, Born 1976).

Digital immigrants did not rely on social media to seek and share information as they did not feel comfortable using social media group chats in the workplace. They did not see social media as the primary tool for CIB activities. In contrast, all the digital native employees explained that they used social media to seek information and collaboration from their colleagues as their primary information source. As stated below,

“Social media is the first and only platform I use for everything. Whether it is searching for information, seeking help from my colleagues because it’s faster and saves my time a lot.” (Engineering employee, Generation Y, Born 1988).

The findings also offer nuance in that there is a conflicting idea between digital natives and digital immigrants in terms of the level of comfort when using tools based on their experience. Digital natives perceived and relied on sending messages on social media group chats as the predominant tool for CIB activity, while digital immigrants disapproved and were less comfortable with this. The findings demonstrate that, although the senior managers were in the group chats, they preferred the calling feature of the social media rather than instant messages, and face-to-face meetings remained the most preferable tool when their employees sought information from them. This may be because the digital immigrants might not have adequate experience in using social media compared to the digital natives, which is in line with what previous literature highlighted about digital immigrants: that they were introduced to such technology much later in life (Bennett et al., 2008; Culp-Roche et al., 2020; Shtepura, 2018; Vodanovich et al., 2010), which influenced how technology-driven and older workers preferred different tools to share information in the MNC.

The findings presented in this section add to the existing research into CIB (Karunakaran et al., 2013; Reddy and Jansen, 2008; Reddy et al., 2008; Reddy and Spence, 2008; Shah, 2014; Widén et al., 2017) and social media (Hanna et al., 2017; Leonardi and Vaast, 2017; Lu and Pan, 2019; Razmerita et al., 2014) that the intergenerational difference is an important issue to consider, because the findings confirm that the younger generations and their digital upbringing can affect the role of technology in the CIB activities in the MNC. And the results of this study explicate the colonisation of an organisation by technology (section 7.2.5) in that, even though social media was not formally introduced and the senior managers set up the rule to forbid it, social media dominated and replaced the traditional tools because of the younger generations and their familiarity and level of comfort with the social media approach.

7.2.4 Attitudes towards technology

The third theme is the attitudes towards technology, which was the result of findings from the tensions and contradictions in the activity systems (section 6.4). In section 6.4.1, it was identified that contradictions occurred between subjects and rules and norms because it was found that employees of different generations extensively used social media as the CIB tool, while the company rule set up by the senior managers forbid all employees from using social media. It is important to highlight here that company employees were breaking the formal rule when they used social media in the MNC – and this includes the senior managers, who were the ones who established the formal rule and yet routinely broke it.

This section will discuss how the generational heritage shapes the attitudes towards technology between different generations in the MNC, which widens knowledge of the intergenerational difference and the different generations' approaches to technology. Firstly, it is important to point out what is already known in the current literature and how the findings support the literature. The findings of this research reinforce the findings of previous studies (Bencsik and Machova, 2016; Bove and Wohn, 2015; Culp-Roche et al., 2020) that different generations have different attitudes towards using technology because they were born and bred in different environments. That is to say, technology was innate for digital natives more than for the digital immigrants, who were only introduced to technology in their adult life. Accordingly, the attitudes towards technology among digital natives are more likely to be positive and familiar with technology than those of the digital immigrants, because, as most literature states, digital immigrants are resistant to new technology and change and do not accept technology (Stanton, 2017; Vodanovich et al., 2010). The most obvious finding related to this was identified in analysing the motivation for social media use (section 5.2.2): that the younger generations believed social media helped support the CIB activities, whereas the older generations enforced the rule forbidding employees from using social media because they had developed a level of hostility and a negative attitude towards the use of social media in the organisation. Two excerpts are restated below to support the finding that different generations used social media differently in terms of their attitudes towards technology.

*"It's easy to use and accessible because everyone in our company uses social media. It's what we need for our company, we need something fast, convenient, and easy to use."
(Marketing employee, Generation Y, Born 1988)*

“Formal tools are supposed to be used for working in the company. They’re working fine. I don’t think it’s necessary to use social media or a new tool.” (Managing Director, Baby Boomer, Born 1963)

The first excerpt (section 5.2.2) is an example from the digital natives highlighting that they preferred to share information and collaborate using social media in the organisation. In the second excerpt (section 5.2.8), it is evident that digital immigrants were resistant to new digital technology and believed that social media was not categorised as one of the formal tools because the senior managers did not formally approve of it, which is in line with the previous studies that reported digital immigrants are unwilling to change (Lyons and Schweitzer, 2017; Prensky, 2001; Vodanovich et al., 2010). Digital native employees believed that social media was the solution in today’s business environment which can help improve their company’s performance. On the other hand, the senior managers and other older colleagues perceived social media was inappropriate and too informal to use in the business communication and collaboration setting. This provides a reason for why the attitudes towards social media use differ among different generations. They did not differ in terms of use, because the findings show both digital natives and digital immigrants massively used social media in MNC, but they did differ in terms of their attitudes towards social media use in the MNC.

In addition, the findings of this research extend nuance in that the generations’ differences in attitudes towards social media use were found to be related to their generational heritage, and the generational heritage was influenced by the national and organisational cultures. This finding contributes to the understanding of the generational difference and the different generations’ approaches to technology in that the interplay between the national culture and organisational culture influenced the attitudes of different generations when they used social media and/or any technology to collaborate on work and share information in the MNC setting.

Generational heritage

This finding about generational heritage was the influence of the culture on the different generations’ sets of beliefs and values. The majority of extant research has focused on age difference, birth year and technology orientation to discuss the generational difference and different generations’ behaviours and attitudes (e.g. Culp-Roche et al., 2020; Bencsik et al., 2016; Bencsik and Machova, 2016; Bennett et al., 2008; Vodanovich et al., 2010). This study contributes to the current knowledge of the intergenerational difference by highlighting that cultural issues should be considered, because it was found that the culture has the impact on the attitudes and

behaviours among different generations (Figure 32). As displayed in Figure 32, for example, in this MNC setting, there was an interplay between the national and organisational cultures in the organisation, and both cultures (Japanese and Thai) shared important cultural values, also known as *'respect the elders'* or *'seniority culture'*.

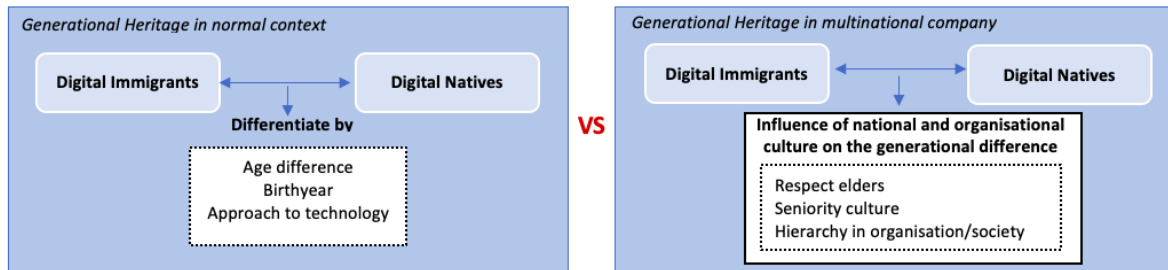


Figure 32 Generational heritage in the MNC company context

These cultural values influenced the intergenerational difference in this context in terms of how different generations behaved and interacted with each other. Literature addresses that, within these cultural values, older people or people in the higher rank in the society or organisation receive respect and recognition from younger people, and younger people are supposed to obey and listen to the older people (Pimpa, 2012; Power, 2015; Rojanapanich and Pimpa, 2011). This cultural value influenced the different generations when they used social media to work together and shared information in this social context. The findings also highlight that the senior managers expected employees to behave towards and interact with older generations based on the *'respect the elders'* approach. The following excerpt (section 5.2.7) is restated to demonstrate this.

"We, younger generations, have to be very careful with older generations because it's part of Thai culture that we have to respect [our] elders and it's a must when we talk to older generations that we use the right language, because [otherwise] it will look like we're rude and we disrespect them without intention." (Publicity employee, Generation Y, Born 1987).

It is interesting that the issue of intergenerational difference and the different generations' approaches to technology in the workplace is not entirely about the age difference, birth year, and/or stereotypical views of digital natives and digital immigrants and their relationship with technology that most existing literature has focused on when investigating the generational difference (Culp-Roche et al., 2020; Magni and Manzoni, 2020; Zhang et al., 2017). The finding extends the idea that different generations used social media differently in the MNC because of the interplay between the national and organisational cultures. This was found in how the

generations should behave, interact and communicate in the social setting in which the MNC operated. For example, this study found that the *'respect the elders'* approach played a major role in this MNC, and it influenced their how the different generations used social media for CIB activities in terms of how younger people were expected to behave and the language used with older people when they communicated with them on social media platforms (this language aspect will be dealt with in more detail in section 7.3.2).

Another influence was found in how the older generations of this MNC did not approve of social media and set up the rule against social media use. In the MNC setting, the *'respect the elders'* approach was inherited from both national and organisational cultures in that the older generations were put in positions which were expected to receive respect and honour in the organisation. However, when social media came into the MNC, the findings highlight that digital natives' behaviour conflicted with the ideology. Not only did the digital natives bring social media into the company without the senior managers' formal approval, they also continued to use social media after the rule banning it was enforced. From this, the older generations felt that the younger generations did not respect them. The findings also demonstrate that the reason that the senior managers set up the rule against social media was partly because of the influence of the national and organisational cultures, in that the senior managers were in the highest positions in the MNC, in which they can control and discipline their subordinates, and they also expect their subordinates to follow their orders. The excerpt (section 5.2.8) below is restated to reinforce this finding.

"We set up the rule not to allow them to use social media at work to control and discipline employees. They will lose concentration. They won't be able to work at their fullest potential, and this will affect their work performance." (Managing Director, Generation X, Born 1976).

This was the major issue of the intergenerational difference in the MNC. It was not only the generational difference in terms of attitudes towards technology, it was also the attitudes about the generational difference, which was shaped by the national and organisational cultures' belief that younger people should follow and obey older people. This finding of the interplay of the issues of CIB, social media use, the generational difference, and the cultural difference in the MNC was novel because some research has found that the generational difference is not a direct determining factor to cause any differences in the workplace (Jarrahi and Eshraghi, 2019; Rudolph and Zacher, 2020; Widén et al., 2017). The findings of this research argue that the generational difference is the determining factor in the differences in CIB activities, and the

research claims that the national and organisational cultures influenced CIB and the generational difference in terms of the different generations' attitudes towards technology in the MNC; more specifically, the value and norm shaped how different generations behaved and interacted in the MNC context.

The next section will introduce the area of contribution that was found when investigating the first research question, which is the colonisation of an organisation by technology.

7.2.5 Contribution 1: The colonisation of an organisation by technology

After addressing how CIB worked differently in the MNC setting (section 7.2.1) and how different generations differ in the use of social media in terms of tool familiarity, the level of comfort, and attitudes towards technology, this section discusses the area of contribution – the colonisation of an organisation by technology. The investigation of the first research question led to the contribution, which this research recognised as the colonisation of an organisation by technology.

The colonisation of an organisation by technology is the phenomenon found in this study when analysing the cultural-historical background history of the activity systems in Chapter 4, which delved into how the MNC developed from using organisational tools to the current position of social media use. Based on the analysis in section 4.3, the contribution highlighted the process by which social media was brought into the MNC. This research developed the model of colonisation of an organisation by technology to explain the phenomenon in this MNC (Figure 33).

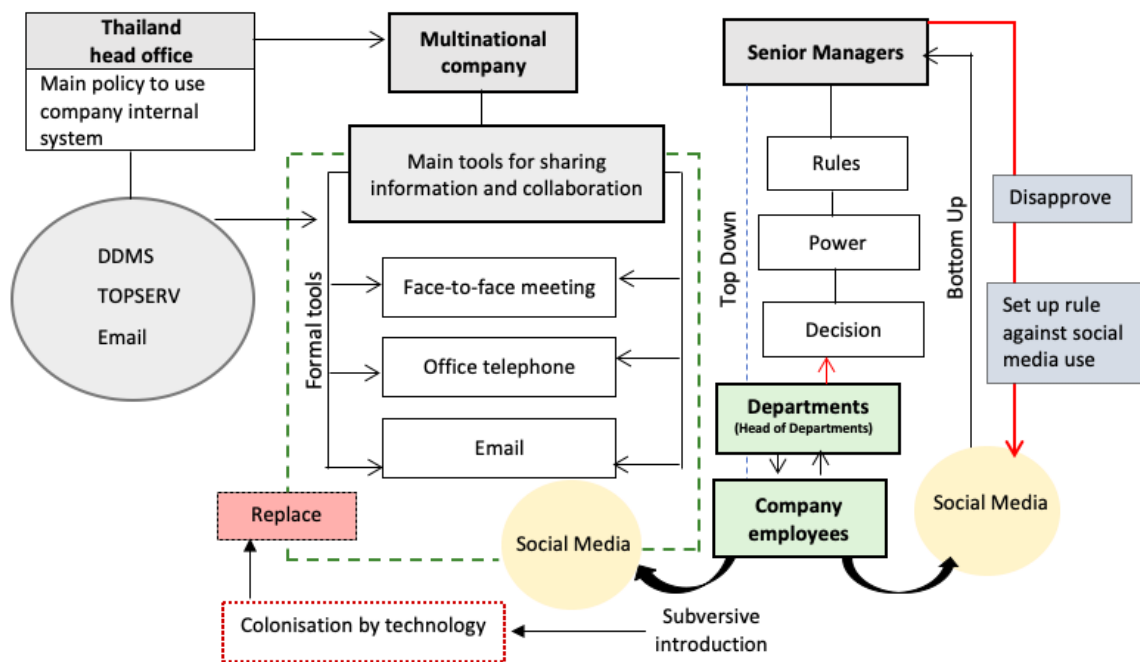


Figure 33 The colonisation of an organisation by technology

Building on the findings and analysis of this research (chapters 4-6), the process by which social media was brought into the MNC or the colonisation of an organisation by technology, as referred to in this research, is novel. Although the current body of literature has already discussed the issues of CIB, social media, intergenerational difference, and cultural difference in the MNC, the phenomenon of the colonisation of an organisation by technology did not originate from a single issue of those mentioned. It was rather the totality of influences – the interplay of these different issues influencing each other in the context of MNC. It cannot be viewed or analysed separately as they all were related. Therefore, the finding of the colonisation of an organisation by technology has made a theoretical contribution by looking at this situation in a holistic view and by drawing on the extant literature of CIB, social media, intergenerational difference, and cultural difference to understand this phenomenon.

To illustrate what is the colonisation of an organisation by technology, the model (Figure 33) will be explained. As shown in Figure 33, the MNC has three types of tools: compulsory tools mandated by the head office (DDMS, TOPSERV, email) and organisational tools formally provided and adopted by the MNC (face-to-face meeting, office telephone, email) are two types and are considered '*formal tools*'. Another tool is social media, which is considered an '*informal tool*' in this MNC. The reason that social media is viewed as an informal tool is because it was not formally

adopted. A group of technology-driven employees (operational employees) brought social media into the company without formal approval from the senior/top managers.

In sections 4.2.1 and 7.2.1, the findings highlighted that the nature of work in the MNC was influenced by the parent company and the head office that operated through rules, policies, work ethics and code of conduct, as a result reflecting the top-down organisational structure in the MNC. The national culture also influenced the MNC in how older people were supposed to be respected (respect the elders approach). In the top-down structure, the senior managers were the only ones who were the policy makers, exerting power to make decisions and grant permission in the MNC, while the role of company employees was restricted to receiving orders and seeking collaboration with the senior managers. To put it simply, the company employees were not allowed to make any decisions in the MNC and were required to ask for permission and formal approval from the senior managers. Unexpectedly, when social media came into the MNC, the process was recognised as a bottom-up rather than a top-down approach because the social media platform was unofficially used among operational employees, who were the technology-driven generations, during its early stage, while the senior managers exerted their power by disapproving of the social media use in the organisation and setting up a rule against it.

Nevertheless, the number of social media users in the MNC was constantly increasing even though there was the official rule banning it. It was not long before social media replaced the formal tools and was used extensively as the predominant tool. From what participants explained, they did not think they had broken the company rule when they used social media because they thought *“everyone is using it”*. Drawing on the generational difference literature, it is acknowledged that social media came into the MNC because of the intergenerational difference and the different generations’ approaches to technology, in which the findings support previous studies (Culp-Roche et al., 2020; Prensky, 2001; Tapscott, 2008; Vodanovich et al., 2010) that found technology-driven employees (Gen Y) are more tech-savvy than older employees (Baby Boomer and Gen X) because they were born in a different era. The excerpt below was provided in section 5.2.2 and is restated here to support this statement.

“Traditional tools are OK but not fast enough and do not have functions that can help us work in today’s business environment. That’s why we use social media as the primary tool because everything can be done on social media. We don’t need many different tools; one tool is enough and complete.” (Engineering employee, Generation Y, Born 1988)

Many participants acknowledged that social media use was not allowed, but they used it because it is normal to do so as social media has been recognised worldwide and has a positive impact on

their organisational activities. The excerpt below was provided in section 5.2.2 and is restated below to demonstrate evidence on social media use in the MNC.

“Social media is everything and what we need. Everywhere in the world uses social media. It makes communication, collaboration and everything a lot faster. It’s what we need in our work.” (Marketing employee, Generation Y, Born 1990).

The senior managers, who were from the older generations, preferred to stick with the existing tools for CIB activities as they were the ones to make the rules in the organisation and it had been an unconscious decision for them to use the existing tools. It was the interplay of the issues of the intergenerational difference, social media use, and the cultural clashes that influenced the older generations to develop a level of hostility to social media and set up a rule against its use. It was the interplay of the issues of the intergenerational difference, social media use, and the cultural clashes that influenced the older generations to develop a level of hostility to social media and set up a rule against its use. On the other hand, the technology-driven generations were driven by similar motives but they chose social media because it had been their unconscious choice of tool, given they were active users in their daily lives (Dorie and Loranger, 2020; Hall et al., 2017), and social media offers features and functions that the technology-driven generations are proficient and familiar with. It was associated with the digital natives and their relationship with technology.

This study refers to the colonisation of an organisation by technology because the social media landscape was initially shifted by the majority of the employees, who were the technology-driven generations, and, although they were in operational positions that were not allowed to set up rules or make decisions in the MNC, their approach to technology had influenced the MNC, specifically the senior managers, to change to social media use in the MNC.

To this end, the colonisation of an organisation by technology extends the understanding of how the intergenerational difference and the different generations’ approaches to technology can influence the CIB tools, which can be seen by how the technology-driven generations brought social media into the company without approval and they were all against the rule banning it, even though the nature of the MNC was a strict top-down structure. The findings contribute to the current CIB, social media, and generational difference literature to explore the overall issues in totality and consider the interplay of CIB, social media use, the generational difference and the different generations’ approaches to technology, and the cultural differences in the MNC to better understand the complex reality in today’s business environment. The findings extend the generational research and CIB research in that this study has drawn attention to the link between

the generational difference and CIB in the organisational context (Karunakaran et al., 2013; Lyons and Schweitzer, 2017; MacKenzie Jr and Scherer, 2019; Moore et al., 2015; Reddy and Jansen, 2008; Widén et al., 2017), and offered a description of how different generations used social media to collaboratively share information in a complex organisational setting like the MNC. It also contributes to practical implications for organisations to manage the multigenerational workforce in today's businesses (Colbert et al., 2016; Dorie and Loranger, 2020; Magni and Manzoni, 2020): that organisations should officially adopt social media or any evolving technologies and educate employees on the application of such technologies in the organisations.

The following section will discuss findings related to the second research question of this study: What barriers and differences in such a setting can be influenced by different generations' use of social media as a collaborative business communication tool?

7.3 Barriers and differences influenced by the intergenerational differences in the use of social media

The application of AT allowed the researcher to identify the barriers and differences between the technology-driven generations and older generations and their social media use based on the findings of the tensions and contradictions between company employees (subject) and the intergenerational difference issues (community) and company employees (subject) and hierarchical structure (division of labour) in the activity systems (section 6.4). As listed in Figure 28, the key findings discovered in relation to the second research question are the intergenerational difference and the different generations' relationship with technology and the cultural issues determining the intergenerational difference issues which have an impact on the CIB activities and social media use among different generations. In this section, the key findings linked to the second research question are identified into three themes: 1) the modality of use, 2) language barriers, and 3) the cultural issues. These three themes were the barriers and differences influenced by different generations' use of social media in the CIB activities in the context of the MNC.

7.3.1 The modality of use

Modality of use is one of the barriers influenced by different generations' use of social media. The theme '*modality of use*' refers to the digital natives' and digital immigrants' types of behaviours when they collaboratively shared information and used social media as the mediating tool. This is an extension to the dominant perception of the digital natives and the digital immigrants and

their approaches to technology, addressing that digital natives were more familiar with and comfortable using technology than the digital immigrants (Culp-Roche et al., 2020; Shtepura, 2018; Venter, 2017). The findings revealed that the modality of social media use was influenced by different generations, and was one of the barriers and differences when the younger generations and older generations worked together and shared information in an organisational context. From the findings, there are two barriers arising from the findings of the modality of use, which manifested into two sub-themes of modality of use. The sub-themes comprise: 1) the speed of response and 2) the social media habits of the different generations, as will be explained in the following sections.

1) Speed of response

The first barrier and difference influenced by the different generations was the speed of response. It was reported that the collaborative information-intensive domain adopted social media group chats to perform CIB activities with the senior managers. The speed of response refers to the time it takes the recipient to respond to an instant message on the social media platform. Findings report that, when different generations used social media to share information and collaborated in the MNC, the speed of response was the crucial problem between them, as the younger generations were used to receiving information quickly (Shtepura, 2018; Venter, 2017) and the slow speed of response from the senior managers meant the collaborative information-intensive domain and the digital natives struggled with their routine operations the most. As one of the interview responses from the Publicity manager of the slow response speed leads to a slower work performance and is the main barrier when collaborating with the senior managers in the MNC,

“My main problem of working with older generations is the speed of response. They are very slow in responding, and that affects my work a lot when you need their help and their collaboration at the time. It makes everything slow.” (Publicity manager, Generation Y, Born 1983).

Another response from a digital native employee discussed about the slow response of the senior managers, who were digital immigrants. The respondent claimed that it took a relatively long time for them to respond.

“They are very slow. Sometimes they don’t respond at all. It really makes the whole work slow. Customers get angry and it’s all on me to confront them. But, most of the time, I

*can't decide on my own. I have to wait for my **bosses**²⁵ to tackle the issues. It's out of my power." (Marketing employee, Generation Y, Born 1988).*

Findings showed no barrier to social media use when the younger generations used social media to collaborate and communicate amongst themselves. The barrier usually occurred when they worked with the senior managers. One of the digital native employees said they had to be more careful in terms of language use and understand that the response speed was likely to be slow, or there might not be a response in some cases:

"Normally, I have no problem using social media with my team because we're the same generation, but I have to be more careful with the language that I use with older people and know that they will not reply [to] me as fast as I want [them] to or they might not reply at all. It depends; if I'm lucky on that day, they might reply fast." (Marketing employee, Generation Y, Born 1985).

Most responses from digital natives were along the same lines as the excerpt above. The digital immigrants were slower when using social media, and the impact of their slow response greatly affected work performance. Findings on their differences in speed of response supported the view that the age difference and different backgrounds influenced their modality of social media use, and the younger generations were used to the tool, which was why they expected an immediate response. On the other hand, the older generations were slower as they were not comfortable with social media. This point is true and consistent with what others have reported (Bencsik and Machova, 2016; Bowe and Wohn, 2015; Culp-Roche et al., 2020; Shtepura, 2018; Venter, 2017); however, this study also found the top-down management structure had an adverse effect on the speed of response among different generations when they adopted social media for collaboration in the organisation.

Within the top-down structure setting in this company, the younger generations had to wait for their bosses or senior managers, who were digital immigrants, when they collaborated in both routine collaboration and critical incident collaboration. When the senior managers were not familiar with social media, they could not respond as quickly as the younger generations expected them to. This reduced the flow of information during their CIB activities, while most digital natives believed that social media could positively support CIB activities in the organisation, viewing it as fast, convenient, time-saving, easy to use and accessible.

²⁵ Participants in this study refer to the top managers as 'bosses'. Consequently, bosses in this excerpt basically means the top managers.

Since most senior managers preferred and relied on traditional tools, the digital natives claimed that they solved the speed of response problem by using the 'calling' feature on the social media platform to call the senior managers directly in case they did not respond to messages on social media.

*"I have to use the calling feature on social media or call them on [my] mobile when working with older generations. That's the only way I can get their response right away."
(Publicity employee, Generation Y, Born 1987).*

In contrast, the digital immigrants reported that they did not view the speed of response to be a barrier to communication. Also, they expressed that digital natives relied too much on the social media platform, and that they did not feel the need to change their behaviour, feeling that the digital natives should acknowledge how they could approach them if a matter was urgent. However, some digital immigrants were aware that their speed of response was slow and they preferred their colleagues to call to seek their collaboration as stated below,

"I don't have time to check my smartphone all the time, [I'm] always busy with my own work. I know that sometimes I reply [to] them quite late but, if they need my help, they should just call me instead of typing on the group chat." (Managing Director, Generation X, Born 1975).

From the top managers' point of view, they insisted that their speed of response was not a severe problem because they were used to the traditional tools and social media was seen as additional platform to them, which was similar to previous studies mentioning that older generations were likely to resist technology and change, but the speed of response found in this study was about the differences in generations and the relationship with technology. More importantly, the finding adds nuance that such differences hindered how people used social media to collaboratively share information in order to achieve shared goals due to the impact of the top-down organisational structure on organisational communication. The cultural element was also influential in how the younger people should respect and behave in the hierarchical structure in the organisation/society (this will be discussed in more detail in section 7.3.3).

2) Social media habits of different generations

The second sub-theme of modality of use is the social media habits of different generations. This means the digital natives and digital immigrants had different habits when they used social media

to carry out CIB activities. There were two points found in the study that were consistent with previous research: the digital natives relied on technology more than the digital immigrants because they grew up in a time when technology was accessible to them and that makes them more fluent in using digital tools (Bennett and Maton, 2010; Prensky, 2001; Tapscott, 2008; Vodanovich et al., 2010; Culp-Roche et al., 2020); and they are less concerned with data privacy when sharing information in an online community unlike the digital immigrants, who are more worried (Miltgen and Peyrat-Guillard, 2014; Quan-Haase and Ho, 2020).

Nevertheless, some studies have found that this is no longer the case. Colbert et al. (2016) observed that older American generations have become more active users of social media and they probably share the same level of digital fluency as the digital natives in today's workforce. Blank et al. (2014) and Halperin and Dror (2016) also found no significant difference in online data privacy among digital natives and digital immigrants, and argued that they are both concerned with online data privacy. The findings of the current study examined the issues of generational difference and how the different generations' relationships with technology influenced the barriers when they used social media for collaborative information activities, and found two different social media habits between the digital natives and digital immigrants, which will be explained below.

a) Digital natives over-shared information on social media

Social media was adopted to assist CIB activities between the senior managers and employees in the MNC. The digital natives' habit of sharing information was identified as they "*over-share information*" and "*openly share too much information*", according to the findings. The interview excerpt from the Vice President expressed that their heavy reliance on social media and their behaviour of openly sharing information were problems that the company was facing currently.

"Because they only use social media and rely so much on it that they forget they can reach and approach us using other traditional tools, this becomes a daily problem. I don't think they should be sharing some information as it is too much and unnecessary; sometimes it's our privacy concerns, but they do share a lot. And you know what happened? Our private information leaked and our competitors knew our inside company information, which is the last thing you wish to happen." (Vice President, Baby Boomer, Born 1960).

According to what the Vice President stated, there were contradictions between the digital natives and digital immigrants in the MNC. The findings argued that it is one of the key issues in this MNC that digital natives were not concerned about data privacy and relied on using social media as a source of information and a tool for communication and collaboration in the company. According to the interview findings with the digital native participants, they did not feel that sharing information was a problem as everyone in their generations always does it, and they felt that the problem was not being able to share information openly as the senior managers were not allowing them to do so.

The work of Colbert et al. (2016) suggests that digital immigrants, who are American older adults, are heavy users of technology; however, the findings of this study presented a different view to Colbert et al.'s (2016) work as it was found that the digital immigrants did not accept the "over-sharing information" style of the digital natives. Not only that, the older generations used their power and authority when they used social media with the younger generations. The interview excerpt below is an example of how the younger generations felt about sharing information on social media and how they were not allowed to do so.

"Not [being] able to share information openly and freely is the barrier for my work because I have to get my boss's approval before sharing any information [with] my colleagues or customers, and that is time-consuming and my work is stuck sometimes because of this reason." (Publicity employee, Generation Y, Born 1987).

From the excerpt, the top-down organisational structure influenced how the respondent shared information as this statement, *"I have to get my boss approves before sharing any information"*, showed that they need to obtain formal approval from the senior managers and their information-sharing behaviour was being controlled.

b) Digital immigrants are more concerned with online data privacy

Unlike the digital natives, findings indicate that online data privacy was a major concern for the digital immigrants and they did not trust social media. It was found that due the *"over-sharing information"* behaviour of the digital natives, information was leaked and it affected the whole organisation. For example, see the excerpt below,

“They do not care [about] privacy. There are times that I have to tell them not to share until I give them permission to share, and sometimes our information leaked to our competitors.” (Managing Director, Generation X, Born 1975).

The Managing Director expressed that, when the digital natives shared information openly, it was leaked and their competitors found out about their private information because of the digital natives' sharing habits. This made the senior managers more concerned about online data privacy, and was the reason they started to control online sharing habits on social media in the company, based on the findings. The findings have provided a nuanced view to the previous research that addressed the differences in online data privacy (e.g. Miltgen and Peyrat-Guillard, 2014; Quan-Haase and Ho, 2020; Blank et al., 2014; Halperin and Dror, 2016). It was not only the generational difference-related issues (Quan-Haase and Ho, 2020) that meant the digital immigrants were more concerned with online privacy, this study found that it was also associated with the information leakage. With respect to the sharing habits of the digital natives, the senior managers exerted their power to control their behaviour on the social media platform.

7.3.2 Language barriers

Language was one of the key themes arising from all participants of different generations when asked to identify barriers and differences influenced by generational difference in use of social media as the CIB tool in the MNC. In this study, the language barriers mean the language used for communication on social media group chats among the digital natives and the digital immigrants when they collaboratively shared information. All participants used the Thai language, which was their native language. However, the barrier of language use emerged from a generational language difference, which created barriers among the different generations in this company, such as this research found the language barriers led to misunderstandings between the younger and older employees, and communication gaps between different generations, which hindered the flow of information when they collaboratively shared information.

The findings about the language barriers have contributed to the current knowledge of CIB and social media, addressing the differences in how social media was used as the collaborative tool by different generations in the MNC context. The language barriers are still underexplored and have not been touched on in previous research on CIB, social media and the generational difference, particularly in terms of language barriers in social media use among different generations and how that affected their information-sharing activities. Some studies have explored the differences in terms of language used on social media platforms, mentioning that it

was associated with the digital environment in which they grew up, which was reflected in their different characteristics and the way they expressed themselves in an online community. For example, Subramaniam and Razak (2014) found differences in language usage and different patterns of online behaviour between Baby Boomers and Generation Y when they posted status updates on Facebook. Shtepura (2018) also mentioned that younger generations are creators; they create a new communication culture, and invent a new language and abbreviations to utilise their text-based communication via messages. The findings discovered in this study about the language barriers are novel and different from what previous research has discussed, because the language barriers were not entirely based on how digital natives and digital immigrants were born in different eras and their relationships with technology.

It was discovered that the language usage causing the barriers when different generations used social media in the MNC was the influence of their national culture on the language used with the older generations. This has been addressed in past studies on cross-cultural communication and the challenges of the cultural differences in the MNC, specifically how national culture may have an effect on organisational communication (Atikomtrirat and Pongpayaklert, 2010; Harada, 2017; Hofstede, 1997; Keeley, 2006; Scheffknecht, 2011; Swierczek and Onishi, 2003; Wang and Chompuming, 2015). The current study found that the national culture had a direct impact on the language used between different generations and on the generational difference in the MNC.

The findings found two sub-themes associated with the language barriers, which will be described in the next section.

1) Generation gap in language use

The generation gap in language use was found to be one of the language barriers among the different generations in this MNC setting. It was also a factor determined to differentiate the generations when they communicated and shared information on the social media platform during their CIB activities. The generation gap in language use refers to how the meaning and expression of words or phrases changes over generations, so different generations understand the same sentence differently. The main issue was not the language itself; it was the language used by the digital natives which had different meanings for the digital immigrants. The same words, phrases and sentences mean different things to digital natives and digital immigrants, as mentioned by the research participant below,

"I think language is the barrier. We speak the same language but it means [something] totally different. To me, they almost sound impolite and show no respect to [their] elders at all to speak such language. Me and other top managers are not their friends; they can't be using certain words with [their] elders. To them, it doesn't mean [anything] negative. It's completely normal to them." (Managing Director, Generation X, Born 1975).

According to the excerpt, the Managing director said that the meaning of language has changed over time, although they speak the same language, and the problem with the language was how younger employees used inappropriate words which were not supposed to be used with older people in the Thai culture. Some words spoken by the digital natives were offensive, from the digital immigrants' perspective. Most digital immigrants felt that digital natives used inappropriate language without realising it, and, not only did this cause misunderstandings, but the digital immigrants also felt that the digital natives were being disrespectful.

"The problem is I don't understand what young generations are trying to say and what they mean exactly. I strongly think it's the language they use. I don't get it at all." (Vice President, Baby Boomer, Born 1960).

This quotation shows that the generational language difference caused misunderstandings in communication between the younger and older generations in the company. A Human Resources manager also expressed the language issue in that none of digital immigrants would understand what the digital natives meant, and the digital natives heavily used their specific language, which only they understood.

"I think the main problem is language. There's a lot of misunderstanding in the group chats. It seems like young people know what they're talking [about]. They use their 'language' a lot and I don't understand at all. I don't think people from my generation or older understand them." (Human Resources manager, Generation X, Born 1975).

On the digital natives' side, they revealed that they also did not understand the digital immigrants' language. They referred to it as being *"outdated"*, *"too formal"* and *"too complicated"*. One digital native employee expressed that the language used by digital immigrants caused misunderstandings when they communicated on social media.

“Many times, I don’t understand what my boss means. My boss always uses formal and complicated words when talking [communicating via social media], and I’m always so lost that I have to ask my boss to repeat [themselves] but, if I don’t understand by the second time, I’ll ask my colleague there [in the group chat] to help me understand what my boss actually means.” (Marketing employee, Generation Y, Born 1990).

The finding below supports what Shtepura (2018) mentioned: that the younger generations invented a new language which only they can understand. The older generations may find it difficult to understand when communicating with younger people on social media, as stated below,

*“I experienced a lot of difficulty talking to my boss because of [the] different generations. I think we both grew up [in] different eras. I have to be very careful talking to my boss and older people in our company because they always think we are rude by how we talk, but you know **a lot of new, invented words** and it’s understandable they don’t understand, but it’s very difficult talking to them.” (Marketing employee, Generation Y, Born 1989).*

From the findings, when digital natives and digital immigrants worked together and adopted social media in the organisation, they experienced difficulty influenced by the issues of intergenerational difference – the generation gap in language use. The generational language difference caused misunderstandings between them. The findings support existing studies that found it was due to age-related factors and the different backgrounds of people from the digital era and non-digital era (Bennett et al., 2008; Colbert et al., 2016; Culp-Roche et al., 2020; Prensky, 2001, 2001; Tapscott, 2008; Vodanovich et al., 2010). What was found to be new knowledge here was the influence of the national culture. Research has not looked into the influence of the national culture and language usage among different generations on social media platforms. In this study, it was suggested that the national culture is a critical factor in the organisational communication and collaborative information-sharing activities as it is embedded in every element of the company, e.g. how people share information and communicate, as well as the effect of their national culture on their business operations and their attitudes and behaviours towards generational difference.

2) Hierarchy in language

Findings identified hierarchy in language to be a barrier to social media use among different generations in the MNC. Extant literature has discussed that it could be challenging for organisations to manage the different generations in the workplace (Lyons and Schweitzer, 2017; Magni and Manzoni, 2020; Stanton, 2017; Stewart et al., 2017; Twenge, 2010; Twenge et al., 2010). In some cultures, the cultural element was strongly influential in communicating with older generations in organisations. In the work of Mehra and Nickerson (2019), their findings reported that there was a hierarchy in the organisation and strong cultural influence towards organisational communication with older generations in India. Due to the hierarchical structure, they found that Generation Y and X employees felt that they would rather avoid confrontation with the older generations in the organisation, and they had to remain polite when interacting with the older generations to reduce conflict with them.

According to the current study, hierarchy existed in the organisational structure as well as in the language. Research has addressed the existence of cultural approaches like ‘respect the elders’ and hierarchy in organisations and society in the context of both Thailand and Japanese cultures (Atikomtrirat and Pongpayaklert, 2010; Harada, 2017; Pimpa, 2012; Swierczek and Onishi, 2003; Wang and Chompuming, 2015). Findings confirm that the existence of national and organisational cultures is a significant factor affecting how people behave, interact and even speak in a multinational culture. However, the findings about the language barriers and hierarchy in terms of language are still underexplored. This study found that it is a critical factor and is a major issue of the intergenerational difference in the company.

According to Duan (2019), Thailand is a hierarchical country, which influences the culture and language, and there are levels of language to be used when communicating with people, based on their social status. Drawing from the findings, the national culture of ‘respect the elders’ has a strong influence on the language usage between the younger and older generations. Younger generations were supposed to be conscious of this and careful in choosing the appropriate words, phrases and sentences, and to be polite when communicating with their older colleagues.

“I always have to be careful working with older generation, be careful with my word choice when talking to them, and basically be careful with everything.” (Marketing employee, Generation Y, Born 1990).

Additionally, the organisational culture plays a role in this issue. The nature of the organisational structure was top down, and the organisational communication was also top down, where employees were expected to accept and respect the hierarchy in the organisation. Then, there were the cultural clashes between the national culture (Thai) and organisational culture (Japanese) in this MNC, but they both shared similar values and norms with respect to the approach with the older generations, based on the findings, which is consistent with previous studies (Harada, 2017; Sekiguchi et al., 2016; Wang and Chompuming, 2015). The cultural approach affected the language used by the digital native employees when they communicated and shared information with the senior managers via social media. As mentioned by the participant below,

“When I have to talk with older generations, I have to be careful, especially the language I [use] with them. Sometimes when we type, they may misunderstand me. They sometimes think I don’t respect them and think that I’m rude. It’s our culture because the older generations take this very seriously. But we can’t say much. We just have to accept it.” (Marketing employee, Generation Y, Born 1989).

Thai employees are likely to accept orders from the top managers because of the hierarchical structure in the national culture (Pimpa, 2012). Findings support the existence of the hierarchy in language and in the organisation (this will be discussed in 7.3.3). This was one of the key issues in the organisation with respect to when different generations used social media to perform CIB activities. Findings also suggest that the younger generations have to be the ones compromising to minimise conflict, while the older generations insisted that they would preserve the culture in their business management and operations.

7.3.3 Cultural issues

There was an interplay between the national and organisational cultures regarding how people collaboratively shared information in the MNC. Although extant literature has focused on age to determine the generational difference (Bennett and Maton, 2010; Vodanovich et al., 2010; Culp-Roche et al., 2020; Magni and Manzoni, 2020), this study confirms the finding from intergenerational difference literature: that age plays a significant role, in some cultures, it can influence their behaviour in organisations, including how they interact using social media as the main platform.

The findings have contributed to current knowledge of the collaborative information behaviour by suggesting that cultural aspects should be considered in the analysis to understand how people share information in collaborative work activities (Hansen and Järvelin, 2005; Hertzum and Reddy, 2015; Karunakaran et al., 2013; Reddy and Jansen, 2008; Reddy and Spence, 2008). The findings also extend extant literature on information culture (Choo, 2006, 2013; Jarvenpaa and Staples, 2000) by proposing additional dimensions to offer an insight into the collaborative information behaviour in the MNC setting, in which there were multicultural issues and the intergenerational difference issues as illustrated in Figure 33.



Figure 34 The interplay between the national and organisational cultures with the intergenerational difference approach

Figure 34 shows the model developed to understand how people of different generations in the MNC collaborate and share information by adding the cultural elements to the model. The model lists the characteristics of both digital natives and digital immigrants and the influence of the national and organisational cultures, which reflects how they collaboratively share information in the MNC based on the findings and analysis in chapters 4 to 6. It illustrates how the national

culture influences digital natives and digital immigrants in Thai society in terms of their cultural values and belief systems, and the cultural clashes between the Japanese and Thai influences that are mediated through the corporate policies, principles and how the organisation positions itself, and overlays that with the intergenerational difference. Findings identified two themes related to the impact of the interplay between the national and organisational cultures on the CIB and intergenerational difference approach issues in the MNC, which were: 1) power distance and 2) hierarchy in the organisation.

1) Power distance

The research found that power distance in the organisation affects the attitudes of people of different generations as well as the way they interact and share information in the organisation. According to Hofstede (2011), power distance is defined as the way power is distributed in society and organisations. When the power distance is high, it means that people in that particular society or organisation accept the inequality in the distribution of power. When the power distance is low, the inequality is also low in that society and its organisations. In this study, it has been shown that the MNC was influenced by the top-down management structure from the parent company in Japan through corporate policies, rules and norms, and business operations. It also received tension from the country's head office in Bangkok. Both Japanese and Thai cultures were embedded in the MNC.

There is also a high degree of power distance in Thailand, while Japan is ranked in the middle to high degree of power distance, and both cultures are concerned with the hierarchical structure in their social and organisational setting, according to Hofstede et al. (2010). The way that company employees behave in this MNC and their attitudes were in line with previous studies (Hofstede, 2010; Wang and Chompuming, 2015; Zakaria, 2018) mentioning the characteristics of people and the hierarchical structure that existed in both Thai and Japanese cultures, in which the power was unequally distributed among the top management positions and the company employees lacked power in the organisation.

The power distance in this organisation is quite high, which causes a gap between older generations and younger generations when they communicate due to power inequality. The majority of the younger interviewees made comments such as, *"I have to be careful when talking to my boss [top manager]"* and *"I'd rather say nothing or, if I have to say anything [to] them, I will think a lot before I say it"*. The digital native employees were unable to effectively share information and the flow of information was affected by the power distance in that they had to

wait for the senior managers' orders before they could carry on their work activities. The findings also offered a nuanced picture to the existing knowledge of CIB and social media use: that the power distance that existed in the organisation is one of the factors contributing to the intergenerational difference and the different generations' relationships to technology. The power distance does not only define the role of employees and power, but also the role of younger and older generations in the MNC. It was emphasised in the findings that the case study company faced two cultural differences. In the Thai culture, age was the main factor in the organisation as the Thai culture is concerned with practising the 'respect the elders' approach in the society and organisations, and there was the seniority culture from the Japanese cultural aspect (Wang and Chompuming, 2015; Zakaria, 2018). Then, the cultural difference manifested in their business operations and collaborations. For example, when the CIB activities were carried out and influenced by the organisational culture, the effect was that the senior managers were in charge of making decisions, granting permission and approval, solving problems, policy making, and assigning tasks. Both middle and operational employees were responsible for receiving orders and seeking collaboration with the top managers.

With respect to the influence of the national culture, when younger people communicated and interacted with older people, they were supposed to engage with the older generations with full respect and polite conversation and behaviour, to use the appropriate and polite language in their conversations with the older generations; in turn, they would receive a positive response from the older generations. If they did the opposite, they would be considered rude, impolite and disrespectful in the social setting, based on the findings. Duan (2019) claimed that Thailand is considered a highly hierarchical country, and this is manifested through actions, language and social etiquette. This study found that the major issue was how these cultural approaches play a critical role in their CIB activities and business operations. From the findings, the main effect of the cultural issues was the language use on social media group chat and the role of employees when they interacted and behaved with the senior managers or the older generations. The findings have shed light on the issues of generational difference and CIB activities in that the study found the generational difference to be the important issue when different generations adopted social media and worked together, but it was not only the age difference and the different generations' relationships with technology; age is only the factor to differentiate people in terms of who is older or younger. The issue was the impact of the organisational and national culture on the role of employees and the younger people in terms of how they should behave and communicate with the senior managers or older people.

2) Hierarchy in the organisation

Schlagwein and Prasarnphanich (2014) stated that culture has to be considered an important factor for organisational social media use. The study incorporated the national and organisational cultures, as suggested by extant literature on cross-cultural communication claiming that the national culture has an effect on people's interaction and communication (e.g. Hall, 1989; Hofstede et al., 2010; Trompenaars and Hampden-Turner, 1997), and overlaying that with the intergenerational difference in the MNC to advance the current understanding of the collaborative information behaviour in an organisational setting (Hansen and Järvelin, 2005; Hertzum and Reddy, 2015; Karunakaran et al., 2013; Reddy and Jansen, 2008; Reddy and Spence, 2008) with the use of social media as the mediating tool.

It was found in looking at the influence of the national and organisational cultures that age and hierarchy in the society affected how people collaborated in this organisation, as their information flow was based on the top-down structure in the routine and critical incident collaborations. Thai subordinates, who were mostly the younger generations in the company, were in the position to receive orders and wait for formal approval from the senior managers, who were the older generations and had access to the power in the company, consistent with Pimpa (2012).

Based on the findings as indicated on Figure 34, there were similarities and differences between the digital natives and digital immigrants influenced by the Thai and Japanese cultures. It was found that the national culture influenced how the digital native employees used social media in the company in that they were tech-savvy and exposed to cultural diversity more than the digital immigrants, and they had to be conscious and careful in their dealings with the older generations, being in a hierarchical society where it was important to "respect the elders" and use the appropriate language with them, not new, invented words and phrases they used with their circles of friends and colleagues from the same generations. In contrast, the digital immigrants had negative attitudes towards technology and were more likely resist it. They were strong believers in preserving the old culture and traditions, with the expectation that the younger generations would follow their rules.

Findings report that the younger generations in this company were influenced to have an online presence, and to embrace modern business and digital platforms due to globalisation and the increasing global competition, and they were also encouraged to form a team culture (Pudelko, 2017; Sekiguchi et al., 2016; Wang and Chompuming, 2015), as it was noted that teamwork was

the key strategic method of the parent company in Japan mediated through organisational culture in the head office to the case company. In contrast, the older generations of this company followed the strict rules of the parent company in Japan and the main head office in Thailand; as a result, they preserved what they had been told to operate through rules, policies, code of conduct and work ethics, and to adopt organisational tools mandated by the main corporate policies.

From the analysis, the findings nuance what others have reported about how the hierarchy in organisations and the cultural issues (Duan, 2019; Godiwalla, 2016; Harada, 2017; Hofstede, 2011; Hofstede et al., 2010; Scheffknecht, 2011; Wang and Chompuming, 2015) affected how people shared information and how it affected the different generations when they communicated and interacted through using social media in the organisation. Therefore, the findings suggest complementing the national culture and organisational culture to pinpoint the barriers and to deeply understand how people shared information collaboratively in the multinational work environment where there may be multicultural issues involved.

Nevertheless, this section explained three key themes contributing to the second research question: What barriers and differences in such a setting can be influenced by different generations' use of social media as a collaborative business communication tool? The modality of use, language barriers, and cultural issues were the key points found in the study that were the barriers and differences influenced by the different generations. The findings have contributed to the current knowledge regarding the social media and collaborative information behaviours of different generations in the MNC context because the findings are novel, and past literature has not discussed the modality of use, language barriers, and the interplay between the national and organisational cultures that impacted the information flow in the collaborative work setting.

7.3.4 Contribution 2: The interplay between the national and organisational cultures

The previous sections, from 7.3.1 to 7.3.3, provided three key points to answer to the second research question. The second research question was set out to identify the barriers and differences influenced by different generations when they used social media in the MNC setting. The previous sections highlighted that modality of use, language barriers, and cultural issues were barriers to social media use influenced by the intergenerational difference. However, the key contribution of this research is that it identifies that the key area behind the influence of these barriers is the interplay between the national and organisational cultures.

The extant literature has touched upon the influence of the national culture and organisational culture in the MNC to understand the nature of MNC work (Godiwalla, 2016; Vlad, 2018; Wang and Chompuming, 2015). The findings of this study extend the extant literature, drawing on the interplay between the national and organisational cultures in the context of CIB, social media use, and intergenerational difference in a multicultural setting. It was found that the interplay between the national and organisational cultures is the significant factor that explains the nature of work, and how CIB is carried out in the MNC setting. Additionally, the findings highlight that both national and organisational cultures shape the intergenerational difference in how different generations have different attitudes towards social media, how they behaved and interacted during CIB activities between generations, and how they used social media differently. This helped in identifying barriers to and differences in social media use through the language use and modality of use.

The findings of this study contribute to the existing literature on generational difference by identifying that the interplay between the national and organisational cultures is a factor shaping the issue of generational difference and the different generations' use of social media in the organisational context. Most of the existing literature has investigated the generational difference based on the birth year or generational cohorts (e.g. Bennett et al., 2008; Bencsik et al., 2016; Culp-Roche et al., 2020; Magni and Manzoni, 2020; Stewart et al., 2017; Vodanovich et al., 2010). Another stream of generational research focuses on the social perspectives to study generations based on shared experiences and social events (Lyons and Kuron, 2014; MacKenzie Jr and Scherer, 2019). This study extends the understanding of generations to look beyond age-related factors and technology-related difference factors; it suggests the interplay between the national and organisational cultures to advance the understanding of the different generations. Age difference can help in identifying members of generations, and technology-related experience can help in drawing the differences between the technology-driven generations (digital natives) and non-technology-driven generations (digital immigrants), more specifically their relationship and proficiency with technology. Importantly, if investigating the age difference and coupled with the interplay between the national and organisational cultures, it offers the understanding of how both national culture and organisational culture shape and influence the different generations in how they think, behave, communicate and interact in organisations. Therefore, this research suggests adding the interplay between the national and organisational cultures to a new proposed model of CIB in the MNC (Figure 35), and that this is one of the important factors in understanding CIB, social media use, and the intergenerational difference in the MNC context.

The following section will discuss findings related to the third research question of this study: “How can such barriers and differences be managed and developed to improve collaborative information behaviour for internal efficiency?”

7.4 Managing CIB and the intergenerational difference in the MNC

This section will discuss findings related to the third research question. The key issues found in relation to the third research question are the intergenerational difference and the different generations’ relationships with technology, and the cultural issues embedded in the nation and organisation. Several organisations have experienced the difficulty of managing and understanding younger workers (Magni and Manzoni, 2020). This includes how they differ in terms of using technology, and the extant research on managing the generational difference is limited. This study has contributed to the current studies on how to manage the generational difference in an organisation as it investigated how different generations used social media to carry out CIB activities to achieve business goals in the MNC. Two themes were drawn from the findings: 1) tool preferences and 2) communication barriers. Findings suggest that these two themes should be examined when developing and managing the issues to improve internal efficiency in the MNC.

7.4.1 Tool preference

The findings suggest that different generations prefer to use different tools in the organisation. The younger generations currently prefer social media but they are willing to adopt new digital technologies in the near future, while the older generations slowly adapted to social media use in the organisation but they still had a negative attitude towards it, which was addressed in sections 7.3 and 7.4, that the issue of intergenerational difference in the MNC was associated with the cultural issues and different generations’ approaches to technology. It was also still the case that the digital immigrants resisted technology but were willing to use the traditional tools because they were not familiar with or comfortable using social media compared with the digital native employees. The findings are inconsistent with Colbert et al. (2016), who claimed that digital immigrants were active technology users, because it was reported in this study that the digital immigrants may have been equipped with social media and technology in their work activities but their preference was still traditional tools. As one of the Executive Vice Presidents observed:

“Don’t get me wrong. Social media is a helpful tool to use but I personally think that in some cases social media cannot be the solution. For example, we need a meeting to bring

all employees or the team to sit down and discuss. You can't do that with social media. You might use video calling but still it is not complete." (Executive Vice President, Baby Boomer, Born 1960).

The senior managers did not want to use social media in the organisation as they viewed that social media could not be the main tool in CIB activities. They felt that traditional tools should still be adopted to support the CIB activities in the company. This contrasted with the digital natives, who would rather use social media as the main platform. Some of the respondents of this latter group made negative comments about using the traditional tools – that they were old-fashioned and time-consuming.

"To be honest with you, I prefer social media. It's easy. It's fast. Morning meeting²⁶ is boring and we did that in our primary and secondary school. Why do we need to do it when we're adult? But we can't say [anything]. It's the company rule and their culture, so no complains." (Vehicle employee, Generation Y, Born 1986).

Congruent with past literature (Bennett et al., 2008; Culp-Roche et al., 2020; Prensky, 2001; Shtepura, 2018), it is clear that digital natives prefer to use social media as they possess the knowledge of how to use it and are familiar with using the tool, based on what the majority of their responses revealed. On the other hand, digital immigrants do not seem to prefer the new tool, compared with the younger generations, as they were unfamiliar with social media, which was why they set up the rule against social media use in the organisation.

Furthermore, the findings recommend that understanding their preferences may help reduce the barriers and that the role of supporting tools in CIB activities is important. As stated below,

"To avoid any trouble that may [be caused], I think choosing the right channel to communicate and collaborate with my colleagues and my boss is one best possible way to solve this issue." (Marketing employee, Generation Y, Born 1989).

According to the findings, the digital natives were expected to approach their colleagues using the right channel. This means that, when they had to collaborate with the senior managers and could not reach them on social media, they might have to switch to other channels (e.g. call using

²⁶ The morning meeting is a compulsory company morning activity where all employees line up at 8 am every morning to sing the national anthem before the official working day starts, to show respect to the nation. After they sing the national anthem, one of the top managers gives a morning speech, and managers from any departments will share information about their departmental work, company news and current news topic.

the social media feature, call on their mobile, have a face-to-face meeting). In contrast, the senior managers asked their subordinates to approach them in an appropriate way during CIB activities. It is important to point out that there are cultural issues involved in the collaborative information-sharing activities with different generations. It was still the case that the older generations were at the top of the hierarchy in the organisation as well as in the nation/society culture, whereas the younger generations were expected to accept orders and obey their bosses. Therefore, it was suggested that the younger generations might have to manage the issues by understanding what tools or channels the older generations preferred when they collaboratively shared information.

7.4.2 Communication barriers

This study found that there were communication barriers between the older generations and younger generations. These barriers were similar to those found in extant literature (Bennett et al., 2008; Culp-Roche et al., 2020; Prensky, 2001; Shtepura, 2018): that the barriers were influenced by the different generations and their use of technology as they were not born in the same era. Another important point to discuss is that the findings identified that the barriers to social media use in the organisation were mainly influenced by the influence of the national culture and organisational culture on the different generations' behaviour and their technology use in the organisation.

The communication barriers already existed between the younger and older generations because of the hierarchical structure in the organisation and country. When they adopted social media, it was reported that it helped ease the communication barriers between the younger and older generations. It was more accessible to colleagues, managers and senior managers when they carried out their CIB activities. This was in line with many studies that have shown social media provides benefits in organisational work activities and communication (Colbert et al., 2016; Leonardi and Vaast, 2017; Naim and Lenka, 2017; Nisar et al., 2019; Razmerita et al., 2014; Robertson and Kee, 2017; Sun et al., 2020).

However, the communication barriers were not found in the tools they used but in the different generations themselves when they used social media. This was mainly in terms of the complexities around the interplay of different issues mentioned in this chapter, such as CIB in the MNC, social media use, intergenerational difference, and the cultural clashes between the national and organisational cultures, in that the younger generations experienced difficulty in communicating with the older generations. To manage the barriers, the findings suggest that, even though the older generations insisted on not changing or compromising with the younger

generations and new digital technologies, they reported that they might have to embrace technology because the newer generations are coming to the company (Colbert et al., 2016). The finding about “the colonisation of technology” described the phenomenon that the adoption of technology (social media) took control over the traditional tools and shifted the way organisation communication and share information in the company. Based on the findings, the younger generations revealed that they had to be careful with the language they used with the older generations and how they shared information with the digital immigrants to avoid conflicts in the organisation.

These were the two themes that arose from the data which were related to the question of how can such barriers and differences be managed and developed to improve collaborative information behaviour for internal efficiency? It was found that understanding what tools were preferred by different generations and identifying communication barriers between the different generations were the key issues leading to the way to improve internal efficiency in the organisation. It is important for the MNC to recognise the impact of the cultural clashes between the two cultures and the intergenerational difference in use of technology on how people shared information and collaborated.

7.5 Conclusion

This chapter discussed key themes and issues based on the findings and analysis in chapters 4 to 6. These findings addressed all three research questions of this study. The first section of the chapter explained the overall complex issues of the CIB in the MNC through the model of CIB in the MNC. Figure 29 highlighted five key areas that influenced how CIB in the MNC was carried out differently. It explained how different generations used social media differently to share information collaboratively in the MNC setting in terms of the familiarity with tools, level of comfort, and attitudes towards technology. The intergenerational difference and the different generations’ approaches to technology has been discussed in several studies which found that the younger generations and older generations differ in technology use (for example, Colbert et al., 2016; Culp-Roche et al., 2020; Lyons and Schweitzer, 2017; Myers and Sadaghiani, 2010). The findings of this study not only confirm that the younger generations and older generations differ in social media use, but also demonstrate that their differences affected their tool choice and the way they collaboratively shared information and interacted in the MNC.

The colonisation of an organisation by technology (Figure 33) was highlighted as the area of contribution in that it was recognised in the process by which social media was brought into the MNC. It is a novel finding that contributes to the extant literature on CIB, social media use,

generational difference and cultural difference in the MNC by looking at this complexity of the MNC setting from a holistic viewpoint, and taking the interplay of different factors into account as these factors influenced each other and have to be viewed in totality rather than as single issues. Mainly, the colonisation of an organisation by technology started by the younger generations being tech-savvy and their attitude of “*everyone uses it*”, as well as the majority of the younger generations in the workforce influencing a power shift towards a new social media landscape. Additionally, the interplay of different issues influenced the colonisation of the organisation by technology, such as the cultural clashes between the national and organisational cultures influenced the older generations to react to the younger generations and their digital behaviour in terms of setting up the rule banning social media in the MNC, and their attitudes towards the younger generations and social media in their social context.

After that, the second research question identified that the barriers and differences influenced by the intergenerational difference in the use of social media were the modality of use, language barriers and cultural issues. Some findings support the existing knowledge regarding different generations and their approach to technology; some findings shed light on the extant literature of CIB, social media, generational difference, and the cultural difference in the MNC by adding the interplay between the national and organisational cultures. The model of the interplay between the national and organisational cultures with the intergenerational difference approach was illustrated to interpret the influence of the national and organisational cultures on the differences between people of different generations in the context of CIB in the MNC (Figure 34). From the investigation of the second research question, the findings highlight the interplay between the national and organisational cultures as the area of contribution. The study has contributed to the literature in that the interplay between the national and organisational cultures offers a clear picture to understand the overall complexity of the MNC setting in terms of how people share information, social media use for CIB activities, and understanding the intergenerational difference in the MNC. Also, the findings suggest that the issue of generational difference is more than the age difference and their approach to technology, unlike what extant literature has addressed. In this case, the national and organisational cultures were directly related to the intergenerational difference in the social context, which was the seniority culture and ‘respect the elders’ cultural approach that they preserve in the organisation and expect people to follow.

The last section of the chapter offered insights into the third research question illuminating two themes, which were the tool preferences and the communication barriers. Building on the discussion of each research question, this research proposed a new summative model – CIB in the MNC context: an integrative model discussed in the next chapter (Figure 35). The purpose of the

new model (Figure 34) is to extend the existing models of CIB (Reddy and Jansen, 2008; Karunakaran et al., 2010) and shed light on the MNC setting, and to advance the understanding of the overall complexity of the MNC by integrating significant factors and issues highlighted in the chapter, such as the complex nature of CIB in the MNC, social media use as a CIB tool, intergenerational difference and different generations' approaches to technology, and the cultural clashes between the national and organisational cultures in the MNC.

The findings of this research have also contributed to the organisational implications. This study suggests that the way to manage the complexity in terms of the CIB activities and different generations in the organisation in order to improve internal efficiency is by understanding and embracing the generational difference and the different generations' approaches to technology, as well as the influence the cultural issues may have on CIB in the organisation, more specially the national and organisational cultures embedded in the organisation

The next chapter will provide a summary of the findings and the contributions made in this thesis, which includes three areas of theoretical contributions: the colonisation of an organisation by technology, the interplay between the national and organisational cultures, and a new proposed model of CIB and the intergenerational difference in the MNC. This is followed by the methodological contributions and practical contributions.

CHAPTER 8 CONCLUSION

8.1 Introduction

The research reported in this thesis investigates the process of collaborative information sharing in a multinational company, and in so doing seeks to identify, and explore the influence of complex issues affecting this behaviour which were drawn from a review of existing literature on collaborative information behaviour (CIB), social media, generational difference, and the cultural difference in the MNC context (Chapter 2). The review of the literature shows that the extant literature has looked at the issues of CIB, social media use, intergenerational difference, and cultural difference in MNCs as single issue or across two factors, but not the totality of the issues as they affect complex settings. The result is to underestimate the complexity of the organisational settings for CIB, and thus to potentially downplay or ignore key factors affecting CIB in real-life settings. CIB research, for example, has gained insight into how people collaborate during information activities in various organisational settings and domains but without drawing in multiple factors affecting, or potentially influencing, CIB (e.g. Hertzum and Reddy, 2015; Karunakaran et al., 2013; Karunakaran et al., 2010; Reddy and Jansen, 2008; Reddy and Spence, 2008). In social media literature, research has shown how social media is adopted (Huang et al., 2013; Kane, 2015; Leonardi and Vaast, 2017; Van Osch et al., 2015; Van Osch and Yi-Chuan, 2017) and its impact in organisations (Chen and Wei, 2020; Ng et al., 2017; Van Osch and Steinfield, 2016; Kuegler et al., 2015; Sun et al., 2020). It also has addressed the intergenerational difference in the workplace (e.g. Magni and Manzoni, 2020; Moore et al., 2015; Rudolph and Zacher, 2020; Stewart et al., 2017; Widén et al., 2017). In MNC literature, the issue of national culture and organisational culture has been studied, demonstrating how they influence each other (Atikomtrirat and Pongpayaklert, 2010; Godiwalla, 2016; Harada, 2017; Owusu Ansah et al., 2019; Scheffknecht, 2011; Wang and Chompuming, 2015), but the research has tended to place focus on the influence of either the national culture or organisational culture in the MNC setting (Duan, 2019; Hall, 1989; Hofstede, 1997; Pimpa, 2012; Pudelko, 2017), as opposed to the interplay between them.

Also, in the existing literature, research has touched upon some combinations of these issues, although tending to focus on dual-issue investigation (as opposed to more complex constructs) such as CIB and the impact of cultural difference (Yfantis et al., 2012), CIB and social media use (Ng et al., 2017; Kuegler et al., 2015; Nisar et al., 2019; Razmerita et al., 2014), social media and the impact of cultural difference (Gibbs et al., 2015; Pirkkalainen and Pawlowski, 2014; Schlagwein and Prasarnphanich, 2014), and the generational difference and information sharing

in the workplace (Widén et al., 2017). Thus, the existing literature seems to focus on a relatively simplistic view of the issues but does not seem to address their overall complexity and, particularly, does not fully represent the interplay of these issues, including intergenerational difference and cultural constructs, influencing the situations in MNCs.

This thesis aims to fill out this landscape by addressing the overall complexity of how different generations share information collaboratively using social media as a tool for both business communication and collaborative information sharing in the MNC setting. The MNC is an appropriate research setting to investigate the interplay of these different factors and to identify whether other factors were also significant in this context and in a situation where there are multicultural issues involved, not only because these issues are played out in such a setting but because, in an increasingly globalised world with complex supply chains, such settings are certainly more common and for many they are the norm. Where CIB literature has revealed the complexity in the nature of work and other elements impacting the way people collaborate in the organisational context, investigating the totality of these influences and the interplay between them in the MNC setting is still an underexplored area of research.

A key driver in this study has been the recognition of the complexities around the interplay of CIB, the national and organisational cultures, intergenerational difference, and the way that these impact the ability of the organisation to effectively and collaboratively share information. The research questions were set out as a result of the recognition of a problem situation, which was investigated through the literature. To reiterate, the research questions are:

- 1) How do generations differ in their use of social media as a business communication and collaborative information tool internally in a multinational company setting?
- 2) What barriers and differences in such a setting can be influenced by different generations' use of social media as a collaborative business communication tool?
- 3) How can such barriers and differences be managed and developed to improve collaborative information behaviour for internal efficiency?

In filling out this landscape and addressing the research questions, a qualitative and social constructionist approach was taken to investigate the issues. Activity theory, as a proven tool for analysing complex and entangled situations, was adopted as the theoretical and analytical framework. The aim of this study is to unpack the overall complexity and for this activity theory was a highly effective framework to provide an understanding of such complex phenomena (Kaptelinin, 1996; Wilson, 2008). It assisted in analysing human information activities and

interaction in a collaborative work setting (de Souza and Redmiles, 2003) and the role of mediating tools used by actors – different generations in the MNC in this case. Its focus on a range of activity system elements including rules and norms, communities, tools and division of labour also helped guide and structure the data collection as well as shape the initial data analysis. Eight open-ended questions (Mwanza, 2002) facilitated wide collection of data in line with the AT framework when conducting the interviews and analysis of qualitative data collected during the fieldwork (Mwanza and Engeström, 2005) (Table 14 in Chapter 3), and in capturing the overall cultural and historical issues in the research context. The cultural-historical activity systems and interacting activity systems were applied to analyse the structure of activity in the MNC, and to identify how people collaborate and share information to achieve a shared objective. AT also directed attention to analysis of the tensions and contradictions within the activity systems (Allen et al., 2011; Engeström, 2001; Karanasios, 2018; Kuutti, 1996) based on qualitative data collected during the fieldwork, which includes document analysis, non-participant observation, focus group interview, and semi-structured interviews. This is to identify the root of the problems (Engeström, 2000). Therefore, the results of this study make significant contributions to knowledge and also have organisational implications.

In this chapter the findings and implications are structured as below:

The next section (8.2) will highlight the three key areas of theoretical contributions made in this thesis, which are aligned with the three research questions. It will begin by summarising the key findings and addressing the key area of contribution at the end of each research question. The following sections (8.3/8.4) address the methodological contribution, and the practical contributions which will have organisational implications.

Finally, the chapter ends with research limitations (8.5), future research (8.6) and concluding remarks (8.7).

8.2 Theoretical contributions

This section will summarise key findings and highlight three key areas of contributions which are structured around the research questions noted above. The driver of this study has been the recognition of the complexities around the interplay of different factors – collaborative information behaviour, the cultural clashes between the national and organisational cultures, intergenerational difference – and how these collectively influence the ability of the organisation in terms of how they share information collaboratively and effectively.

The findings and activity systems analysis of this study were addressed in chapters 4, 5, and 6, which described the social media use and collaborative information behaviour since before social media was used, the gradual shifting process towards social media use, and the current acceptance (if not formal approval) of social media use along with the analysis of the activity systems, interacting activity systems, and tensions and contradictions which help to structure understanding of the setting and processes when social media is the collaborative information-sharing tool used by different generations in the MNC setting. The findings of the three research questions and contributions were discussed in Chapter 7, and answered themes derived from the data analysis and based on the research questions.

The areas of contributions, which will be summarised in the following sections, are the key findings guided by the research questions. These key findings highlight the complexity of the issues found from investigating the research questions and this also corresponds to the gap in the extant literature with respect to the overall complexity of the setting and the interplay of collaborative information behaviour, social media use, and intergenerational difference in a multicultural work environment. The three key areas of contributions are displayed as follows:

- The first area of contribution is the additional complex issue of technology adoption in this setting, which was highlighted from data collected and addressing the research questions, especially the first question – ***The colonisation of an organisation by technology.***
- The second area of contribution is focused around the data collected with the aspiration of addressing research question two and which was the key issue contributing to the overall complexity of the setting – ***The interplay between the national culture and organisational culture*** – to be the influencing factor that describes the differences in the collaborative information behaviour of generations in the MNC.
- The third area of contribution is a summative model – ***CIB in the MNC context: an integrative model*** which is built by integrating key findings of all three research questions to better understand the overall complexity and the interplay between different factors influencing how different generations adopt evolving technology to collaborate and share information and how it can influence the collaborative information behaviour in a multicultural work environment.

In the following sections, the key findings of each research question in this study will be summarised first. Then, the areas of contribution will be explained, which were drawn from the key findings led by the research questions.

8.2.1 Summary of key findings: Research question 1

Research question 1: How do generations differ in the use of social media as a business communication and collaborative information tool internally in a multinational company setting?

This first section is structured primarily around the first research question, addressing the contribution in terms of the way that technology is brought into the organisation, which this research characterises as the colonisation of an organisation by technology. This draws on the social media literature in the context of CIB and intergenerational difference. The key findings of the first research question will be answered before describing the area of contribution – the colonisation of an organisation by technology.

The first research question set out to look at the intergenerational difference and the impact of this on the approach to technology when using social media as a collaborative information-sharing tool in the MNC. Findings from the first research questions were identified in Chapter 7, which explained that different generations used social media differently in terms of their familiarity with the tool, level of comfort, and attitudes towards technology. These differences were found to be associated with how the generations were *'born and bred'* in different eras, reflecting the differences in their approaches to technology, which are congruent with the extant literature (Culp-Roche et al., 2020; Colbert et al., 2016; Naim and Lenka, 2017; Naim and Bulinska-Stangrecka, 2019; Vodanovich et al., 2010).

Even though the first research question is primarily focused on exploring the differences of generations in terms of social media use, it has also led to a key finding that is prominent in the area of contribution made in this thesis. The key finding is the way that social media came into the MNC, which was hugely influenced by the technology-driven generations of the company and their approach to technology. The findings suggest that the technology-driven generations are the key driver behind the shifting process towards social media use in the organisation (section 4.3). It was the technology-driven generations who first brought social media into the MNC and influenced other employees to use it to share information with them. This gradually, albeit informally and semi-subversively, transformed CIB activities from using company tools to initially incorporating, and then relying on, social media. To the technology-driven generations,

using social media is normal as they already use it in their personal life, which was the opposite for the older generations in the company. However, at an organisational level, this phenomenon influenced the shift in the collaborative information-sharing tools; that is, social media entered in a subversive way rather than being formally adopted by the organisation.

By examining activity systems, the way that the technology-driven generations brought social media into the company was identified (section 6.4.1), showing that social media use was against the formal rules and norms in the MNC. Social media was not approved for use and was not formally approved by the top managers in the organisation, who were, importantly, the older generations in this study. Although social media use stimulated disapproval from the older generations, the situation forced them to use it because younger employees started to replace the existing company tools with social media, influencing the older generations to adopt, albeit reluctantly and without formal acceptance, the new platform(s). This finding highlights that this complex situation was principally driven by the younger generations, who influenced the role of technology in the company, in part at least because, in today's organisations, the majority of employees are Generation Y, a technology-driven generation, and grew up using technology and being more familiar with it than the older generations.

Therefore, the key finding of the first research question led to the first area of contribution addressing the way technology is brought into the organisation, which will be explained in the following section.

Area of contribution 1: The colonisation of an organisation by technology

The first area of contribution is "*the colonisation of an organisation by technology*". This was found when investigating the first research question and the associated data collected, and it was a key issue contributing to the complexity of the problem situation in the setting. This extends the current knowledge of the CIB, social media and generational difference in the organisational context as this phenomenon has not been explored by the existing literature from the literature review in Chapter 2. The central role of technology is highlighted in the CIB literature as the supporting tool for collaborative information activities (Karunakaran et al., 2013; Reddy and Jansen, 2008; Reddy and Spence, 2008; Hertzum and Reddy, 2015). Also, most existing studies on social media in organisations describe organisations formally adopting social media, for example, social media platforms like Enterprise Social Media (Brzozowski, 2009; DiMicco et al., 2009; Pitafi et al., 2020), discussion groups (Nisar et al., 2019), and public social media (e.g. Facebook, WeChat, Twitter) (Liang et al., 2020; Razmerita et al., 2014; Robertson and Kee, 2017; Walden,

2016). However, this study found that the adoption of social media was “*the colonisation of an organisation by technology*”, as social media was not formally adopted in the organisation. Indeed, the older generations did not approve of it; it was the younger generations who adopted social media and shifted the way they communicate and collaborate in the organisation.

While there has not been enough research conducted on the linkage between the issues of CIB and generational difference combined with their different approaches to technology, this finding adds to the generational difference and CIB literature by offering an explanation for the overlapping issues on how different generations and their approaches to technology adoption and experiences have challenged and influenced organisational activities in the collaborative setting, such as communication, collaboration and information sharing. This study highlights the link between the role of intergenerational difference in the workplace (Bencsik et al., 2016; Magni and Manzoni, 2020; Moore et al., 2015; Stewart et al., 2017), and the key differences brought by intergenerational differences in people’s approaches to technology, which influence the way technology is used in the organisation as well as how people collaboratively share information (Karunakaran et al., 2013; Reddy and Jansen, 2008). Findings highlight that technology-driven generations will not stop looking for evolving tools and technologies to facilitate their collaborative information activities in the workplace; they are willing to change and adopt new technology in the future, as it is their nature that they are innately positively disposed to technology because it has been integrated into their environment since childhood (Culp-Roche et al., 2020; Colbert et al., 2016; Vodanovich et al., 2010).

The colonisation of an organisation by technology sheds light on the influence of intergenerational difference and the consequent approach to technology on the organisational level; that, if organisations do not respond to the evolving technologies, younger generations will still act as a digital influence on the shift in the working environment, whereas older generations will have to react and adapt to this situation as, inevitably, the collaborative information activities are infiltrated/colonised by newer technologies which impact on the day-to-day reality of the way that processes are carried out and the collaborative information-sharing tools used to support the CIB activities. By recognising the colonisation of an organisation by technology and that it is influenced by intergenerational difference, it helps to better understand the landscape of the collaborative information behaviour of intergenerational difference in the use of social media and technology.

8.2.2 Summary of key findings: Research question 2

Research question 2: What barriers and differences in such a setting can be influenced by different generations' use of social media as a collaborative business communication tool?

This section highlights the issues of national and organisational cultures and their interplay. The second research question focused on identifying what barriers and differences can be influenced by different generations' use of social media as a collaborative business communication tool in the MNC setting. The findings of the second research questions were provided in Chapter 7, and additionally indicated another complex issue in the setting. The key issue emerging from the findings and data of the second research question is culture-based, as this was found to be the main factor influencing the barriers and differences of social media use and intergenerational difference in the MNC. The key finding will be summarised first, following the area of contribution – the interplay between the national culture and organisational culture.

The extant literature has addressed the generational difference and the associated differential approaches to technology which have influenced the differences in use of technology and behaviours in the workplace (e.g. Culp-Roche et al., 2020; Naim and Lenka, 2017; Rai, 2012; Vodanovich et al., 2010). However, the existing literature has not considered the overall complex setting of the multicultural environment and the interplay of CIB, social media use, the national and organisational cultures, and the intergenerational difference in order to pinpoint what influences the barriers and differences of social media use by generations in this complex situation.

Using activity theory, the concept of contradictions in the activity systems (Engeström, 2000) helped in identifying the overall setting and the interplay of these key issues. Contradictions were identified (section 6.4.2 and section 6.4.3, Chapter 6) in subjects and community, and in subjects and division of labour that explained that these contradictions were influenced by the national culture and organisational culture embedded in the MNC, and this impacts on the barriers to, and differences in, social media use by different generations in the organisation. While most of the existing literature has discussed that, when different generations use technology or social media in this case setting, their barriers and differences are influenced by their age-related factors, birth year difference, work attitudes and behaviour, and the stereotypes of digital natives and digital immigrants as they were born in different eras (Vodanovich et al., 2010; Naim and Lenka, 2017; Culp-Roche et al., 2020; Magni and Manzoni, 2020), a major finding of this research in relation to

the second research question is that the barriers and differences can also be massively influenced by the national and organisational cultures in the MNC.

The finding suggests that the intergenerational difference and the different generations' approaches to technology influenced the barriers and differences of social media use in the organisation, but that this is also massively influenced by the interplay of national culture and organisational culture. This finding highlights clearly that the MNC should not neglect the impact of the national and organisational cultures (Scheffknecht, 2011). This study identified (section 7.4) that language barriers (generation gap in language use, hierarchy in language) and cultural issues (power distance, hierarchy in the organisation) are influenced by the national and organisational cultures, and have an impact on the collaborative information behaviour of different generations and the way that they use social media. The national and organisational cultures can influence the way different generations behave and how they are expected to behave with others when they interact and collaborate using social media as the communication and collaboration platform in the organisational setting. In this case, there is a hierarchy in the organisation and social setting where younger people are expected to behave a certain way with older people, including a very strong norm to show their respect to older people through the language and behaviours they use with the older generations.

The key finding emerging from the process of investigating the second research question is the issue of the cultural clashes between the national and organisational cultures which influences the barriers and differences of social media use in organisation. This cultural issue was found as another key issue which drove the complexity in terms of collaborative information behaviour and social media use in terms of intergenerational difference in the MNC setting, as well as moderating and framing the processes. Therefore, the interplay between the national culture and organisational culture is the second area of contribution, which will be described below.

Area of contribution 2: The interplay between the national culture and organisational culture

The second research question highlights the issues of the interplay between the national culture and organisational culture as a key area of contribution. This draws on the cultural aspect in the context of CIB, social media use, and intergenerational difference in a multicultural setting, and has contributed to the current knowledge of CIB and social media in MNCs as well as generational difference in the workplace. The findings indicate that the interplay between the national culture and organisational culture is a key influencing factor that influences the barriers and differences

in the collaborative information behaviour of the different generations and their use of social media in the MNC. It was identified in this study that the impact of the interplay between the national culture and organisational culture is seen in the language (in the sense of relative formality/informality and tone as opposed to national tongue) use between different generations, and in the hierarchical structure of the organisation and social setting. The cultures influence the way the generations use social media to communicate and collaboratively share information in the MNC. This area of contribution, overlaid on the existing complexity, has not been significantly addressed in the existing literature. While extant literature in the field of CIB has discussed the information culture in organisations that influences the people's attitudes and information practice, and how values and norms shape the way people use information in the organisations (Choo, 2006; 2013; Jarvenpaa and Staples, 2000), the focus was not the impact of the national and organisational cultures on CIB and the intergenerational difference was also not in the picture.

The approach of studying generations is still controversial among generational research. This study has, therefore, contributed a different perspective to the understanding of how the generational difference is shaped by the interplay between the national and organisational cultures. The extant generational research has mainly focused on the birth year (cohort perspective) to differentiate the generational difference approach (Culp-Roche et al., 2020; Vodanovich et al., 2010; Becton et al., 2014; Magni and Manzoni, 2020; Myers and Sadaghiani, 2010; Twenge et al., 2010), whilst some researchers have focused on shared experiences and social events to study generations (social perspective) (Lyons and Kuron, 2014; MacKenzie Jr and Scherer, 2019). Some researchers have also examined different generations based on technology-related experience (Helsper and Eynon, 2010; Joshi et al., 2011; Joshi et al., 2010; MacKenzie Jr and Scherer, 2019). None has significantly explored the influence of culture on generational difference in terms of social media use and collaborative information behaviour. This research broadens our understanding of generations by looking beyond age-related and technological differences, suggesting the interplay between the national and organisational cultures to advance the understanding of the different generations. This study highlights the need to explicitly incorporate cultural aspects to understand different generations' behaviours; as it is not entirely age difference and generational cohorts that define the differences in generations in the workplace. The finding reveals the key role of the interplay between the national culture and organisational culture and the way that influences how individuals think, behave, communicate and interact with the younger or older generations in organisations.

Within the MNC context, the findings have provided insight that it is effectively impossible to disregard the influence of the national culture as it is embedded in that region/society (Scheffknecht, 2011), and the national culture shapes how people interact in different cultures (Hall, 1989; Hofstede et al., 2010; Trompenaars and Hampden-Turner, 1997). The findings demonstrated that the interplay between national and organisational cultures is inherently powerful at an overall level and also operates differentially in people of different generations; therefore, when they use social media to collaborate and share information, it is important to address the national and organisational cultures in the MNC to better understand how the collaborative information behaviour is carried out in particular cultures and how these cultures influence the information activities and social media use, as well as the people's attitudes and behaviour.

8.2.3 Summary of key findings: Research question 3

Research question 3: How can such barriers and differences be managed and developed to improve collaborative information behaviour for internal efficiency?

This section summarises the key findings of the third research question. The purpose of the third research question is to find out how to manage the complex issue of the use of social media for CIB where there is a clear influence of intergenerational difference in the organisation and where there is multiculturalism involved, and to do so in order to improve internal efficiency. By 'internal efficiency', this research refers to internal collaboration and communication becoming more collaborative and minimising barriers in communication and collaboration within teams. Thus, improving internal efficiency in this context means to enhance internal communication and collaboration across generations for people for better teamwork/CIB.

The findings of the third research question were addressed in Chapter 7 (section 7.5), which restates and complements all the complex issues found in research questions 1 and 2, which illuminate issues impacting on managing generational difference in the MNC and the way this impacts on social media use and CIB. This draws on complexity – the colonisation of an organisation by technology and the interplay between the national and organisational cultures – and the findings highlighted that the interplay of different factors influence each other recursively. As the findings revealed, the intergenerational difference and the different generations' relationships with technology can bring complexity to the organisation in terms of collaborative information behaviour and social media use and other collaborative information-

sharing tools, and the cultural issues are also important influences impacting on understanding how people of different generations share information and collaborate in the MNC.

In the extant literature, most studies have suggested ways to manage the multigenerational workforce in organisations by reporting problems and issues influenced by the intergenerational difference in the workplace, such as technology-driven generations having different work styles and work environment (Haynes, 2011; Kapoor and Solomon, 2011; Lyons and Schweitzer, 2017), generations may have different workplace behaviours (Becton et al., 2014), and generations differ in work values, preferences, expectations (Magni and Manzoni, 2020; Myers and Sadaghiani, 2010; Twenge, 2010; Twenge et al., 2010), and their approaches to technology (Bencsik et al., 2016; Bennett et al., 2008; Colbert et al., 2016; Culp-Roche et al., 2020; Ghobadi and Mathiassen, 2020; Vodanovich et al., 2010). Findings in this study reinforce the existing studies (Bencsik et al., 2016; Colbert et al., 2016; Culp-Roche et al., 2020; Ghobadi and Mathiassen, 2020; Vodanovich et al., 2010) that the intergenerational difference and the different generations' approaches to technology is an issue in the MNC, as findings suggest that realising generations prefer different channels and platforms when they collaborate and share information could be a driver of more effective organisational practice and for future research to gain a deeper understanding of the information behaviour of different generations and technology use.

In the MNC, however, there are additional cultural issues (the interplay between the national and organisational culture) involved in the collaborative information activities with different generations. The findings of this study provide nuance to the existing studies in that, although it might be true that generations differ in their approaches to technology, the communication barriers between different generations are not entirely influenced by this. The barriers are also influenced by the national culture and organisational culture which shape the different generations' attitude and behaviour towards certain behaviours and language used between generations and via technology platforms in the organisation.

These findings suggest how to develop organisational approaches to the ways in which different generations collaborate using social media, and potentially to do so more effectively and collaboratively. The interplay of different complex issues mentioned in this research influences the overall complexity of how different generations use social media to collaboratively share information. It is not a single issue to be considered in isolation; it is impacted by the overall picture of CIB, intergenerational difference, social media use, and the cultural clashes embedded in MNCs.

The results of the third research question also offer an implication for organisations, which will be explained in section 8.4 in this chapter. Collectively the overall research questions provide an insight into developing a new model of CIB and the intergenerational difference in the MNC setting. The model takes key points derived from the findings of the three research questions and incorporates them into the new model presented in the next section.

Area of contribution 3: Propose a new summative model – CIB in the MNC context: An integrative model

Integrating the issues highlighted in all three research questions, this study makes a theoretical contribution to the current body of literature through linking CIB, social media and intergenerational difference within a cultural setting, drawing on both national and organisational cultures by proposing a summative model – CIB in the MNC context: an integrative model (Figure 34). The model offers an alternative model to the existing models of CIB reviewed in Chapter 2 (see Figure 30 and Figure 31) and also builds on the models highlighted in Chapter 7 (Figure 29, 33, 33). This model, when compared with the existing models of CIB developed by Reddy and Jansen (2008, p. 266) and Karunakaran et al. (2010, p. 3), draws on those models to provide the generic aspect to understand CIB in the organisational context, such as the triggers leading from the individual to CIB, and how CIB activities are carried out. However, there is a lack of understanding of the aspect of the intergenerational difference and the role of evolving technology as the collaborative information-sharing tool in the MNC setting in those models, and the goal of this model is to extend and develop those extant models to conceptualise CIB in the MNC and understand the pattern of the CIB activities in the MNC overlaid with the intergenerational difference influences.

The findings highlight essential elements adding to the new model that can be applied for future research to further the study of CIB and social media or any technology used in a multicultural setting, as portrayed in Figure 35. These elements are as follows:

- The role of collaborative information-sharing tools
- Evolving technologies
- Intergenerational difference approach
- The interplay between the national culture and organisational culture

The findings of this study suggest that these elements can help understand CIB in today's organisations. The summative model underscores that the role of collaborative information-

sharing tools is vital to support CIB activities (Hansen and Järvelin, 2005; Karunakaran et al., 2013; Reddy and Jansen, 2008; Spence et al., 2005). When an individual seeks collaboration triggered by information needs, either due to their work role or department role, the collaborative information-sharing tools are adopted to carry out CIB activities in the following process to achieve goals.

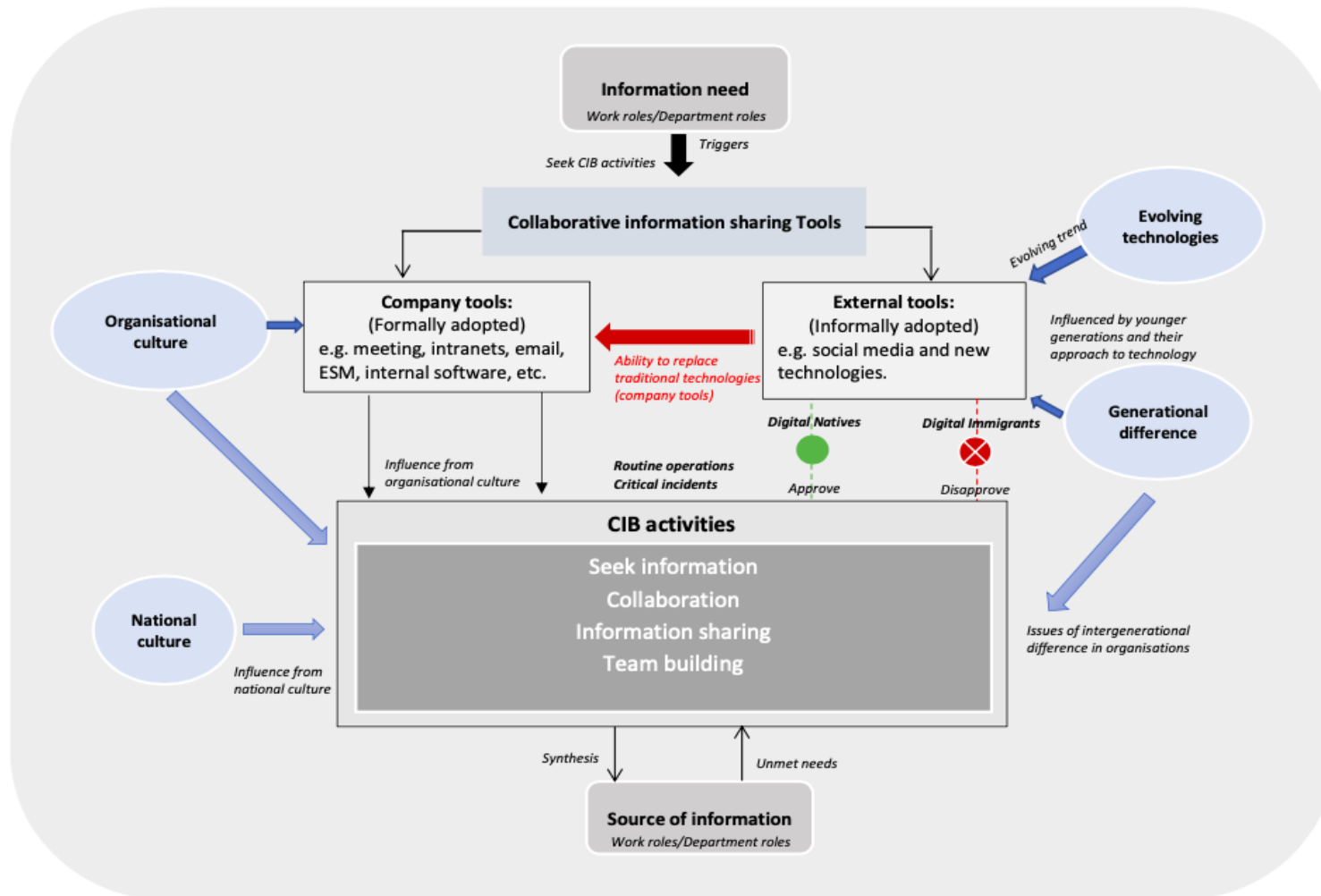


Figure 35 CIB in the MNC context: an integrative model

This model categorises collaborative information-sharing tools into formally adopted company tools and externally-introduced and informally adopted tools, particularly, in this case, social media, and evolving technologies more generally. The model highlights the intergenerational difference issues influencing social media and/or evolving technologies used for CIB activities in the MNC. Many researchers have investigated and reported the differences between generations in organisations (Bencsik et al., 2016; Bilgihan et al., 2014; Ghobadi and Mathiassen, 2020; Magni and Manzoni, 2020; Moore et al., 2015; Stewart et al., 2017; Widén et al., 2017). The findings of this study demonstrate the relation between the evolving technologies and the intergenerational difference, as the younger generations are tech-savvy and highly proficient with adopting new technologies. Accordingly, the technology-driven generations are more likely to adopt evolving technologies and bring them to use before the older generations in organisations. By identifying this issue, both extant literature and the findings of this study offer insight into CIB as technology, the tool for much CIB, is always evolving and shifting communication trends.

In addition, the model explicitly introduces and foregrounds the interplay between the national and organisational cultures as a key influencing factor on CIB activities in the MNC setting. This is what this study found to be critical for understanding CIB and social media use among different generations in a multicultural setting, as the national and organisational cultures play a significant role in how different generations collaborate and share information in the MNC. The findings point out that the national and organisational cultures shape people's attitudes and behaviours in a particular country/social setting, which could be through the language they use and other forms of social etiquette, reflecting how they work and collaborate when they adopt social media in the MNC as well.

Therefore, this contribution when unpacking overall complex issues enables better understanding of the underlying issues in CIB and social media use as overlaid with the intergenerational difference issues in a multicultural work setting.

8.3 Practical contributions

The findings of this study have provided implications for organisations. While previous literature addressed that the workplace is shifting because of the older generation (Baby Boomers) retiring, it is important to manage younger generations and understand the issue of generational difference as there will be more younger people entering the workforce (Smith and Nichols, 2015; Twenge, 2010). The majority of the workforce today is Millennials, and Generations Z are already entering the workforce and will be doing so in ever-greater numbers (Colbert et al., 2016). The

issue of intergenerational difference exists in the workplace (Becton et al., 2014; Colbert et al., 2016; Magni and Manzoni, 2020; Venter, 2017) and will continue to do so as new employees enter and older employees leave. This study informs academic researchers and managers about the challenges of the intergenerational difference in how the older and younger generations collaboratively share information using social media as the communication tool in the MNC, which applies to today's organisations and offers the direction for future research.

Some studies argue that generational difference is the main factor influencing information activities and technological usage (Jarrahi and Eshraghi, 2019; Widén et al., 2017). The findings of this study confirm the existence of intergenerational difference in the workplace, and that younger employees' approach to technology has destabilised the old-established organisational structure and system as younger people have a strong relationship with technology and they value technology as part of their lives (Colbert et al., 2016; Culp-Roche et al., 2020; Jarrahi and Eshraghi, 2019; Magni and Manzoni, 2020), which caused them to ignore the organisational rule set up to ban social media use and continue to use social media, with which they were comfortable and familiar. Importantly, the findings also add nuance that the cultural issues are significant in understanding the intergenerational difference and the different generations' technology adoption in the workplace. This study found the interplay between the national and organisational cultures is powerful and differentially influences people of different generations in how they use social media to share information with their teams in the MNC. It is important to consider the national and organisational cultures to understand the intergenerational difference in the MNC as, in particular cultures, these cultures influence the attitudes and behaviours of generations differently, which also influence information activities and technology use. Therefore, managers are advised to recognise such differences and people's background in terms of their relationship with technology and cultural difference in order to be able to manage the human resources in organisations.

Furthermore, organisations should pay more attention to new digital technologies. The digital immigrants should not be resistant to new digital media and technology (Venter, 2017; Vodanovich et al., 2010). Several studies have shed light on the adoption of technology to support organisational activities, such as communication, collaboration and knowledge sharing (Leonardi and Vaast, 2017; Naim and Lenka, 2017; Schlagwein and Hu, 2016). The findings of this study have demonstrated that the digital immigrants were still reluctant to formally adopt and use social media in the organisation, although eventually all employees used it openly, despite the rule, as did the senior managers. This study pinpoints that technology should become a formal organisational tool. The top management or concerned parties should embrace new technologies

into organisations and officially adopt them as part of the organisational policies to stay informed with how the world operates in today's business environment and to improve the internal efficiency.

The finding of the case setting is an example of how the colonisation by technology has shifted the tools in the company from the influence of the intergenerational difference and the different generations' relationships to technology. Instead of resisting new technology, it is recommended to endorse new technologies in the organisation, and educate and train employees, especially the digital immigrants or the ones who require knowledge of technology, about the current and upcoming trend of new technologies as well as the application of technology features to enhance employee competence.

8.4 Limitations

The limitations of this research point to areas of value for future research. The limitations can be elucidated in three points. The first limitation is the generalisability of this research. The research took a qualitative approach, and generalisation is usually not the purpose of qualitative research, but the aim is to provide a description derived in the context of the study (Creswell, 2014; Polit and Beck, 2010). While this setting has much in common with many others it is, of course, unique in many ways. The sample of this research is also a single case setting from a single organisation, and participants, who were the digital natives and digital immigrants from the MNC in Thailand, took part on a voluntary basis. The study cannot be generalised for other digital natives and digital immigrants from different MNCs across different nations, apart from the scope of this research. Having said that, this research triangulated multiple sources of data and information, as non-participant observations, focus group interview and semi-structured interviews were conducted, to constitute a justification for themes and gain validity for the research (Creswell, 2014).

The second limitation is that it is difficult to bring to the surface and inspect the CIB and different generations' use of social media, specifically when they used social media group chats to collaboratively seek, share and interact within their private group chats. Scholars have addressed similar issues and stated that there are no perfect ways to explore this area and that the best researchers can do is to use methods to gather as much data as possible – mainly observing and interviewing – to understand human behaviour in the setting (Hansen and Järvelin, 2005; Reddy and Jansen, 2008; Reddy and Spence, 2008). With this issue, the researcher was invited in one of the group chats, with full voluntary agreement from the participants, for the research purpose for

two weeks to understand how they collaborated and shared information through the use of social media. Still, the group chat only represented one department in the MNC and there were privacy concerns when information was shared in the group chat.

Last but not least, there is a limitation with the models proposed in this study. CIB, in how it is addressed in this study, is limited to one particular MNC in Thailand, where the research was conducted. It can be argued that MNCs operate differently across nations and the cultural issues may not be similar to the case setting in this study. However, there are some aspects that future research can take from the models, particularly the differences that exist in the culture between the host country and home country that may influence the business operations and CIB activities, as the principles could be similar in the context of the MNC.

8.5 Future research

The limitations of this research, from the previous section, call for future research to avoid such issues. Future research should focus on including Generation Z to study the generational difference and consider the intergenerational difference in approach to the CIB in the organisational context as it is undeniable that the newer generation, Generation Z, will soon be arriving in the workforce, and the Baby Boomer generation will be retiring.

This research offers future research the direction to include the cultural aspects to study differences in a new study context of CIB and the role of technology (Hertzum and Reddy, 2015; Karunakaran et al., 2013; Reddy and Jansen, 2008). The findings indicated that the national culture and organisational culture should be considered in the CIB, social media, and generational difference studies as findings suggest that it is the influencing factor shaping how people differ in their attitude and behaviour in a particular country or social setting and in how they use technology with others as well. This research has only explored the representatives of a whole company in a specific country, Thailand. Future research should further study how these cultures may influence communication and collaboration between generations using social media or other technologies in other MNCs and companies where there are multicultural issues involved.

Furthermore, the application of activity theory helped the researcher to examine the cultural and social aspects of human information behaviour in the multinational work environment. Future research should also adopt activity theory as a theoretical framework and analytical tool to advance the understanding of human information behaviour and the role of technology. While this research adopted a qualitative approach, future research can also take a quantitative or

mixed-method approach as activity theory can be applied with any theoretical approaches (Wilson, 2006; Yamagata-Lynch, 2010).

Nevertheless, the results of this research connote that there is the possibility that there could be a shift towards the role of technology and information activities in many organisations in the future, for instance, new tools and technologies being introduced. If managed properly and effectively, this could also move the company forward and overcome challenges. Recently, the landscape has shifted in that new digital technologies, such as social media, are already adopted, and readily, in the workplace. Technology is always evolving and shifting organisational communication and collaboration. It is worth future research recognising the shifting trend of new digital technologies and further investigating how organisations can manage and be responsive to such a complex and technology-driven business environment and the adoption of the new digital technologies, as well as the intergenerational difference in the workplace when Generation Z enters the workforce.

8.6 Concluding remarks

This thesis answered the three research questions posited in section 1.4. The research questions were to explore the overall complex issues of CIB in the MNC setting, and the interplay of multiple issues influencing the issues of CIB, such as social media, intergenerational difference, and cultural difference in the MNC. Through the investigation, it was found that the process of CIB activities was carried out differently in the MNC context because the complexities around the interplay of the issues of CIB, social media use, intergenerational difference, and cultural clashes between the national and organisational cultures influenced the overall collaborative activity in the MNC. These complexities also affected how generations used technology, social media, to collaboratively share information, the barriers and influences in the collaborative information behaviour of generations, and the ability of the organisation to effectively and collaboratively share information. It was found that the younger and older workers differed in their use of social media for collaboration. This is, partly, because the different generations were born in different environments and they have developed their relationships with technology differently, and also, interestingly, because the culture shapes the perception of intergenerational difference in this particular MNC setting (the elder respect issue in national Thai culture). The impact of cultures on the barriers to social media use are seen in the language use between older and younger generations (in the sense of formality and tone as opposed to national language) during collaboration and in the hierarchical structure of the organisation (formal rules – Japanese culture).

Furthermore, this research highlights the phenomenon in the MNC – the colonisation of an organisation by technology, which is the process by which technology, in this case social media, was brought into the company. It was influenced by the younger generations and their approach to technology at the organisational level. It was also about how the older generations reacted to this phenomenon due to the cultural influences of elder respect (Thai) and formal rule compliance (Japanese). Social media was not formally adopted and the senior managers set up a rule against its use in the organisation because social media came into the MNC by the younger generations without the older generations' approval. However, the rule and cultural influences did not stop the younger generations from using social media. It was also found that the younger generations relied on social media and replaced the traditional tools with it. This caused their older colleagues and the whole company to shift towards the new technology (social media) because the younger workers outnumbered the older workers, and, when they no longer used the traditional tools, their older colleagues also had to switch to use social media with them, ignoring the rule prohibiting its use.

This research proposes a summative model – CIB in the MNC context: an integrative model to illuminate the overall complex issues of CIB in the MNC, and the interplay of different factors, such as CIB, social media, intergenerational difference, and cultural difference, and how these factors influenced the issues of CIB in the MNC by incorporating important elements found in this research, namely CIB in the MNC setting, the colonisation of an organisation by technology, the role of collaborative information-sharing tools, evolving technologies, intergenerational difference approach, and the interplay between the national culture and organisational culture. Future research is encouraged to use this model to investigate such complexities in different domains and in modern multicultural work settings.

In addition, this research has also contributed to organisational implications. It is advised for organisations to respond to the adoption of new digital technologies, as younger workers, especially newer generations entering the workforce in the future, are digital natives who have grown up in the digital environment and they are proficient in adopting evolving technologies, as opposed to the older workers, who are digital immigrants (Culp-Roche et al., 2020; Prensky, 2001; Vodanovich et al., 2010). Similarly, there will always be new digital technologies invented to facilitate the modern work environment. It is recommended that organisations should be aware of the intergenerational difference and the different generations' approaches to technology and the evolving technologies at an organisational level. Instead of prohibiting new technology, organisations should formally adopt it and educate employees to use it properly, to enhance effective collaboration and the flow of information.

Finally, the findings of this research suggest future research should study the complexities around the issues of CIB and the interplay of multiple factors influencing CIB using an holistic approach, rather than focusing on the issue in terms of a single aspect, to advance the understanding of the complex situations in real-life settings. It is also important for future research to acknowledge the digital trend and further investigate how organisations can manage a multigenerational workforce and the adoption of the new digital technologies in a technology-driven business environment.

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APPENDICES**Appendix 1: Profile of Focus group participants**

Participant	Level in organisation	Department	Birth Year	Generation
1	Middle	Publicity	1983	Y
2	Middle	Parts	1976	X
3	Middle	Vehicle	1984	Y
4	Operational	Finance	1988	Y
5	Middle	Engineering	1960	Baby Boomer
6	Operational	Finance	1987	Y
7	Operational	Marketing	1988	Y
8	Operational	Parts	1988	Y

Appendix 2: Profile of semi-structured interview participants

Participant	Level in organisation	Department	Birth Year	Generation
1	Middle	Publicity	1983	Y
2	Middle	Parts	1976	X
3	Middle	Vehicle	1984	Y
4	Operational	Finance	1988	Y
5	Middle	Engineering	1960	Baby Boomer
6	Operational	Finance	1987	Y
7	Operational	Marketing	1988	Y
8	Operational	Marketing	1988	Y
9	Operational	Engineering	1988	Y
10	Operational	Marketing	1989	Y
11	Operational	Marketing	1990	Y
12	Operational	Marketing	1985	Y
13	Middle	Marketing	1982	Y
14	Operational	Publicity	1987	Y
15	Operational	Publicity	1985	Y
16	Middle	Human Resource	1975	X
17	Middle	Finance	1978	X
18	Middle	Service	1978	X
19	Middle	General Affairs	1976	X
20	Operational	Human Resource	1990	Y
21	Top	Managing Director	1978	X
22	Top	Managing Director	1976	X
23	Top	Managing Director	1975	X
24	Top	Managing Director	1963	Baby Boomer
25	Top	Vice President	1960	Baby Boomer
26	Top	Executive Vice President	1955	Baby Boomer
27	Top	President	1945	Baby Boomer
28	Top	Executive Vice President	1950	Baby Boomer
29	Operational	Service	1988	Y
30	Operational	Vehicle	1986	Y

Appendix 3: Consent Form [Original English version]

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<p>Participation Consent Form</p> <p>Consent to take part in the project</p>	<p>Add your initials next to the statement if you agree</p>
<p>“Social Media and Collaborative Information Behaviour Intergenerational Difference in a Multinational Company Setting”</p>	
<p>I confirm that I have read and understand the information sheet dated..... explaining the above research project and I have had the opportunity to ask questions about the project.</p>	
<p>I understand that my participation is voluntary. I have one week to decide to take part in the research project after receiving invitation letter by informing researcher via email or phone. In addition, should I not wish to answer any particular question or questions, I am free to decline. I can withdraw from the project at any stages but no later than two weeks after being participated in interview and focus group sessions. All data will be anonymised as soon as possible after data collection process. In case of withdrawals within two weeks, data will be erased.</p> <p>[For more detail, please contact researcher Napalai Buasuwan +66 81 498 1788 email: bn09nb@leeds.ac.uk]</p>	
<p>I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the report or reports that result from the research. I understand that my responses will be kept strictly confidential.</p>	
<p>I agree for the data collected from me to be stored and used in relevant future research in an anonymised form.</p>	
<p>I understand that relevant sections of the data collected during the study, may be looked at by auditors from the University of Leeds where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.</p>	
<p>I agree that my words may be quoted in publications, reports, web pages, and other research outputs. My name and personal data will not be identified.</p>	
<p>I agree that interviews may be audio or video recorded via electronic devices but will be deleted as soon as the data is transcribed.</p>	
<p>I agree to take part in the above research project and will inform the lead researcher should my contact details change during the project and, if necessary, afterwards.</p>	
<p>Napalai Buasuwan ID: 200500772</p>	




Name of participant	
Participant's signature	
Date	
Name of person taking consent	
Signature	
Date	

***To be signed and dated in the presence of the participant.**

Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the letter/ pre-written script/ information sheet and any other written information provided to the participants. A copy of the signed and dated consent form should be kept with the project's main documents which must be kept in a secure location.

Appendix 4: Consent Form [Translated Thai version]

Leeds University Business School	 UNIVERSITY OF LEEDS
เอกสารชี้แจงผู้เข้าร่วมการวิจัย (Participation Consent Form)	
เรื่อง Social Media and Collaborative Information Behaviour Intergenerational Difference in a Multinational Company Setting	
โปรดลงนาม ในช่องที่ท่าน ยอมรับ/เห็นด้วย	
ข้าพเจ้ายืนยันและรับรองว่าข้าพเจ้าได้อ่านเอกสารเกี่ยวกับการวิจัย และเข้าใจวัตถุประสงค์การวิจัยของการทำวิจัย และข้าพเจ้าได้มีโอกาสสอบถามเกี่ยวกับรายละเอียดต่าง ๆ ของงานวิจัยนี้กับผู้วิจัยแล้ว ลงวันที่.....	
ข้าพเจ้ารับทราบว่า ข้าพเจ้าสามารถตัดสินใจที่จะเข้าร่วมการวิจัยภายใน ๓ สัปดาห์หลังจากที่ข้าพเจ้าได้รับเอกสาร เรียนเชิญจากนักวิจัย และยินยอมตอบรับการเข้าร่วมวิจัยผ่านทางอีเมลหรือทางโทรศัพท์กับนักวิจัย	
ข้าพเจ้าสามารถเลือกที่จะไม่ให้คำตอบในบางคำถามที่ข้าพเจ้าไม่สะดวกได้ และข้าพเจ้าสามารถถอนตัวจากการวิจัยนี้ได้ ด้วยมีข้อแม้ว่า ข้าพเจ้าจะต้องแจ้งให้กับนักวิจัยทราบ ๒ สัปดาห์ หลังจากได้ให้ข้อมูลในการสัมภาษณ์ไม่ว่าจะเป็นแบบลักษณะกลุ่มหรือแบบเดี่ยวก็ตาม และหลังจากที่ข้าพเจ้าถอนตัวจากการวิจัย ข้าพเจ้ารับทราบว่า ข้อมูลจะถูกลบภายในเวลา ๒ สัปดาห์	
ข้าพเจ้ารับทราบว่า ทุกข้อมูลที่ข้าพเจ้าตลอดการวิจัยนี้จะเก็บรักษาอย่างดี ข้าพเจ้าได้รับแจ้งและทราบว่าทุกข้อมูลของข้าพเจ้าจะไม่มีการเอ่ยนามและข้อมูลส่วนตัวของข้าพเจ้าจะไม่ถูกเปิดเผย	
ข้าพเจ้านุญาตให้ผู้วิจัยและบุคคลที่เกี่ยวข้องกับงานวิจัยสามารถเข้าถึงข้อมูลของข้าพเจ้าที่ไม่ระบุข้อมูลส่วนตัวและไม่ระบุออกนามได้ ข้าพเจ้าได้รับแจ้งว่า ชื่อของข้าพเจ้าจะไม่แสดงและไม่เปิดเผยในงานวิจัย และสื่อรายงานใด ๆ ไม่ว่าจากงานวิจัยนี้ และไม่แม้แต่สื่อสิ่งพิมพ์ใด ๆ จากผลจากงานวิจัยนี้ก็ตาม	
ข้าพเจ้าได้รับแจ้งว่า ชื่อของข้าพเจ้าจะไม่แสดงและไม่เปิดเผยในงานวิจัย และสื่อรายงานใด ๆ ไม่ว่าจากงานวิจัยนี้ และไม่แม้แต่สื่อสิ่งพิมพ์ใด ๆ จากผลจากงานวิจัยนี้ก็ตาม เพราะข้าพเจ้ารับทราบว่าทุกข้อมูลที่ข้าพเจ้ายินยอมให้นำไปใช้ในการวิจัยจะถูกเก็บไว้เป็นความลับ	
ข้าพเจ้ายินยอมให้ผู้วิจัยสามารถเก็บข้อมูลของข้าพเจ้าที่ได้จากการวิจัยนี้ได้ และสามารถนำข้อมูลนี้ไปใช้ในการวิจัยในภายภาคหน้าได้ในรูปแบบที่ไม่ระบุนาม	
ข้าพเจ้ารับทราบและเข้าใจว่าการเก็บข้อมูลในการวิจัยนี้ มีความเป็นไปได้ที่คณะกรรมการหรือผู้ตรวจสอบจากมหาวิทยาลัยลีดส์จะพิจารณาและดูข้อมูลเหล่านี้ที่ข้าพเจ้าได้ให้ข้อมูลไว้ ข้าพเจ้ายินยอมที่จะให้บุคคลที่เกี่ยวข้องกับงานวิจัยเหล่านี้สามารถเข้าถึงข้อมูลที่บันทึกไว้ได้	
Napalai Buasuwan ID: 200500772	



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ข้าพเจ้ายินยอมให้ใช้ข้อมูลจากการสัมภาษณ์ ไม่ว่าจะเป็นการเปิดเผยหรือไม่เปิดเผย เพื่อใช้ในการอ้างอิงในสื่อสิ่งพิมพ์ โด ี สื่อรายงาน เว็บไซต์ และสื่อผลงานวิจัยต่าง ๆ โดยที่ชื่อและข้อมูลส่วนตัวของข้าพเจ้าจะไม่ปรากฏในสื่อเหล่านั้น	
ข้าพเจ้ายินยอมให้ผู้วิจัยสามารถบันทึกข้อมูลเสียง และสื่อวิดีโอระหว่างการให้สัมภาษณ์ได้ และข้าพเจ้าได้รับแจ้งจากผู้วิจัยว่า ข้อมูลที่บันทึกดังกล่าวนี้จะถูกลบทันทีหลังจากที่ผู้วิจัยได้ถอดบทสัมภาษณ์เพื่อนำไปใช้วิเคราะห์ข้อมูลในการวิจัย	
ข้าพเจ้ายินยอมและรับรองที่จะให้ความร่วมมือในการเป็นส่วนหนึ่งของการวิจัยนี้ และข้าพเจ้าแจ้งให้ผู้วิจัยทราบหากข้อมูลส่วนตัวของข้าพเจ้ามีการเปลี่ยนแปลง	

ชื่อผู้เข้าร่วมวิจัย	
ลายเซ็นผู้เข้าร่วมวิจัย	
วันที่	
ชื่อผู้วิจัย	
ลายเซ็นผู้วิจัย	
วันที่	

*เอกสารชี้แจงผู้เข้าร่วมวิจัยจะต้องเซ็นต์และลงวันที่ ต่อหน้าผู้เข้าร่วมวิจัย เมื่อผู้วิจัยและผู้เข้าร่วมวิจัยได้เซ็นต์และลงวันที่แล้ว ผู้เข้าร่วมวิจัยจะได้เอกสารที่มีลายเซ็นต์และลงวันที่ เอกสารหนังสือแจ้งรายละเอียดเกี่ยวกับการวิจัย และเอกสารที่เกี่ยวข้องกับผู้เข้าร่วมวิจัยไว้ อย่างละ ๑ ชุด และผู้วิจัยจะเก็บสำเนาเอกสารข้อมูลของผู้เข้าร่วมวิจัยต่าง ๆ นี้ไว้ในสถานที่ที่ปลอดภัยและเหมาะสม

หากมีข้อสงสัยสอบถามข้อมูลเพิ่มเติม โปรดติดต่อผู้วิจัยได้ที่

นางสาว นภาลย์ บัวสุวรรณ (ผู้วิจัย)

เบอร์โทร: +66 81 498 1788

อีเมล: bn09nb@leeds.ac.uk

Appendix 5: Participation information Sheet [Original English version]

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Participation Information Sheet

Research Title: Social Media and Collaborative Information Behaviour Intergenerational Difference in a Multinational Company Setting

You are being invited to take part in a research project under the title of Social Media and Collaborative Information Behaviour Intergenerational Difference in a Multinational Company Setting. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Feel free to ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

Research Objectives	This PhD project aims to examine the collaborative information behaviour (CIB) of employees from different generations (Baby Boomers, X, Y, Z) using Social Media as a main business communication tool and a source of information in a multinational corporation, to identify what causes barriers and differences in their information activity and in communication among digital natives and digital immigrants from using Social Media, and to investigate how effective use of Social Media in a collaborative environment in a multinational company.
Why have you been chosen?	You have been chosen for this study as you are either a digital immigrant or digital native working in a multinational company and are active user of Social Media for business use.
Your participation	Your participation is voluntary. You have one week to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form.



	You can still withdraw at any time without it affecting any benefits that you are entitled to in any way but no later than two weeks after being participated in interviews and focus groups. You do not have to give a reason.
How long will interview/focus group take?	Not more than 1 hour but may require follow-up interviews for some cases.
Risk	No
Benefits of taking part	Your participation will benefit the research project in provide an insightful understanding how different generation use Social Media for collaboration in multinational company setting, and identify barriers and differences of information activity that may cause because of intergenerational difference. It also makes a theoretical contribution to the field of information management and practical contribution in term of improve internal company efficiency.
Will my taking part in this project be kept confidential?	All data collected will be stored and held securely with the University storage drive. There will be no personal identifiers as all data will be anonymised as soon as possible. After data is transcribed, all files will be password protected and store securely with the University storage drive.
Types of interview questions	Questions will be related to experience and feedback of the use of Social Media for business use.
Who is funding the research?	Self-funded
Contact for further information	Napalai Buasuwan Email: bn09nb@leeds.ac.uk Contact no: +66 (0) 81 498 1788 (Thailand) +44 (0) 77 8382 6658 (UK)

Appendix 6: Participation information Sheet [Translated Thai version]

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หนังสือแจ้งรายละเอียดการเข้าร่วมโครงการวิจัย (Participation Information Sheet)

เรื่อง: Social Media and Collaborative Information Behaviour Intergenerational Difference in a Multinational Company Setting

ท่านได้รับเชิญเข้าร่วมโครงการวิจัย ภายใต้หัวข้อ "of Social Media and Collaborative Information Behaviour Intergenerational Difference in a Multinational Company Setting" ก่อนการตัดสินใจเข้าร่วมโครงการ ท่านจำเป็นต้องเข้าใจในวัตถุประสงค์ในการวิจัยและข้อมูลรายละเอียดเกี่ยวกับสิ่งที่เกี่ยวข้องกับโครงการวิจัยนี้ กรุณาทำความเข้าใจกับข้อมูลด้านล่างดังต่อไปนี้อย่างละเอียดรอบคอบ ท่านสามารถปรึกษากับผู้อื่นเพื่อทำความเข้าใจกับเอกสารนี้เพื่อประกอบการตัดสินใจ หากมีข้อสงสัยหรือคำถามที่ท่านอ่านแล้วไม่เข้าใจ หรือต้องการสอบถามข้อมูลเพิ่มเติม โปรดสอบถามผู้วิจัยเพื่อให้ผู้วิจัยได้อธิบายให้ท่านได้เข้าใจก่อนจะตัดสินใจเข้าร่วมโครงการ และโปรดใช้เวลาในการพิจารณาเพื่อช่วยในการตัดสินใจก่อนที่ท่านจะตกลงเข้าร่วมโครงการ

วัตถุประสงค์การวิจัย	<p>to investigate how effective use of Social Media in a collaborative environment in a multinational company.</p> <p>โครงการวิจัยวิจัยปัญหาเรื่องนี้ จัดทำขึ้นเพื่อศึกษาพฤติกรรมการใช้ข้อมูลของบุคคลต่างรุ่น ต่าง Generation โดยเน้นศึกษาพฤติกรรมการใช้ข้อมูลโดยใช้โซเชียลมีเดียในบริบทระหว่างเจ้าหน้าที่พนักงานที่มาจากต่าง Generation งานวิจัยนี้มุ่งเน้นที่จะค้นหาปัจจัยที่เป็นอุปสรรคปัญหาในพฤติกรรมการใช้ข้อมูลที่เกิดจากความแตกต่างระหว่าง Generation เมื่อต้องใช้โซเชียลมีเดียเพื่อการสื่อสารและประสานงานร่วมกันในบริษัท อีกทั้งยังโครงการวิจัยนี้ต้องการศึกษาว่า สื่อโซเชียลมีเดียมีประสิทธิภาพอย่างไรในการนำมาใช้งานในบริษัทข้ามชาติ</p>
เหตุใดท่านจึงได้รับเชิญเข้าร่วมโครงการวิจัย	<p>ท่านได้รับเชิญเข้าร่วมโครงการวิจัยนี้ เนื่องจากท่านเป็นผู้ที่เกิดในยุคดิจิทัล หรือ ผู้ที่เกิดก่อนยุคดิจิทัล และเป็นบุคลากรในบริษัทข้ามชาติที่ใช้งานโซเชียลมีเดียเพื่อการใช้งานในบริษัท</p>



บทบาทของท่าน	การเข้าร่วมงานวิจัยของท่านจะเป็นไปโดยความสมัครใจ โดยท่านสามารถแจ้งให้ผู้วิจัยทราบภายในระยะเวลา ๑ สัปดาห์ หลังจากตอบรับแล้วเข้าร่วมโครงการแล้ว ท่านจะได้รับเอกสารชี้แจงผู้ร่วมวิจัยเพื่อให้ท่านได้เซ็นยินยอมในการเข้าร่วมวิจัยนี้ ท่านมีสิทธิ์ที่จะปฏิเสธไม่เข้าร่วมโครงการหรือถอนตัวจากโครงการหลังจากที่ท่านได้ตอบรับแล้ว โดยไม่มีเงื่อนไขและท่านจะไม่ได้รับผลกระทบใด ๆ กรุณาแจ้งให้ผู้วิจัยทราบถึงการถอนตัวของท่านหลังจากที่ท่านได้ให้สัมภาษณ์ภายในเวลาไม่เกิน ๒ สัปดาห์
ระยะเวลาการสัมภาษณ์	ไม่เกิน ๑ ชั่วโมง อาจมีบางกรณีที่ต้องขอสัมภาษณ์หลังจากการสัมภาษณ์รอบแรก
ความเสี่ยง	ไม่มีความเสี่ยงใด ๆ ในโครงการวิจัยนี้
ผลประโยชน์จากการเข้าร่วมวิจัย	การเข้าร่วมโครงการวิจัยของท่านนี้จะเป็ประโยชน์ให้กับการเข้าใจในเรื่อง ความแตกต่างระหว่างรุ่น (Generation) ในการใช้สื่อโซเชียลมีเดียเพื่อการใช้งานเพื่อการประสานงานภายในบริษัทข้ามชาติ และเข้าใจถึงอุปสรรคในพฤติกรรมการใช้ข้อมูลที่เกิดจากความแตกต่างระหว่างรุ่น ผลของวิจัยนี้จะทำให้เกิดองค์ความรู้ใหม่ในสาขาวิชาการจัดการข้อมูล อีกทั้งบริษัทข้ามชาติยังสามารถนำองค์ความรู้ใหม่นี้ไปพัฒนาในระดับบริษัทเพื่อเพิ่มประสิทธิภาพบุคลากรในเชิงการร่วมมือประสานกันภายในบริษัท
การเข้าร่วมวิจัยนี้จะถูกเป็นความลับหรือไม่	ข้อมูลของท่านจะถูกเก็บรักษาไว้ในที่จัดเก็บข้อมูลของทางมหาวิทยาลัย ข้อมูลจะไม่ถูกเปิดเผยต่อสาธารณะและไม่ระบุนาม หลังจากถอดบันทึกการสัมภาษณ์แล้ว ไฟล์ข้อมูลของท่านจะถูกจัดเก็บโดยมีการตั้งรหัสและจัดเก็บข้อมูลไว้อย่างปลอดภัยในที่จัดเก็บข้อมูลของทางมหาวิทยาลัย
คำถามที่ใช้ในการสัมภาษณ์	คำถามที่ใช้ในการสัมภาษณ์จะเป็นคำถามที่เกี่ยวข้องกับประสบการณ์และข้อเสนอแนะในการใช้สื่อโซเชียลมีเดียเพื่อใช้งานในบริษัท
ผู้สนับสนุนงานวิจัย	ทุนสนับสนุนโครงการวิจัยนี้เป็นทุนส่วนตัว
ติดต่อสอบถามเพิ่มเติมได้ที่	นางสาวนภัส บัวสุวรรณ (ผู้วิจัย) อีเมล: bn09nb@leeds.ac.uk เบอร์ติดต่อ: +66 (0) 81 498 1788 (ประเทศไทย) +44 (0) 77 8382 6658 (ประเทศอังกฤษ)

Appendix 7: Permission letter

บริษัท	จำกัด
77 ม.7 ถ.ทหาร ต.หมากแข้ง อ.เมือง จ.อุดรธานี 41000	โทร. 042-342222 แฟกซ์ 042-342444
สาขานบ้านผือ 52 ม.8 ต.บ้านผือ อ.บ้านผือ จ.อุดรธานี 41160	โทร. 042-281433-4 แฟกซ์ 042-281435
สาขานบ้านดุง 9 ม.7 ถ.บริบาลตำริ ต.ศรีสุทโธ อ.บ้านดุง จ.อุดรธานี 41190	โทร. 042-271700-1 แฟกซ์ 042-271701
สาขาวังสามหมอ 47/4 ม.2 ต.วังสามหมอ อ.วังสามหมอ จ.อุดรธานี 41280	โทร. 042-387777-80 แฟกซ์ 042-387444
สาขากุมภวาปี 1 ม.14 ต.พันดอน อ.กุมภวาปี จ.อุดรธานี 41110	โทร. 042-331888 แฟกซ์ 042-331000

To,

Ms Napalai Buasuwan
Ph. D. Student
University of Leeds
Leeds University Business School
Leeds, UK

August 25, 2017

Subject: Permission for conducting a Ph.D. research


Dear Ms Napalai Buasuwan,

I am pleased to inform you that I give you permission with your request to conduct your Ph.D. research in "Using Social Media for Collaborative Information Behaviour (CIB) and Inter-generational Difference in a large company setting" at [REDACTED] Co., Ltd. under the supervision of Dr Alistair Norman and Professor David Allen.

I am willing to support this research at my best, and give information related to your Ph.D. I also believe that our company would provide a great resource for your data collection, and your research would be of value and make an academic contribution.

We welcome you to assist your research at [REDACTED] Co., Ltd.

Yours sincerely,


(Mr. Kwanchai Aroonyadej)
Managing Director
[REDACTED] Co., Ltd.

Appendix 8: Ethical Approval Form

The Secretariat
 University of Leeds
 Leeds, LS2 9JT
 Tel: 0113 343 4873
 Email: ResearchEthics@leeds.ac.uk



UNIVERSITY OF LEEDS

Napalai Buasuwan
 Leeds University Business School
 University of Leeds
 Leeds, LS2 9JT

**ESSL, Environment and LUBS (AREA) Faculty Research Ethics Committee
 University of Leeds**

20 July 2018

Dear Napalai

Title of study: Using Social Media for Collaborative Information
 Behaviour and Intergenerational Difference in a Large
 Company Setting
Ethics reference: AREA 17-130 response 2

I am pleased to inform you that the above research application has been reviewed by the ESSL, Environment and LUBS (AREA) Faculty Research Ethics Committee and following receipt of your response to the Committee's initial comments I can confirm a favourable ethical opinion as of the date of this letter. The following documentation was considered:

Document	Version	Date
AREA 17-130 Ethical Review form_Napalai.doc	3	18/06/18
AREA 17-130 Fieldwork Risk Assessment form (Authorised).pdf	1	23/04/18
AREA 17-130 Data Management Plan.docx	1	19/04/18
AREA 17-130 Interview Questions.docx	1	19/04/18
AREA 17-130 Participant_Info_sheet.docx	1	19/04/18
AREA 17-130 Participant_consent_form.doc	1	19/04/18

Please notify the committee if you intend to make any amendments to the information in your ethics application as submitted at date of this approval as all changes must receive ethical approval prior to implementation. The amendment form is available at <http://ris.leeds.ac.uk/EthicsAmendment>.

Please note: You are expected to keep a record of all your approved documentation and other documents relating to the study, including any risk assessments. This should be kept in your study file, which should be readily available for audit purposes. You will be given a two week notice period if your project is to be audited. There is a checklist listing examples of documents to be kept which is available at <http://ris.leeds.ac.uk/EthicsAudits>.

We welcome feedback on your experience of the ethical review process and suggestions for improvement. Please email any comments to ResearchEthics@leeds.ac.uk.

Yours sincerely

Jennifer Blaikie
 Senior Research Ethics Administrator, the Secretariat
 On behalf of Dr Kahryn Hughes, Chair, [AREA Faculty Research Ethics Committee](#)

CC: Student's supervisor(s)

Appendix 9: Focus Group Interview Questions (English version)

Focus group questions

Date: _____ Time: _____ Place: _____

Introduction

- Greeting Focus group participants
- Ask for permission to record audio and video the focus group interview.
- Ask general questions about the departments they are working and their work roles.
- Ask participants to describe about the existing company tools and systems used in the company and how are they being used?

Begin the Focus group session:

1. When and how did social media come into the company?
2. How do feel that social media becomes a business communication and collaboration tool in your company.
3. Why do you choose to set up a social media group for communicating and collaborating instead of using other platforms such as email, telephone, other company tools?
4. In your opinion, what are the benefits of using social media to communicate and collaborate with your colleagues, team mates, and your managers?
5. In your opinion, what are the disadvantages of using social media to communicate and collaborate with your colleagues, team mates, and your managers?
6. What social media platforms do you use as a main communication tool in your company? And Please give reasons why you choose this platform.
7. Have you come across any barriers and differences when using social media with different generations?
8. What are the barriers and differences caused by different generations?
9. How do you have to change your information behaviour to communicate and collaborate with different generations?
10. What factors do you think influence different generations to use social media differently and what makes their information behaviour different?
11. Overall, how satisfied are you using social media for internal communication in your company?
12. What are your suggestions on making the communication and collaboration between different generations better and more effective when you use social media to share information and collaborate in your company?

Thank participants for taking part in the interview and for their time.

Appendix 10: Focus Group Interview Questions (Thai version)

คำถามที่ใช้ในการสัมภาษณ์แบบกลุ่ม

วันที่: _____ เวลา: _____ สถานที่: _____

บทนำ

- ทักทายผู้ให้สัมภาษณ์
- ขออนุญาตบันทึกข้อมูลโดยการอัดเสียงและวิดีโอการให้สัมภาษณ์
- ถามคำถามทั่วไปเกี่ยวกับแผนกที่ผู้ให้สัมภาษณ์ทำงานอยู่ และตำแหน่งหน้าที่การงานที่รับมอบหมาย
- ถามผู้ให้สัมภาษณ์ถึงระบบหรืออุปกรณ์เพื่อการสื่อสารและประสานงานในบริษัทว่า ในบริษัทใช้ระบบและอุปกรณ์ใดบ้างในบริษัท และมีการใช้งานอย่างไรบ้าง

เริ่มถามคำถามสัมภาษณ์แบบกลุ่ม:

1. ท่านพอจะทราบไหมคะว่า ทางบริษัทเริ่มใช้สื่อโซเชียลมีเดียเมื่อไร แล้วเข้ามาในบริษัทได้อย่างไร
2. ท่านมีความเห็นอย่างไรกับการที่สื่อโซเชียลมีเดีย เข้ามามีบทบาทในการทำงาน และการสื่อสารในองค์กร
3. ทำไมท่านถึงเลือกตั้งกลุ่มในสื่อโซเชียลมีเดียเพื่อติดต่อสื่อสารกับเพื่อนร่วมงานแทนวิธีอื่น ๆ เช่น อีเมล โทรศัพท์ เป็นต้น
4. ท่านคิดว่าข้อดีของการใช้สื่อโซเชียลมีเดีย ตั้งกลุ่มโซเชียลมีเดียเพื่อติดต่อสื่อสารและทำงานร่วมกับเพื่อนร่วมทีม หรือหัวหน้าทีมของท่าน คืออะไร
5. ข้อเสียจากการใช้สื่อโซเชียลมีเดีย ตั้งกลุ่มโซเชียลมีเดียเพื่อติดต่อสื่อสารและทำงานร่วมกับเพื่อนร่วมทีม หรือหัวหน้าทีมของท่าน คืออะไร
6. ท่านเลือกใช้สื่อโซเชียลมีเดียใดเป็นหลัก เพราะเหตุใด
7. ในการใช้สื่อโซเชียลมีเดีย ติดต่อกับคนต่างรุ่น ท่านพบอุปสรรคหรือข้อแตกต่าง ปัญหาในด้านพฤติกรรมการใช้ข้อมูลบ้างหรือไม่
8. ความต่างและอุปสรรคนั้นคืออะไร
9. พฤติกรรมการใช้ข้อมูลของต่างรุ่นทำให้ท่านต้องรับมือหรือปรับเปลี่ยนอะไรบ้าง
10. คิดว่าอะไรเป็นปัจจัยให้คนต่างรุ่น มีพฤติกรรมในการใช้ข้อมูลที่ไม่เหมือนกัน เพราะเหตุใด
11. โดยรวมแล้ว ท่านพึงพอใจกับการใช้สื่อโซเชียลมีเดียในการทำงานอย่างไร
12. ท่านมีข้อเสนอแนะใดที่จะสามารถทำให้ใช้สื่อโซเชียลมีเดียในการสื่อสารและการทำงานร่วมกันกับคนต่างรุ่นนั้นดีขึ้นและมีประสิทธิภาพมากขึ้นในองค์กรของท่าน

ขอบคุณผู้ให้สัมภาษณ์ทุกท่านที่ให้ความร่วมมือและสละเวลาเข้ามาเข้าร่วมสัมภาษณ์ในครั้งนี้

Appendix 11: Interview Protocol (English version)

Interview Protocol

Date: _____ Time: _____ Place: _____
 Interviewee: _____

Introduction

- Greeting interviewees.
- Ask for permission to record audio the interview.
- Ask general questions about the departments they are working and their work roles.

Begin asking interview questions:

1. Before social media became the tool, what tools or systems did you use in your department to communicate and share information?
2. When and how did social media come into the company?
3. How often do you normally use social media in your daily life?
4. Which social media platforms do you use?
5. What are the purposes of social media use for each platform?
6. How do you use social media in your organisation?
7. How do you access to social media in your organisation? [for example, PCs, smartphones, laptops, iPad]
8. Which social media platforms do you use in your company?
9. How useful and beneficial is social media in using it as a business communication and collaboration tool for your work?
10. What are the barriers and drawbacks of using social media as a business communication and collaboration tool?
11. What do you think are the factors influencing barriers and differences in using social media in your organisation?
12. How you use social media in your team? And, which social media platforms do you use?
13. Why do you choose to use social media instead of other communication platforms?
14. How do you use social media as a collaborative information sharing tool in your department/team?
15. What do you think of generational difference in your department/team?
16. How do you work and collaborate using social media with different generations in your department/team?
17. In your opinion, do they use social media differently? And how do they use it differently in terms of their information behaviour?
18. Have you come across any barriers or difference when using social media as a business communication tool with different generations?
19. What are the barriers you found using social media with different generations?

20. Apart from age difference, what other factors do you suggest to cause the barriers and differences in your team?
21. What are your opinions on minimising the barriers and differences influenced by different generations when they use social media to make communication and collaboration better, and what are the solutions do you think can be managed and developed for this problem?

Thank participants for taking part in the interview and for their time.

Inform them that if necessary there might be a need for follow-up interviews and ask for their permission for follow-up interviews.

Appendix 12: Interview Protocol (Thai version)

คำถามที่ใช้ในการสัมภาษณ์

วันที่: _____ เวลา: _____ สถานที่: _____

ผู้ให้สัมภาษณ์: _____

บทนำ

- ทักทายผู้ให้สัมภาษณ์
- ขออนุญาตบันทึกข้อมูลโดยการอัดเสียงการให้สัมภาษณ์
- ถามคำถามทั่วไปเกี่ยวกับแผนกที่ผู้ให้สัมภาษณ์ทำงานอยู่ และตำแหน่งหน้าที่การงานที่รับมอบหมาย

เริ่มถามคำถามสัมภาษณ์:

1. ก่อนหน้าที่จะมี social media ทางแผนกของท่านใช้อุปกรณ์หรือระบบใด เพื่อการสื่อสาร และการแชร์ข้อมูลคะ
2. ท่านพอจะทราบไหมคะว่า สื่อโซเชียลมีเดีย เริ่มเข้ามาใช้ในบริษัทเมื่อไร แล้วเข้ามาในบริษัทได้อย่างไร
3. โดยปกติแล้วท่านใช้ SM ในชีวิตประจำวันบ่อยแค่ไหนคะ
4. ใช้ platform ไหนบ้างคะ
5. แต่ละ platform ท่านใช้ในลักษณะใด เพื่อวัตถุประสงค์ใดบ้างคะ
6. ท่านใช้ social media ในบริษัทอย่างไรบ้างคะ
7. ท่านใช้อุปกรณ์ใดในการใช้งาน social media ในบริษัทคะ (เช่น คอมพิวเตอร์ สมาร์ทโฟน แท็บเล็ต)
8. ท่านใช้ social media ใดในการสื่อสารและทำงานร่วมกันในบริษัทคะ
9. ท่านคิดว่า social media มีประโยชน์ต่อการสื่อสารและทำงานร่วมกันอย่างไรบ้างคะ
10. ท่านพบอุปสรรคใดบ้างในการที่ท่าน แผนกของท่าน และบริษัทได้ใช้ social media ในการสื่อสาร แชร์ข้อมูล และเพื่อประสานงานภายในบริษัท
11. ท่านคิดว่า อะไรคือปัจจัยที่ทำให้เกิดความปัญหาและอุปสรรคของการใช้ social media ในองค์กรของท่าน
12. ท่านใช้ social media อย่างไรในแผนกของท่าน และใช้ platform ใดบ้างคะ

13. ทำไมถึงเลือกใช้ social media ในการสื่อสาร และแชร์ข้อมูล ประสานงาน แทนช่องทางอื่นคะ
14. รบกวนท่านช่วยอธิบายว่า ท่านใช้ social media ในการสื่อสาร แชร์ข้อมูล และ ประสานงานในแผนก
อย่างไรบ้างคะ
15. ในแผนกของท่าน มีความแตกต่างระหว่างรุ่นอย่างไร
16. ท่านคิดอย่างไรกับคนต่างรุ่นในแผนก หรือในทีมของท่าน ท่านใช้ social media ในการสื่อสาร
ประสานงานและแชร์ข้อมูลกับคนต่างรุ่นอย่างไรบ้างคะ
17. ในมุมมองของท่าน ท่านคิดว่า คนต่างรุ่นมีพฤติกรรมใช้ Social Media ที่เหมือนและแตกต่างกันอย่างไรบ้าง
18. ถ้าพูดถึงเรื่องความแตกต่างระหว่างรุ่น (Generational Difference) ในเวลาที่ท่านต้องติดต่อสื่อสาร และ
ทำงานร่วมกันกับคนที่มีความแตกต่างระหว่างรุ่น เช่น Baby Boomer, Gen X, Gen Y โดยใช้ social
media ท่านพบเจอความอุปสรรคและความแตกต่างอย่างไรบ้าง
19. อะไรคืออุปสรรคและความแตกต่างที่ท่านประสบจากการใช้ social media เพื่อการติดต่อ แชร์ข้อมูล และ
ทำงานร่วมกันกับคนต่างรุ่น
20. นอกจาก ความแตกต่างระหว่างรุ่นแล้ว ยังมีปัจจัยใดที่ทำให้เกิดอุปสรรคในการทำงานร่วมกัน โดยใช้ social
media เป็นเครื่องมือสื่อสารหลักในองค์กร เพื่อการทำงานร่วมกันในองค์กรของท่าน
21. ท่านมีความเห็นว่า จะทำอย่างไรเพื่อที่จะลดปัญหาและอุปสรรคที่เกิดจากความแตกต่างของพฤติกรรมการใช้
social media ของคนต่างรุ่น เพื่อให้การสื่อสารในองค์กรมีประสิทธิภาพ อะไรที่จะสามารถพอเป็น
ทางออกให้กับอุปสรรคนี้

ขอบคุณผู้ให้สัมภาษณ์ที่ให้ความร่วมมือและสละเวลามาเข้าร่วมสัมภาษณ์ในครั้งนี้

แจ้งให้ผู้ให้สัมภาษณ์ทราบถึง ในกรณีจำเป็นที่ต้องมีการสัมภาษณ์เพิ่มเติมและขออนุญาตผู้ให้สัมภาษณ์หาก

จำเป็นต้องมีการขอสัมภาษณ์เพิ่มเติม