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Master's Thesis of Global Sport Management

**Knowledge Management of The
Olympic Games:**

**A Case Study of PyeongChang Organizing
Committee of Olympic/Paralympic Games**

올림픽대회의 지식관리:
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Knowledge Management of The Olympic Games:

A Case Study of PyeongChang Organizing Committee of Olympic/Paralympic Games

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Abstract

Knowledge Management of The Olympic Games: A Case Study of PyeongChang Organizing Committee of Olympic/Paralympic Games

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The Olympic Games Knowledge Management (OGKM) has been run as one of important program in the organization of the Olympic Games. The idea of running this program began in Sidney 2000 when the International Olympic Committee (IOC) aware the needs of knowledge sharing between Organizing Committee of the Olympic Games (OCOG).

Although the program has existed for almost two decades, the issue related to the organization of the OG is still existed. This also occurred in PyeongChang 2018 Winter Olympic/Paralympic Games

(PC 2018) where issue related to sustainability, environment and legacy became the most discuss issue either in media or in academic research.

The purpose of this study is to examine the detail implementation of the Knowledge Management (KM) in PC 2018. The research adopted qualitative approach by conducting case study in PC 2018. Semi structured interviewed was prepared to collect the data from participants.

Participants was selected based on their involvement in as PyeongChang Organizing Committee of the Olympic/Paralympic Games (POCOG). The open ended and video conference interview was employed for data collection method. The KM activities framework and SECI model will be used to analyzed the KM process occurred in PC 2018. The KM activities framework (Parent, *et al*, 2014) and Nonaka (1994) SECI model will be used to analyzed the KM process occurred in PC 2018.

The findings from the interview result indicate that there are four activities of knowledge sharing conducting in PC 2018 in which IOC was mentioned as the significant source of the knowledge. Another finding indicate that socialization occurred the most in the

process of knowledge creation where interpersonal communication is considered as the easiest way to gain the knowledge. In addition, individual knowledge and human resources was considered as the most significant factor in conducting effective KM.

Keywords: Knowledge, Knowledge Management, Olympic Games, PyeongChang 2018

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List of Abbreviation

FAOP – Functional Area Operation Plan

IOC – International Paralympic Committee

KM – Knowledge Management

OCOG – Organizing Committee of the Olympic Games

OG – Olympic Games

PC 2018 – PyeongChang 2018

POCOG – PyeongChang Organizing Committee of the Olympic Games

VOP – Venue Operation Plan

Chapter 1. Introduction

1.1 Background of the study

The Olympic Games (OG) been established a long history in the development of sporting event in the world. The years of experience in organizing OG does not guarantee that the event is less problematic. Ranging from corruption scandal, environment, cost overrun, post games unemployment and the most well-known legacy governance (Dendura, 2019; Baade & Matheson, 2016; Owen, 2006; Flyvbjerg, Stewart, & Budzier, 2016 Preuß, Weitzmann, & Wladimir , 2019; Byun & Leopkey, 2020).

The International Olympic Committee as the owner of all winter and summer OG is actually aware with the issue that keep exist related the organization of the Games. They realize that if those issue is not solved the continuity of OG in the future cannot be secured. It can be seen from the number of failed referendums such as Munich 2013, St. Moritz 2013, Vienna 2013, Kracow 2014, Hamburg 2015, Graubünden 2017, Innsbruck 2017, and Sion 2018 (Bull, 2016; Reuters, 2014), as well as withdrawal from bid process such as

Barcelona 2013, Oslo 2014, Boston 2014, Stockholm 2014, Rome 2016, and Budapest 2017 (Preuß *et al* , 2019).

In order to overcome the issue, the IOC issued Olympic Agenda 2020 during the IOC session 2014. The Olympic Agenda 2020 has 40 recommendations of strategic plan related to all aspects involve in organizing of OG in which six of them are focused on the organization of the games such as :

1. Shape the bidding process as an invitation (1)
2. Evaluate bid cities by assessing key opportunities and risks (2)
3. Reduce the cost of bidding (3)
4. Include sustainability in all aspects of the Olympic Games (4)
5. Reduce the cost and reinforce the flexibility of Olympic Games management (12)
6. Maximize synergies with Olympic Movement stakeholders (13)

Upon the approval of the Olympic Agenda 2020, the IOC come up with three major initiatives, they are:

1. Redesigning of the Candidature Process
2. The IOC Legacy Strategic Approach

3. Journey Together

All the 100 specific measures are disseminated into three main activities they are games governance, games requirements, and support to organizer. Overseeing the strategy that applied by the IOC, there are some positive view on how the OG will benefit in the future but does not mean past experience should be neglected.

In all series of OG, there must be a statement which acclaim the success delivery of the Games, but in the other side there are a lot of leftover issue that brought by the media such as ‘white elephant’ over the ex-venue of the Olympic Games, recession, and environment issue. The OG as the quadrennial event has unique characteristics in which the organization of the Games is carry on by Organizing Committee of the OG (OCOG) which stand-alone separate from the structure of the IOC. The OCOG normally established a headquarter in the host city and employed mostly local people. Therefore, in each OG, there must be such challenge faced by the OCOG since they are not a long-term organization which can keep the information form previous Games in a systematic way, since the personnel, location, and time are different.

The issue of knowledge sharing between the OCOG come to an end when IOC started its initial project during Sidney 2000 Summer Olympic where by establishing Olympic Games Knowledge Service (OGKS) with purpose to develop its knowledge management (KM) initiative and transfer of knowledge program. In 2005, the IOC officially established its Olympic Games Knowledge Management (OGKM) as part of their organization. In the following series of OG, the OCOG then has to established the Information and KM division under Governance functional area in order to support the OGKM program and activities (IOC Factsheet). The OGKM program and activities are included observer program, games evaluation, IOC debriefing, technical manuals, workshops, building knowledge capabilities, OGKM extranet, cross cultural awareness, and secondee program (realkm.com, n.d.).

Overlooking the function of OGKM and strategy that they have been taken, it is not exaggerated to expect that the OG should be benefit the host city, but the fact might not as grandiose as it seen in its Opening and Closing Ceremony. For example, in Rio 2016, a lot of problem is reported after the commencement of the Games one of the most important issue on it is that the failure of Rio 2016 in established

its proposed legacy to clean the water pollution in Rio (Boykoff, 2017). Another issue is the failure in functioning the venue after Games which occurred in Beijing and Athens, where many media reported many ‘white elephants’ as a result of bad planning. The other case that mostly ignore is issue regarding sustainability of the Games. These all issues, make us questioned the function of the OGKM whether it has been applied in the right direction or the probability of improvement for better organization of the OG.

1.2 Statement of the Problem

As any other organization of OG, the PC 2018 also has some issues left although the OGKM project has been implemented for 10 years. According to YonHap News Agency (2019), the legacy plan for post games venue of PC 2018 were stucked due to some issue regarding the environment protection. In addition Byun & Leopkey (2020) mentioned 10 issue category related to Post-Games Legacy Governance, ranging from lack of legal guarantee of event legacy, lack of funding, lack of pre event planning, etc.

The Olympic Agenda 2020 action plan stated that one of key milestone IOC Agenda 2020 recommendation in 2016 was the

implementation of new OGKM process which focus on capture and transfer of sport specific knowledge form one games to another. The impact of this implementation was the increase workload in knowledge trasfer activity (IOC, 2016). Meanwhile, the executive summary of IOC Legacy Strategic Approach stated that knwoledge acquired by games staff and volunteer can be the acted as legacy, and they should expand their role for more than ensuring the transfer of knowledge between OCOG (IOC, 2017).

Considering IOC commitment and claim of better OGKM implementation and the issue that still exist in PC 2018, it is necessary to address the issue of KM implementation in the POCOG itself. These issue lead to question on whether the stakeholders in charge of planning and operation get enough knowledge to organized the games in three main pahse of OG they are candidature, preparation, and post games. Since the seven years preparation phase is the most crucial process on OG, this research will focus on the KM implementation on this phase only. Therefore, the research targeting the POCOG as the focal organization on preparation and delivery of the games.

1.3 Significant of the Study

Unlike the other research which seek information from wide range stakeholders' group, this research will only focus in gathering information from one stakeholder they are PyeongChang 2018 Organizing Committee of the OG (POCOG). The previous study in KM of the OG merely focus on how the practice of KM but not one of them detailing the process going on within the OCOG including the challenge and factor affecting the effective KM process.

1.4 Purpose of the Study

The study aims to examine the implementation of KM process in the PyeongChang 2018 Organizing Committee of Olympic/Paralympic Games.

1.5 Research Question

KM in OG is relatively new topic to be observe in OG setting. Understanding how the knowledge are manage in OCOG is important since it can reveal deeper information that did not mentioned by the previous research. Thus, the following research questions is formulated to gain the answer aimed by the researcher:

RQ 1: What kind of KM activity was implemented in the PyeongChang 2018?

RQ 2: In which way the knowledge creation was put into practice in PC 2018?

RQ 3: What was the challenge of KM process and how to overcome it?

RQ 4: What factor was affecting the effective KM process?

Chapter 2. Literature Review

2.1 Key Concept in Knowledge Management

Knowledge management is considered a growing concept which favour by organizations since it is proven in contributing in the organizational success in the competitive era (Goh, 2002). The literature on KM was developed for years but there still many organizations failed to implement it effectively which resulted in many creations of IT based knowledge management tools (Smits & de Moor, 2004). In the other side, Goh (2002) stated the succesful knowledge management depend on the way of an organization to effectively perform the knowledge transfer process which utilized its intelectual capital. In order to understand the concept of knowledge management, there are three main concept that often used in literature, they are definition of knowledge, concept of tacit and explicit knowledge and the knowledge management process.

2.1.1 Definition of Knowledge

Understanding the definition of knowledge can be very tricky since most of literature implied that there are overlapping perception between knowledge, data, and information. On lexical meaning,

knowledge is categorized as a noun which meaning is emphasizing on series of fact, information, and skills gained by an individual through experienced or education either in the form of theory or practice (Merriam Webster, n.d, Cambridge Dictionary, n.d, Oxford Dictionary, n.d.). Almost similar to the modern definition of the term, Philosophers such as Plato (c. 380 BCE), Descartes (1637[1937]), Nietzsche (1882 [2001]), Popper (1934[2002]), and Foucault (1980) defined knowledge as ‘justified, true belief’ which achieved through ‘deduction’, ‘familiarity’, ‘empirical falsification’, and ‘power’ (Stewart, 2012). In its relation to the information, knowledge is basically transformation of information through ‘comparison, consequences, connections, conversations’ which provide a framework for evaluating and combine new information and experience found in the process of its creation (Davenport & Prusak, 1998). In term of knowledge creation, information is needed as the ‘medium’ for the knowledge to be formed and particularly its semantic aspect which convey the important messages only from the given information (Nonaka, A Dynamic Theory of Organizational Knowledge Creation, 1994). Furthermore, when the definition of knowledge is correlated with the definition of data apparently it falls into the understanding that for data to be able to

transform into information, the knowledge must be exist as it is perceived as the hierarchy of those three terms (Tuomi, 1999 in (Alavi & Leidner, Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues, 2001). The best possible way to describe the three term is that knowledge, information, and data is complementary to each other. Relevance data classification need to be conducted and used in particular context for the data to be defined as information and the knowledge will be created when someone acquired that information and share it in any way possible (Werner, Dickson, & Hyde, Learning and knowledge transfer processes in a mega-events context: The case of the 2011 Rugby World Cup, 2014).

2.1.2 Concept of Tacit and Explicit Knowledge

Literature on knowledge mostly categorized knowledge into tacit and explicit knowledge in order to examine how the knowledge is created (Nonaka, A Dynamic Theory of Organizational Knowledge Creation, 1994). Tacit knowledge is emphasizing on cognitive ability of an individual to proceed an information and use the technical component to apply those knowledges in given situation. Meanwhile, the explicit knowledge is the knowledge that already been transferred

or transcribed into medium that is accessible for everyone, such as into a manual or guidebook (Alavi & Leidner, Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues, 2001). For the practical purpose in organizational management perspective, tacit knowledge is defined as information that needed to be acquired by someone to accomplish their task while explicit are those which already been recorded in files, documents, report, etc. (Budzak, 2013). Tacit knowledge is considered ambiguous in nature so only the individual who fully acquired it can apply it effectively. The advantage for the organization is that it will contribute to creativity and innovation since the one who have it is mentally trained for any type of situation to come up with new idea or solution and less cost in technology. The disadvantage is that the knowledge will not be available to the organization when the person who acquired it is no longer there. In the other side, the explicit knowledge can be an asset for the organization since it has physical form and not dependable to whether the owner of the knowledge, but it has risk of related to copyright or ownership which in nowadays can be solved through intellectual property law (Jasimuddin & Zhang, 2014).

Table 1

Salient Feature of Tacit and Explicit Knowledge (Jasimuddin & Zhang, 2014)

Features	Tacit	Explicit
Content	Non-codified	Codified
Articulation	Difficult	Easy
Location	Human Brains	Computers, Artifact
Communication	Difficult	Easy
Media	Face to face contact, story telling	Information technology
Storage	Difficult	Easy
Strategy	Personalization	Codification
Ownership	Organization and its member	Organization

The tacit and explicit knowledge is inseparable in term of the benefit it can give for an organization KM. Despite of their distinct characteristic, both segments need to complement each other for an organization to applied effective performance. Understanding knowledge on both segments will lead to understanding their role in KM process (Jasimuddin, Klein, & Connel, 2005). Furthermore, Nonaka (1994) suggest that knowledge conversion as a part of

knowledge creation in which there are four mode of conversion as follow:

- a. Socialization is occurred when the tacit knowledge transforms to new tacit knowledge
- b. Combination is occurred when explicit knowledge transforms into new explicit knowledge
- c. Externalization is tacit knowledge which converted into explicit knowledge
- d. Internalization is explicit knowledge which converted into tacit knowledge

These four modes will be used for analyzing the finding on how the knowledge in the organization is created.

2.2 Knowledge Management Process

The KM is considered as new discipline in which there is yet agreeable framework that can be guaranteed to established the system for organization in general (Rubenstein-Montano, Liebowitz, McCaw, Newman, & Rebeck, 2001); Parent, MacDonald, & Goulet, 2014). However, most of researcher implies that KM is important for an organization to (Rubenstein-Montano, Liebowitz, McCaw, Newman,

& Rebeck, 2001) maintain its existence (Scott & Laws, 2006; Nonaka, 1991 in Werner *et al*, 2014).

Although the discipline has been existed for 30 years there is no definition that is acknowledge by researcher to comply in various context. Most cited definition of KM suggest that KM are always aimed for the best performance the organization can achieve either through the sharing knowledge between people or the best practice of knowledge that is established within the organization itself (O'Dell & Grayson, 1998; Davenport and Prusak, 1998 in Girard & Girard, 2015). Furthermore, (Parent *et al*, (2014) stated that there are six KM activities which frequently discussed by the literature as presented in the figure.

Table 2

Knowledge Management Activity Definition, Adopted from Parent et al (2014)

Activity	Definition
<i>Transfer</i>	Knowledge in practice will always be transferred be shared within the organization and for external parties whether the particular management system exist or not

and by executing this process the organization can ensure to achieve the maximum advantages of the knowledge itself (Jasimuddin, 2012; Liyanage, Elhag, Ballal, & Li, 2009; Davenport & Prusak, 1998)

Creation The emergence of new knowledge following the transformation of the tacit and explicit knowledge which also lead to the invention of new innovation (Nonaka & Takeuchi, 1995)

Application Knowledge application occurred when the knowledge acquired applied to a method which relevant to the given task and it can be done in three different forms ‘instrumental use, or direct action; conceptual use, or indirect action, such as influencing others; and symbolic use, such as using the knowledge to justify other actions’ (Mills & Smith, 2011; Nesheim, Olsen, & Tobiassen, 2011; Beyer & Trice, 1982)

Storage Knowledge storage is basically a medium either in human brain, common filing system or documentation, and by using the technology (Anand & Singh, 2011;

Kraaijenbrink, 2012)

Identification Identification of knowledge means that knowledge is separated based on the source, tacit or explicit, following the need where the knowledge should be applied to the given task (Bera, Burton-Jones, & Wand, 2011; Maznevski & Athanassiou, 2007).

Acquisition In acquisition process the knowledge, from internal and external source, are collected to be applied for the given task or other task in continuously (Hoe & McShane, 2010)

The distinction of KM activities is important to check which process has been conducted by the organization including its practical implementation.

2.3 Factor Affecting Effective Knowledge Management

Effective KM is considered as subject that is not easy to be measured due to the lack to literature on the indicator of effective KM itself, so that it is only can be claimed when the need of balance achievement on long- and short-term objective was achieved (Smits & de Moor, 2004).

In order to implement the effective KM, holistic approach was required in which internal and external challenges should be taken into consideration (Kalkan, 2008).

Furthermore, Kalkan (2008) mentioned six factors affecting the KM implementation in global business context such as:

1. Developing working definition of knowledge
2. Dealing with tacit knowledge and utilization of IT
3. Adaptation to cultural complexity
4. Attention to human resources
5. Developing new organizational structure
6. Coping with Increase Competition

In achieving effective KM, managers should be adopted wider concept of knowledge in which the process include the knowledge construction, embodiment, and dissemination (McAdam & McCreedy, 1999). Some business indicator measurement on effectiveness also can be applied to measure effectiveness of KM such the growth number of knowledge asset and financial return resulted from knowledge management (Davenport, De Long, & Beers, 1998). Although technology is considered essential in this

digital era, the effective KM does not entirely rely only to it but also encompass the cultural and organizational issue (Alavi & Leidner, 1999).

Fischer & Ostwald (2001), stated that the problem lies in KM system was the creation of externalized shared knowledge, the empowerment of the individual to manage their own knowledge, and overload of information which limit the knowledge resource. Moreover, Sharp (2003) listed another factor which indicate a succes KM implementation as follow:

1. Communication within the organization
2. Commitment to KM on the part of senior management
3. Collaboration and teamwork
4. Commitment by employees to the concept and the practice of KM
5. Innovative corporate culture
6. The application of appropriate technology

The success of the KM itself does not necessarily be measure by the existence of all factor but rather on the combination of the factor is enough to define it.

2.4 Literature on Knowledge Management in Olympic Games

Olympic Games KM is program which is created to enable the future host of the OG to gain the knowledge of planning and delivering the event. The program was created since Sidney 2000 and ever since it helps the OCOG to maintain the knowledge in a way that it can be transfer trough particular activities and tools. The service they provide ranging from technology up to human resources (IOC, 2016). The SECI model is applied in all of those OGKM program such as observation and experience program, debriefing, games reference material, workshops, and OGKM extranet (Parent, MacDonald, & Goulet, The theory and practice of knowledge management and transfer: The case of the Olympic Games, 2014).

2.4.1 Sidney 2000

According to IOC website, Sidney 2000 was the initial stage where the IOC started consider that KM is an important part of Games Planning. The Sidney Organizing Committee of the OG (SOCOG) implement the KM through a project called Sidney 2000 Games information System which provide accurate and accessible information for the organization (Halbwirth & Toohey, 2001). Veal, Toohey, &

Frawley (2012) revealed that the prior knowledge of Australian Olympic Committee related to Olympic has contribute in the success bidding process which awarding the Sidney as Host City, Sidney 2000 also made an important finding where the role of Games gypsies, the workforce with experience from previous games, is very significant in knowledge transfer sharing process (Cahsman, 2006; Parent & Smith-Swan, 2012 in Parent *et al*, 2014). In addition there are four important element which was considered as the affecting success implementation of KM in SOCOG, they are

1. Information Structure
2. Organisational Culture
3. Designing and implementing KM processes
4. Creating Knowledge Asset and the learning organisation

The research described the utilization of ICT in supplementing the existing resource for KM in Sidney 2000 by accomodating information from the staff in order to provide IT solution for information sharing (Halbwirth & Toohey, 2001).

2.4.2 Beijing 2008

The city of Beijing is awarded to host the Games of XXIX Olympiad or known as Beijing 2008 Summer Olympics. The organization of Beijing 2008 is considered successful due to the role of KM which help the BOCOG to deliver the Games following the standard of given by the IOC. From the organization of the event, there is an innovation called Sport event management based upon KM, or called KM-SM Model. The model suggested the relation between government, enterprise, the organizer of the event, and the KM body should be well established to ensure that each entity carry on their duty and responsibility in delivering the event. The level of those entities is differentiated based on their function they are macro, medium, and micro level in which the mechanism of the model application is specify in four ways integration, expertise, coordination, and estimation. This KM-SM model is believed to contribute in giving the guideline to organize a sport event and can be adapted to any type of sporting event (Huang & Zhang, 2011).

2.4.3 London 2012

There is no specific research which discuss about the KM activities conducted in London 2012. However, in order to maintain the sustainable legacy of London 2012 OG, the London Legacy Development Corporation put the effort to maintain effective information and KM by establishing Information Service Team. The team is overseeing the method on how KM is applied including defining the role of each component of human resources and technology that used as the tool for this. The management of data, information, and knowledge is standardized in order to give clear direction on any legacy project from London 2012 including regeneration of the venues of the games (Budzak, 2013).

2.4.4 Vancouver 2010

The research conducted in Vancouver 2010 Winter Olympic Games resulted on the model of knowledge management and transfer process which knowledge adoption, application, and knowledge tailoring. In adoption process, the knowledge creation process was occurred and resulted the best practice in the application phase. The application process leads to learning process which circle back to the adoption. In the other side, the adoption process also resulted in

knowledge tailoring when it is involving external stakeholders. In addition, in practical sense there are three factors that considered important in KM process, they are knowledge sources, knowledge transfer reason, organizational culture, and individual (Parent, et al, 2014). In addition, five main ideas were proposed by Parent, *et al* (2014), they are:

1. Knowledge needs identification and looking to individuals' past-Games experiences;
2. Knowledge adoption through acquiring knowledge using various tools and storage mechanisms;
3. Internal KT that fostered knowledge creation and learning;
4. Knowledge application through the use of best practices and training individuals;
5. Knowledge tailoring for external KT to the next organizing committee as well as other stakeholders.

Based on these references, the researcher seeks the significant implementation in the case of PC 2018.

Chapter 3. Method

3.1 Overview

The research is conducted in OCOG setting which gave unique experience for KM considering the temporary characteristic of the organization. Previous studies in KM in sporting event were designed in qualitative approach such as through case study (Parent, et al; 2014; Schenk, et al, 2015, Werner, et al, 2014), and narrative (Halbwirth & Toohey, 2001). Based on these studies, the author employs the qualitative research approach in order to gain the result based on the real situation of the organization of PyeongChang 2018 OG. In this chapter the researcher explained the method applied to conduct the research.

3.2 Research Design

There are three commonly used type of research design they are qualitative, quantitative, and mixed of methods research. The distinction of both qualitative and quantitative lies in the methods and procedure applied for the research and combination of both methods will occupy both strength of the methods (Creswell, 2009). Another obvious distinction between the two methods is the number of

observations done following the concern of the researcher toward the object or phenomena. Creswell (2009) suggested a quantitative approach for researchers which seeks (a) the identification of factors that influence an outcome, (b) the utility of an intervention, or (c) understanding the best predictors of outcomes, while those researches which conduct deep observation on a phenomena or concept should employ qualitative approach.

3.3 Qualitative Approach

Following (Creswell, 2009) suggestion, the author determined the qualitative approach as the suitable design for the research, since the final result of the research is expected to give deeper understanding on how the KM are implemented including to oversee the possible method and tools, the challenge and importance of each process in managing knowledge within the PC 2018. The qualitative research has characteristics (Creswell, 2009) that suit the setting of the research which explain as follow:

a. Natural setting

The setting of this research allows the participants to give clear picture about the phenomena occurred on site and share the

necessary information gain through the experience in PC 2018. The interview will be conducted to accommodate information as detail as possible and allow participants to give example on the case or event s/he experienced.

b. Researcher is the main key

The researcher act as the main actor in conducting data collection and is not using any instrument that developed by other researcher such as questionnaire or survey which normally used in quantitative research. The interview questions was developed and modified based on previous research and following the circumstances during the data collection period.

c. Participants Meaning

Although some model has been established to suggest the OCOG regarding the conduct of KM in OG, it does not mean that the participants should applied that. The participants should be perceived as the only source of the information and understand the phenomena or issue that raise through this research.

d. Emergence design

The research has been planning to give clear staging of the data collection and data analysis process. However, it does not mean that all those guidelines should be followed in strict way unless it is related to confidentiality and ethical conduct of the research. Therefore, some modification of the step might occur in the process.

e. Theoretical lenses

This research will oversee social, political, historical, and any related context which influenced the information given for this research.

f. Interpretive

Multiple interpretation of the result of this research might emerge since the nature of qualitative research tend to allow the researcher, the participants, and the reader to interpret the conclusion of the research. Therefore, various supporting evidence such as references, article, and fact during interview will be used to convey the interpretation.

g. Holistic Account

This research is trying to examined the complex phenomena in the conduct of KM in which many factors and different

perspective could be established to give clear picture of the phenomena itself.

Due to the characteristics that is fulfilled by this research, the author is ensured that the qualitative approach can be applied for the research. Furthermore, the growing of the sport industry led to the increase number of qualitative researches in sport management in order to develop any aspect of the management (Moraes, Amaral, Da Silva, Arid, & Bastos, 2019). Therefore, this research is expected to contribute in understanding practical application of KM especially in sport event setting.

3.4 Rationale of Case Study

There are five strategies that are used in conducting qualitative research, they are narrative research, phenomenology, ethnographies, grounded theory studies, and case study (Creswell, 2009). However, Moraes *et al* (2019) found that the most used strategies in sport management research is case study.

The case study is mostly in management studies conducted to test the theory but there is some concern where single case study is deemed incapable for covering that, and instead multiple case studies

is more preferred. However, the single case study is believed to still have contribution on such process where the case is ‘unusually revelatory, or when it is extremely exemplar, or when it offers opportunities for unusual research access’ (Mariotto, Zani, & Moraes, 2014) which can possess the transferability character in which the research is perceived not as replicating the previous research result but rather giving the opportunities to be applied in similar situation with different context (Moraes *et al*, 2014).

The PC 2018 was the first winter OG held in Asian region since the initial implementation of OGKM in Sidney 2000. The characteristic of winter games makes the single case study relevant to be implemented since detail information can be obtained through one-on-one interview to find out what has been different or similar KM implemented in PC 2018 compare to previous research. Therefore, the findings will explain what element that can be applied or improve in the future organization of OG.

3.5 Data Collection

There are five types of data collection method in the research, they are survey, interview, focus group discussion, observation, and content

analysis (Paradis, O'Brien, Laura, Bandiera, & Martimianakis, 2016). In this research, the researcher only used interview as the data collection instrument as the prepared interview questions has already been reaching the target of the research purpose in this context.

3.5.1 Interview

In general, interview is defined as face-to-face conversation, particularly for research the method is used to gain information from the source of information or normally called as interviewee (Creswell, 2009; Luo & Wildemuth, 2017). The development of technology allows other methods to be used to conduct interview such as phone interview (Creswell, 2009). In addition, considering the variation of telecommunication tool, other means of communication such as video call, video conferencing, and even text messaging can also be utilized to conduct the interview.

In the case study conducted for this research, the researcher adopted semi – structured interview was prepared in order to gain more detail information of the KM phenomena in based on the case study setting. The semi – structured question was developed from previous research such as Parent, *et al* (2014) on knowledge management theory and practice, and Nonaka (1994) on the theory of knowledge creation.

The semi – structure interview was chosen since it allows the researcher to give additional question in order to confirming and/or asking for more detail from the participants answer.

Due to the Covid-19 restriction on face-to-face meeting, the researcher came up with two options of interview method. First, the researcher asked for participant availability and preference in answering questions. For those who were not available for interview in given period, open ended question was sent through email to get written answer from the participants, and the interview would be conducted for follow up questions. For those who were available to do interview, the video conference interview was conducted through zoom platform. All the data were recorder in the form of audio and video files to help researcher in re-checking the transcription.

3.5.2 Research Participants

This research targeting the KM process applied in the PyeongChang 2018 winter OG with focus on challenge and factor which affecting effective KM process. Considering the fact that the POCOG has been dismissed, the researcher planned to approach the participants through the remaining POCOG which incorporated in the

PyeongChang 2018 liquidation team or PyeongChang Legacy Foundation. Therefore, the Participant will be divided into two groups.

Table 3

Participant Group Characteristic

Group 1	Group 2
Former POCOG Participant	Former POCOG Participant
Middle to top Management Level	Middle to top Management Level
Involve in liquidation and legacy related work	No longer involve in any PC 2018 related project after the commencement of the Games

There were 8 participants responding to the emails out of 10 who were contacted by the researcher. The following table provides information on participants and method of interviewing.

Table 4

Participant Information

Code	Gender	Year of Active	Data Collection Method
P1	Male	5 years / 2013 – 2018	Open ended question
P2	Male	3 years / 2015 – 2018 2.5 years / 2016 –	Interview
P3	Female	2018	Open ended question

P4	Male	3.5 years / 2015 – 2018	Open ended and Interview
P5	Male	2 months	Interview
P6	Male	3 years / 2016 – 2018	Interview
P7	Female	2.5 years / 2016 – 2018	Interview
P8	Female	4 years / 2015 – 2018	Interview

Among those participants, three of them were belongs to group one, and the rest were group two.

3.5.3 Interview Question

The question prepare for the interview will be based on the four-research question as listed below:

RQ1. What kind of KM activity was implemented in the of PyeongChang 2018?

1. Do you familiar with the term KM?
2. Which activities that is conducted by related to KM?
3. Where/who you gained the knowledge from?
4. How POCOG store its knowledge?

The above research question is adapted from Parent, et al (2009) on the categorization of KM activity.

RQ 2. In which way the knowledge creation was put into practice?

1. What kind of knowledge is gained by your division and when it happened?
2. How you gain the knowledge?
3. What method you used to create the knowledge?

The question is adapted from Nonaka (2009) SECI model in order to find out the origin of the knowledge and its form.

RQ 3. What was the most challenging process and how to overcome it?

1. Among the process done by your division which one is the most difficult to apply?
2. What method was used by your division to overcome such issue?
3. Why those challenges were occurred?

RQ 4. What was the factor affecting effective KM?

1. What process do you think help you significantly in KM process?
2. How it affects your work performance?
3. Why do you think it affects the work performance?

All the questions were given based on the reference related to knowledge activity, knowledge creation, and factor affecting KM. Each question will be given and modify following the answer given by the participants in the first question. Therefore, the semi-structured interview was conducted to give participants opportunity to detailing

their experience. For open ended question, additional question was given to anticipate the participants misunderstanding and variations of answer, though the purpose was to seek answer from main questions.

3.6 Data analysis

In qualitative research, data were analysed to ensure its trustworthiness which should fulfilled the four criteria, they are credibility, transferability, dependability, confirmability, and added authenticity (Nowell, Norris, White, & Moules, 2017; Elo, et al., 2014). In order to achieve that, researcher in qualitative studies employ thematic analysis. Thematic analysis is suggested in qualitative research since it can help researcher to examine different perspective of the participants and lead the researcher to structure large data set to be compiled in well-organized final report (Braun & Clark, 2006; King, 2004 in Nowell, et al, 2017). Since the research questions do not seek any answer which need a complex quantifying data, the thematic analysis will be adapted in this research.

The analysis of this research follow the qualitative data analysis staging proposed by Creswell (2009), which explain as follow:

1. Data organization and preparation

All types of raw data such as video and recording were transcribed using online transcription app, then arranged based on the source and date of completion.

2. Data reading

The data was read and rechecked to understand the information uttered by the participants and to ensure there was no missing part which make the data be ambiguous. In the case of missing words or unclear recording, the researcher was asking for confirmation from participants.

3. Data Coding

The data from each participant was coded by grouping the answer from same group interview questions. The transcription was presented in complete sequence of sentences to find the keyword for each interview questions and grouped based on its similarities.

4. Generate Description

The coding result was used to create themes based on the RQ. The wording of the themes was taken from previous research or generated by the researcher following the coding.

5. Create narrative of description

The narrative is created to convey the findings of the analysis. Each sub-theme will be presented in the form of interview quotations and explanation of supporting data saturation will be given by mentioning the same or similar information or confirmation given by the participants.

6. Interpretation

The researcher will interpret the finding by overseeing the sentences and the context of the overall interview to give clear understanding from participants' perspective and relate it with previous research and theory. This interpretation, will be used to generate significant findings of this research.

3.7 Data Trustworthiness

Literature in qualitative data validation suggested 9 methods of data validation in term of ensuring the rigorous state of the findings (Morse, 2015; Creswell & Miller, 2000). However, based on Creswell & Miller (2000) categorization of paradigm assumption of validity procedures within qualitative research, the researcher determined three validation procedures for this research which explain as follow:

1. Triangulation

The method was employed to sort the data through four types of triangulation they are source, theory, method, and among different investigator. Thus, the source was differentiated through the grouping of participants to give detail distinction, if there is any, of the data. The method of data collection will also be explained when it has significant impact on the presentation of the data. The process will help researcher to grouping the themes by elimination overlapping data or information.

2. Peer Review or Debriefing

The method used to collect, review, and analyse the data was discussed with experts in qualitative study which occupy the role as thesis advisor and professor in qualitative research. All the research process was discussed and modification was made following the expert's suggestions.

Chapter 4 Findings and Discussion

4.1 Fact Overview PyeongChang 2018

The PyeongChang 2018 Organizing Committee for the Olympic and Paralympic Winter Games was established in 19 October 2011 under the Special Act on Support for the 2018 PyeongChang Olympic and Paralympic Winter Games. The administration structure of POCOG consist of 14 bureau with workforce composition consist of 345 public officials, 424 civil expert, and 82 government secondees. The PyeongChang Winter OG was held on 9 – 25 February 2018, in two main venue cluster in PyeongChang and Gangneung region of Gangwon Province, South Korea.

According to the President and CEO of POCOG remark in the PyeongChang 2018 Official Report, the Games was claimed as the biggest winter sport event in history 2891 athletes coming from 92 countries competing in 306 medals event across 15 sport discipline. With the commencement of PyeongChang 2018, the South Korean should be proud to be able to claim their nation as one of Asian nation to host both summer and winter Olympics.

Despite of its success delivery, PyeongChang 2018 left some problematic issue related to sustainability and legacy of the Games. One of the most discussed issue in the media was a concern raised by the member of community regarding the disadvantage of the venue construction for the PC 2018 which endangered local economy and ecology. There was protester demanded the Games to be relocated to the area which already well equipped with winter sport facility (Lee, 2019). The resident of Sukam, area located near Mount Geriwang were reported to against the development of the area which was used as alpine ski venue in which complain over relocation process and loss of financial source, as their main job is mostly farmer, become the main reason of refusal (Yoon, 2020).

Kim (2020) on his study on Sustainability of PyeongChang Winter Olympic 2018 listed the post games used of the venue and most of them are either demolished or still in 'undecided' state. Only few which still actively used (Yoon, 2020) due to its function as tourism area. Moreover, the PyeongChang 2018 Legacy Foundation apparently has not yet reaching a decision for the post games used of Alpensa Sliding Centre, the Gangneung Hockey Centre, and the Gangneung

Oval, while the maintenance cost is reaching up to \$18 million until 2022 (Morgan, 2019)

These all issues raised a question on whether all the process related the organization of the PC 2018 has been carried out in the right stage. Moreover, considering that all OCOG will get full support from the IOC in term of knowledge sharing, such issue which occurred in the past Olympic supposed to occurred again. In this case, the process of KM implementation is necessary to be investigated in order to find out in whether the implementation has been carried out properly.

4.2 Thematic Analysis of the Findings

The interview conducted for data collection purpose was analyzed using thematic analysis to find out the best practice for the implementation of KM in POCOG. The result of the interview presented in four main themes;

1. Knowledge Activity, Source, and Medium
2. Practice of Knowledge Creation
3. Challenges and Solution
4. Factor of Effective KM

The summary of the theme was presented in Table 4.

Table 5

Thematic Analysis

	Themes	Sub-Themes	Codes
RQ 1	KM Activity	Acquisition	Initial Briefing, Observer Program, Previous Games Experience
		Transfer	Workshop, Meeting, Seminars
		Creation	Producing Report, Creating Document
		Storing	Record Tracking System, and Issue Tracker, personal storage
RQ 1	KM Source	External Stakeholder	IOC, Previous OCOG, Others
		Individual Knowledge	Coworkers, Previous Experience, Personal Capability
RQ 1	Medium of KM	Tools	Technical Manual, Video Footage, IT system, SNS
		Human being	Knowledge Coordinator, Adviser, Supervisor
RQ 2	Practice of Knowledge Creation	Socialization	Sharing knowledge activities, knowledge coordinator network, interpersonal communication
		Externalization	Documentation of FAOP/VOP, storing to record management system, recorded interview, Application of FAOP/VOP to test event, Email system, Bulletin board
		Combination	Translating Technical manual, revision FAOP/VOP
		Internalization	Video footage from

RQ 3	Challenges	People Management Personal Capability Games Environment	previous OCOG, issue tracking system, implementation of FAOP and VOP resigning staff, return of secondees Language barriers, Lack of knowledge and passion, Unwillingness to learn Grey Area, Communication, Busy schedule
	Solution	Hierarchical Technical Individual KM Process	Reporting to supervisor Request for translation Self-motivation Timing of the KM, Target of KM
RQ 4	Factor affecting Effective KM	Knowledge Sharing System Individuals	Stakeholder Network, Reporting System, Well Manage Job Distribution Experience

4.3 KM Implementation in PC 2018

There are four element of KM implementation framework they are structure, knowledge types or resources, KM activities or processes, and KM influences or factor (Wong and Aspinwall, 2004). In answering the RQ – 1, there were two elements that was generated from the findings they are KM processes and KM resources. However, one significant finding was the role of knowledge storage media which encourage the transfer of tacit knowledge which integrated into the system of OGKM.

In order to find out the KM implemented in PyeongChang 2018, the participants were given interview question to the extend on how, when, and from who the knowledge was managed. In answering the question, the participants mostly have the same answer which revealed the activity they done, the source of the knowledge, and the medium of knowledge transfer.

4.3.1 KM Process in PyeongChang 2018

Alavi and Leidner (2001) defined the KM process into four key concept they are creation, storage, transfer, and application. Meanwhile, Heisig (2009) found six classification of KM framework into share, create, use, store, identify, and acquire. The term process

and activity in KM literature worked interchangeably. However, for this study, the researcher used the term KM process to refer to the interpretation of any implementation took place in PC 2018.

In case of PC 2018, the researcher identifies four knowledge activities that were put into practice, they are:

- **Knowledge Acquisition Occurred in Initial Stage of Preparation**

The first most implied KM activities were acquisition of the knowledge. The activities which can be considered as knowledge acquisition range from casual conversation with external parties, conducting site visit, or conducting research within internal organization (Hoe & McShane, 2010). In addition, knowledge acquisition at organizational level was described as the activities where knowledge from external parties was absorbed and utilized by the organization, while at individual level knowledge acquisition was executed through acquiring the organization knowledge repository, learning from others and learning from experience (Pacharapha & Ractham, 2012). While being questioned about how the participants gained their knowledge to organized the PyeongChang 2018 Winter OG, rather than mentioned the process and procedure which

commonly mentioned by the literature, the participants tend to answer the real practical implementation of the knowledge and the period when it was implemented such as

“Through workshops, initial briefings, observer programs, debriefings organized by the IOC and other Organizing Committees.” (Participant 1, Top Management)

Meanwhile the Participant – 2 also stated that

“IOC creates an initial briefing during that initial briefing, it's usually somebody from past. OG that worked in the OCOG that will come visit you. And they'll talk about what your requirements are, what you need to do, what are some problems? Now this all happens at the beginning, when the OCOG is very small. (Participant 2, Middle Management)

Participant 1 and 2 mentioned about the knowledge gained by the POCOG in the very early stage which can be claimed while mentioning initial briefing and observer program. According to IOC factsheet on OGKM, the observer program is one of OGKM key activities in which future OCOG can experience from particular OCOG on how the Games time operation was conducted in real-time environment.

The interview results also found out that participant - 2, 4, 6, 7, and 8, mostly have position in managerial level, experienced some other OGKM key activities and has access to documented material which provided by various source which according to them it helps them in order to understand their role. This group of participants were mentioned that they also have previous experience in working in various international level sporting event. This statement is in accordance with the definition created by Schenk, et al (2015) where knowledge acquisition was gained from expert, experience, and document.

In addition, knowledge has “ground truth”, the term brought from US army where several activities including simulation and briefing can show the details of what does happened in real situation (Davenport & Prusak, 1988). This is similar with what POCOG has done, in which according to the statement given by Participant – 4, the opportunity to be involved in observer program might not be given to the all personnel in POCOG, however the LOC itself conducted seminars where the personnel has the chance to share information with the stakeholders and the activity conducted for that was considered as the way they can adapt the knowledge to the real operation. It needs to

be noted that knowledge acquisition is important as it is the process of obtaining and utilizing the knowledge to accomplish the task and normally the knowledge itself gained from external source (Hoe & McShane, 2010; Pacharapha & Ractam, 2012; in Parent, 2014).

- **Soft Mechanism of Knowledge Transfer**

The knowledge transfer mechanism consists of two types, they are soft mechanism which is emphasized on transfer of knowledge between individual mostly through face to face interaction, and hard mechanism which utilized the Information and Communication Technology (ICT) as the means to codified and transfer the knowledge (Jasimuddin & Zhang, 2014). The findings on PyeongChang 2018 shows that the soft mechanism knowledge transfer was applied more as confirmed by Participant – 4 while questioned about the method of knowledge transfer between POCOG and IOC.

“There were a series of workshops and seminars for staffs within LOC. IOC, IFs and other stakeholders were involved in delivering those workshops and seminars. Also, there was an opportunity to be sent to other games and competitions as an observer. That is the key and also commitment of IOC to make sure the success of the Games. workshop, seminar, CoCom, project review, observer program, reports”
(Participant 4, Middle Manager)

The activity mentioned by Participant – 4 was also confirmed by other participants, even though participant – 6 and 7 said not all POCOG staff had the chance to go for observer program. However, almost all participants mentioned they were involved in other activity within POCOG such as seminar, workshop, and meetings with the internal POCOG or other stakeholder in which they can interact with the expert from the IOC and related stakeholder as stated by participants 2, 6, 7, and 8.

- **Lack of Documentation Affecting the Knowledge Creation**

Another activity of KM which was occurred in PC 2018 was knowledge creation. Knowledge creation is closely related to SECI model since this process allow the transformation of tacit and explicit knowledge into new knowledge (Nonaka & Takeuchi, 1995 in Parent *et al*, 2014). Creating document and making report were the activities of knowledge creation that applied in POCOG. Participant – 1 stated that:

” The actual documentation of FAOPs and VOPs were arranged and centralized by Games Management Team, not by IKM team. But I believe that the documentation is an important creation of knowledge in POCOG. As such, I believe, KM comes before and after the creation

of knowledge, not in the middled of creation of knowledge”
(Participant 1, Top Management)

According to this statement, in PC 2018 there was particular department which maintain all the products of knowledge creation process in which resulted in the form of document. The Participant – 1 added that the documents that was created during PC 2018 was including Functional Area Operation Plan (FAOP) and Venue Operation Plan (VOP). When being asked about his access in revising the FAOP or VOP, Participant – 4 only implied that he can give a feedback on those but there is no formal mechanism applied such whether it was done periodically, or it has to be clearly written, etc.

According to Nonaka (1991) the main activity of knowledge creation mainly refers to any activities which make someone knowledge be available for other. According to Participant – 1, in PC 2018 case, the FAOP and VOP were created by Games Management team and revised following the test event which in any Games served as one method where organizing committee can evaluate on better performance in delivering the games. According to Participant – 4, all managers could share their idea and input in revising FAOP and VOP

which mean this document were generated from personal knowledge which presented in physical object.

The second most mentioned knowledge creation was creating report. According to Participant – 5, he regularly created document of task accomplishment and share it with his supervisor though there was no particular template for it. This statement also supported by Participant – 7 who said that there was no obligation to make regular report, and report was only made occasionally depending on the case. However, she added that she had to update the issue tracker about the milestone of the task done by her team following the request from Games Management Team. Although most of participants stated that there was no particular reporting system that was mandatory to follow, a written report still must be made as stated by Participant – 6:

“During the liquidation phase in 2019, we had to publish the official report. It is not something I was in charge of, but the official report it takes about, I believe a year or two, because all the things that go through during the games time are normally not documented because everyone is so busy on site.” (Participant 6, Middle Management)

In their research on knowledge creation involving multiple stakeholder, Kazadi, Lievens, & Mahr (2015), found that there was a

need of information which explain in which level of work each stakeholder has been in the project that they involved in though for some employee of the focal firm did not agree to do such reporting routine due to some reasons such as human nature which tend to not share any information which caused a hassle between stakeholders. As focal organization, it is quite reasonable for POCOG to create a report given the fact that it is also mandatory requirement from the IOC. This report in particular period will be needed by other parties such as future OCOG. Therefore, though the circumstances during games time was not supported the creation of this report, POCOG still managed to publish its official report even though the content might not comprehensive enough for the future OCOG to completely understand their process in organizing the Games. The effect of lack documentation and reporting made the POCOG loss its opportunity to capture its organizational knowledge which can be their asset as what happened to SOCOG where they could generate \$5 million from selling its tacit and explicit knowledge to the IOC ((Halbwirth & Toohey, 2001).

- **Unstructured Knowledge Storage**

The last knowledge activity conducted in POCOG was the knowledge storage. The knowledge storage or retention was mentioned as one of most important KM processes which is not only limited on technology-based storage but also covering other media such as individuals and documents (Kraaijenbrink, 2012; Anand & Singh, 2011). As mentioned in previous chapter by Participant – 1, the FAOP and VOP can be considered as one of storage media though according to Participant – 4 the document was only created in Korean version and be summarized in English for progress report purpose.

According to the statement given by Participant – 4 and 7, it was found that the IT based storage such as issue tracker system were considered more user friendly considering the access it can give to various stakeholder since the task to update it was given by IOC and they have to input in the IOC system as well. In addition, Participant – 8 also mentioned how accessible the people management system that she managed to the member of POCOG itself.

“I was the managing people management IT system, so via my system, all of people management department staff can get the information, such as how many people attend, or like when volunteers were absent,

like those workforce graphs or any outcome. So of course, team head, or department head can check the system and download it and they report.” (Participant 8, Middle Manager)

She added that the system she managed was mandatory IT system provided by IOC partner Atos. Since each system was required by IOC, that means other stakeholders can also be granted access to that database.

Although Anand & Singh (2011) stated that individuals knowledge storage is not easy to retrieve since its naturally located in human memory, the combination of IT and human capability can create such knowledge storage as stated by Participant – 6:

“I gave all the, all the computer to my replacement who dealt with media after the games, I kind of categorize all the files I had on my computer and gave it to her.” (Participant 6, Middle Management)

The statement implied that every necessary document was well storage as part of the participant’s task. Although it was probably not contained all the decision he made on field in his capacity, but those documents are believed to be able to guide the reader on what happened and how to treat such knowledge since its well storage in nature, and the fact that it kept in personal computer made it shareable

as well. In the research conducted for KM in London Legacy Corporation, it creates 'Finding Information' initiative to optimize the folder structure and classification of the data and claimed it as effective way to find information (Budzak, 2013). However, such activity did not find in POCOG as the individual information were stored but the way to find particular information remain unstructured.

4.3.2 Knowledge Source

Knowledge in general can be originated from internal and external sources and provided by individuals, team, or organization processes (Anand & Singh, 2011). Apparently, the findings show similarity with Parent, et, al (2013) research for practice of KM in Vancouver 2010 where stakeholder group and individual were valuable source of knowledge. In this analysis, the researcher will be detailing which stakeholders were contribute the most in knowledge transfer process.

- **IOC is the main source among external Games stakeholder**

The OG was organized by incorporating various stakeholder. As the focal organization the OCOG has a role to maintain good communication with all game's stakeholder. According to Olympic Charter, the IOC is the governing body who plays decision making

role in organizing the OG. The role of the IOC as the source of knowledge has been mentioned by all of participants. In the KM framework, the IOC carried on its role in PC 2018 in term of sharing experience and guide POCOG to apply and adapt what have been done following the circumstance of the games itself since every series of the games could be different one to another as stated by Participant – 2:

“So, the IOC, their job is they don't really tell us you have to do this, or you do that. What they tell us is they guide us for what you, what we should be doing. So, it's more like, you know, they give us, like, for example, in Torino, you know, they did this, and they're more of a push. Their role is more to push us to make a legacy plan and carry out our legacy project.” (Participant 2, Middle Management)

Participants – 2 and 4 mentioned that, there were the IOC counterpart which commonly in contact with managers in POCOG to give advice or discuss particular issue related to the delivery of the games. In addition, Participants – 7 also highlighted that there was some other expert hired by the IOC to be advisor for particular functional area.

Another games stakeholder that mentioned by the participants was personnel from previous OCOG who shared his/her experienced with the POCOG managers, as stated by Participant – 7

“The head of people management team from Sochi, she was a lady, came in, they grouped together with IOC. So, we had a small meeting for, just for our team in People Management. We present the progress of our plan, what we've done, and they advise us. Sometimes the lady from Sochi games and she also did some presentation for us and she told us what happened in Sochi and how it worked in there.”
(Participant 7, Middle Management)

The IOC partners, sponsors, and contractor were also acted as the knowledge source for particular functional area since the also been involved with the OG for quite long that makes them has storage of information that is important to be noted by POCOG. Participant – 6 expressed how the contractor help him in conducting his task:

“We have a contract with Hill and Knowlton. If you're aware of Hill and Knowlton, they are media contractors who help you, who knows everybody in media. And they do help OCOG a lot since the reporters who follow the OCOG, there are major media and those who question OCOG a lot. So, the IOC and the Hill and Knowlton gave us the information who to be careful, or who to focus on to build a good relationship.” (Participant 6, Middle Management)

Participant – 8 whose job was operating such IT system, also mentioned that some training and simulation that she was participated in was conducted by the IOC top partner Atos who is in charge of IT system for OG for years. According to Halbwirth and Toohey (2001), the information from external source was the significant factor knowledge acquisition during establishment period in Sidney 2000. In Vancouver 2010, stakeholder network role was considered important in games related project (Parent, et al, 2013).

Unlike the previous research, the findings show that participant closely associated IOC in any KM activities more than other stakeholder. Although there were some other stakeholders, they were still related to IOC partner or sponsor. When being questioned whether there was knowledge sharing activity going on between government and POCOG, Participant – 2 implied that there was no specific implementation on that.

- **Individual Knowledge Remain Significant**

In addition to games stakeholder, it was found that individual knowledge was also considered as one of important source of knowledge in PC 2018 among all the internal source. All of the participants in this research revealed that they have previous

experience in working in international level sporting event which they admit as helping them in understanding the nature of the working environment and deal with any issue on site. Parent et.al, (2014) found that individual was important key element of the KM in Vancouver 2010 due to its role as tacit knowledge source and mechanism. One of the evidences that tacit knowledge can be generated from individual experience was stated by Participant – 4:

“The ones I had gained from previous games helped me a lot in terms of understanding how LOC and IOC/IPC work together. In addition, a new knowledge obtained from POCOG related venue management helped me to understand what to do as VGM specifically.”
(Participant 4, Middle Management)

In the other case, the statement from Participant – 5 shows that personal capability to be creative and critical can be important character needed for those work in PC 2018

“There were no people who teach me. So, I just learned myself there. I have a team leader and if need to know something, I will always ask my team leader and he always taught me.” (Participant 5, Low level Management)

The Participant – 5 said that he did not has any experience in working for sporting event before, but since he only hired as temporary staff, the job given to him is not difficult to execute and he can adapt to it quickly. In this case, Participant – 5 also can be claimed as undergoing knowledge acquisition through experiencing on site.

The statement given by Participant – 5 implied that there was interaction between him and his team manager, in which it also experienced by Participant – 8:

“I conducted like a scheduled mini training session for new hired because my system was so completely complicated. Of course, after learning, everyone can do that, but learning is hard to everyone, nobody want to do it before, but they are so young and clever and very open minded. So, it was helpful to share my knowledge on what is that or how to use it and how can we deal with it.” (Participant 8, Middle Management)

Though tacit knowledge was mostly correlate with human memory, but individual knowledge is considered transferable, particularly in organizational context, where transfer knowledge from person to person is considered as part of KM (Lam, 2000). In PC 2018, the transfer process of individual knowledge was quite well accommodated especially when it occurs within one department or

inter department for particular department such as people management since they need to coordinate with all FA regarding the workforce. In line with the findings in Vancouver 2010 (Parent *et al*, 2014), in PC 2018 the stakeholder network contributed in providing source of knowledge though IOC can be the most significant stakeholders on the loop. In addition, individual tacit knowledge also still played significant role as the source of knowledge.

4.3.3 Knowledge Storage Media

In the case of PC 2018, technical manual, guideline, IT system, and video footage were among those mentioned by the participants when questioning how they gain their knowledge which support them to undergo their role. Participant – 2 emphasized that all of those tools was helping him on understanding what the previous OCOG did and give him idea on how execute his task in his role right now.

“They have an online system where, all the past OCOG, they report their thoughts about their projects. So, for me, that was more helpful because I could see what people in London 2012 did, what real thing were doing, what they did in Vancouver in term of education.”
(Participant 2, Middle Management)

Participant – 3, 5, and 7 also mentioned that they used group chat as the main communication between personnel, which can be assumed that some of the knowledge, whether it was on site decision or shared documents, were shared on that platform. However, this platform most likely not be reliable knowledge storage due to incapability of the OCOG or IOC to retrieve information in it unless it deemed necessary.

Another knowledge storage medium is definitely human being. Participant – 1 revealed that in POCOG they have dedicated person whose task in to ensure the knowledge transfer was working well considering that the OCOG cannot keep the individual knowledge due to some reason such as resigning personnel so that the replacement or new staff might need to understand what has been done and what they need to do in their role.

“POCOG also designated ‘Knowledge Coordinator’ for each functional area to make available all the information and knowledge for the new staff member that came on board and to ensure that every member of the functional area was better educated, had better skills through better access to resources.” (Participant 1, Top Management)

In addition, as mentioned in previous section, there were also advisory group provided by IOC who share their experienced and expertise which in this case also can be claimed as knowledge storage media.

Anand and Singh (2011), stated there are four knowledge storage human mind, organization, document, and computer. Among those four human minds is the most difficult to access. However, the IOC OGKM activities has been able to maximize the transfer of individual knowledge into organization knowledge which applied in advisory group, observer program, training, etc. Some of them also successfully be transferred into documents such as guideline or technical manual though some document might not easy to access due to language barriers, and even more some of the knowledge also stored in their intranet system as well as managed by their IT partner. Therefore, the KM process can be continuously work for any Games in the future. The findings indicated that tools such as online database of information and

4.4 Knowledge Creation in Practice

There are three element of knowledge creation they are SECI process which focus on transformation of tacit and explicit knowledge,

ba which related to share context of knowledge creation, and knowledge asset which covering output, input, and moderator of the knowledge creating process (Nonaka, Toyama, & Konno, 2000). Moreover, understanding knowledge creation process can give direct impact on how organization defines the level of responsibility and roles within its structure (Nonaka & Takeuchi, 2007). Therefore, to have detail information on how POCOG create the knowledge will contribute in better understanding of its management.

4.4.1 Socialization as The Frequent Implementation of Knowledge Creation

The analysis on this section was the result of questions given to answer RQ – 2 on how the knowledge creation put in practice in PC 2018. The initial interview given to Participant – 1 who is top manager in Information and KM revealed that although he understood the concept of tacit and explicit knowledge, another member of POCOG might not familiar to it. Therefore, the researcher modified the question which encourage the participant to give information which implied the SECI process in PC. The result show that in PC 2018 the tacit-to-tacit transformation was found more in practice than other type of transformation. The findings show that activities such as workshop

or seminar which encourage brainstorming and sharing session between participants and the source of knowledge were held often but none of them were well documented as what was stated by Participant – 7:

“After participating in the real observer game, we had a like kind of seminar where almost all of POCOG member has to participate, it was like hundreds of people. We rented a big place and all of the participants of observer program, they presented what they learned from their own observer program. So, I was also there, delivering what I've learned, what I observed, like the life of workforce, what workforce does during the games time and what do they wear, how they are treated and how's their meals, transportation, and so on. So, I had chance to deliver what I've learned from those different programs.”
(Participant 7, Middle Management)

Meanwhile, in term of knowledge sharing in internal POCOG some dedicated liaison or key person were always stand by on site since the communication process need to be done fast in particular moment as stated by Participant – 4, who was in charge as venue manager. Based on the statement given by Participant – 4, it can be ensured that interpersonal communication is the way they share the information so that related person can make a decision especially

during games time where everything should be done quickly and precisely.

Another example of interpersonal communication was implemented by Participant – 6, who work as media relation managers, where he has to deal with an issue during opening ceremony which involved one of the sponsors. As media relation he should make decision on how the statement should be given to the media without making ignoring the sponsor point of view. So, in this case he has to be in contact with the sponsor and discuss the relevant solution with them or with his supervisor if necessary before he made the decision.

These findings clearly explain that in PC 2018 the tacit knowledge of one person was shared through common communication media to inform the other person which possibly lead to the creation of new tacit knowledge in the case where the individual has to call a decision on site. Although both parties who involve in this creation freely communicate one to another but these important knowledges generated from all of the activity they did was not documented. Nonaka (1991), explained that tacit to tacit creation can be implemented through observation, imitation, and practice which in other term it also known as socialization, but this form is considered as

very limited form of knowledge creation. Therefore, though this method was claimed as the easiest way for participants to learn something but the fact that there is no documentation on those activities make it difficult to find out what new knowledge was created in PC 2018.

4.4.2 Utilizing IT Based Storage for Externalization Process

The second most mentioned knowledge creation was the transformation from tacit to explicit. The tacit knowledge is claimed as the basic of all the explicit knowledge which underlined that every physical source of knowledge such as book, video, sound recording, etc was generated from individual knowledge (Nonaka & von Krogh, 2009). The highlighted findings for this creation was the physical record of particular tasks which was done in PC 2018 which varies from offline to online document. For the online version Participant – 1 mentioned one storage system where all document created or stored in the system owned by the government

“All the official documents and records created within POCOG were registered/stored in and shared through the system called ‘Onnara’, which were record management system of the Korean government.”
(Participant 1, Top Management)

In addition, Participant – 7 also mentioned that, there was another system where she had to update his progress to the IOC

“I was given by the game’s management team, the access to that storage, the internet, like IOC internet or something like that, but I just went there to update our progress, my milestone and issue tracking and so on. “ (Participant 7, Middle Management)

This statement also supported by Participant – 3 and Participant – 4 where they basically said that there was issue tracker which shared by the games management team and they would collect those trackers from all FA and reported to the IOC. Thus, in PC 2018 there were two IT system run to keep the explicit knowledge from POCOG member.

The existence of the IOC intranet to keep the explicit knowledge is part of its OGKM project, another activity they did for that was highlighted by Participants – 2

“During the OG, the same team came and then interviewed everybody, and then we gave out notes, and there's also not just people, there's also video footage that is shared between everybody about our experiences that gets passed on to the next OCOG.” (Participant 2, Middle Management)

This finding confirmed that the IOC is dedicated in keeping the knowledge of each OG to be shared to the future OCOG as part of organizational learning process. This idea is in line with Halbwirth and Toohey (2013) characteristic of explicit knowledge, since it sharable, reusable, and long lasting, it can be the way to ensure the OG knowledge to beneficial for future organization of the games.

Different to the previous research which emphasize the crucial role of information technology and media in Vancouver 2010 (Parent, 2014), there was no evidence that similar system was existing in PC 2018. Most of 2 participants in group 2, did not mentioned any particular term for any question related to the IT system employed in PC 2018. However, participant in group 1 emphasized the importance of ‘Onnara System’ in helping them to do their job now. According to Nonaka (1996 in Wagner, Vollmar, & Wagner, 2014) among all the knowledge creation process, externalization is closely linked to the crucial role of IT.

4.4.3 Combination Process Through Translating Document

The transformation of explicit to explicit in PC 2018 was found in the translating process of particular document as stated by Participant – 4

“My VOP and FAOP, we're not published in English. It's the Korean version of document which was shared just internally, but, whenever we need to present our plan to IOC and also other, English speaking stakeholder there, we just summarize the key points and then I'll update them. But we never, like gave them the full, version of VOP and FAOP in English.” (Participant 4, Middle Management)

This finding needs to be highlighted in regard to the fact that OG which held in the non – English speaking country will generate explicit to explicit or combination process of knowledge creation. In combination process the explicit knowledge from internal or external source is transformed into the new explicit knowledge which tend to be more complex than the existing ones (Nonaka *et al*, 2000). In the sport event context, this process can be simply implemented through circulating document (Werner, Dickson, & Hyde, 2014). However in POCOG in this process was found a little more complicated since it started with POCOG in understanding FAOP and VOP from previous Games, then they developed them through test event, revised them, and create their own FAOP and VOP.

4.4.4 Internalization Occurred Through Test Event

Unlike the first two types of knowledge creation, the transformation of explicit to tacit was not found much in PC 2018. The video footage shared by the IOC can also come into this type of transformation as stated by Participant – 2

“Probably when you're out like 2017 onwards, the IOC legacy team would visit Korea and they'll hold interviews for each functional area about the experience and they'll record that interview.” (Participant 2, Middle Management)

Video interview can be one of the ways to capture tacit knowledge into explicit aside of literally write it down into document. The recorder can be shared to future OCOG so that they can prepare their own plan. Another example of explicit to tacit stated by Participant – 1 was the application of the FAOP and VOP

“From the tacit to explicit, the creation and revision of FAOPs and VOPs would be good examples. The applications of FAOPs and VOPs to the real test events could be vice versa.” (Participant 1, Top Management)

According to Participant – 1 FAOP and VOP was revisable document, means that the document would always going through change following the circumstance. One of the ways to ensure that

there was no grey area in FAOP and VOP, test event should be held which allowed POCOG to evaluate its operation in delivering the games, so that they know which part need to be changed and finally fixed them. In the case of explicit to tacit creation, the issue tracker can also be one of the examples, since it also one of tool which enable the expert from IOC who work remotely from the venue to update the progress or milestone of POCOG and gave necessary advice or solution where there was significant issue. The implementation of internalization in major sport event could be as simple as reading written document (Werner, Dickson, & Hyde, 2014). However, refer to the statement given to Participant – 1, in the multisport event like Olympic Games, it is possible for this kind of process to be implemented through test event. All of plan of the POCOG were tested in the test event to check whether there was loophole in the delivery or to get the clear picture of the real time games. The internalization process is closely related to individual opportunity to experience a learning process which enable them to create new tacit knowledge (Nonaka *et al*, 2000)

4.5 The Challenges of KM Implementation in POCOG

Although there is an increase number of successful knowledge management adoption in various organization, there is still found a case where knowledge project was not implemented successfully (Sharp, 2003). In finding the answer for RQ – 3, the researcher set up questions which encouraged the participants to share the difficulties they found in sharing their knowledge, including the communication method or the issue the found-on site and the solution of it. The findings show three main themes as the challenges.

4.5.1 People Management

Kalkan (2008) mentioned that one of challenges of KM in global business is human resources. This challenge apparently also occurred in POCOG as Participant – 1 affirmed that the main issue found in POCOG in regard to KM was mostly the return of the secondees since they were the government officials

”KM is closely linked to and greatly affected by people management. Especially, in the context of mega sport events as OG, knowledge should be eventually stored in human being rather than machines or systems in order that knowledge can be meaningfully used in real context. But in case of POCOG, due to considerable return of

secondees to the central/local government, it was very hard to keep the knowledge.” (Participant 1, Top Management)

This statement was also supported by Participant – 2 in which he mentioned that there were a lot of cases where the government secondees were placed in the FA or role which was not their expertise and then they left their post after few years. This was then led to less effective task accomplishment since they didn’t leave any report or knowledge to be effectively shared to their replacement. In addition, Participant – 6 mentioned that there were a lot of government secondees who went to Sochi 2014 but they were not in POCOG anymore when he worked there. He implied that it was such a loss since their experienced could be benefit for knowledge sharing though since the one, he went was summer Olympic.

Participant – 8, who worked as workforce manager, said that there were not only the return of government secondees which affected the KM process but also those personnel who were resign or moving to another department without leaving any trace. She implied that, when someone leave and his/her replacement not yet found the other personnel should cover their task, even when the replacement came,

they need to be informed what had been done, so in this case it can be such an issue where everyone needs to learn from the start.

The statement given by the participants implied the effect of knowledge creation which focus on socialization process lead to losing the individual knowledge since there is no such mechanism where it should be stored. In addition, human resources management is considered also do not have such strategy to ensure the personnel to stay dedicated to the organization. This most likely caused by the contract system run in OG which tend to be renewed every year instead of giving long term contract.

Poor people management practice is one of crucial challenges in knowledges acquisition and transfer (Werner *et al*, 2014). However, the finding shows that there was no specific strategy applied in POCOG in dealing with its people management issue.

4.5.2 Individual Capability and Motivation Delaying the Knowledge Creation

Knowledge is generated when individual successfully absorb information into his memory and able to utilized it in particular situation, and this process can create tacit knowledge (Nonaka *et al*, 2000). Therefore, when an individual has limitation in absorbing the

knowledge, the KM process will be interrupted in one part. One of issue related individual capability found in KM process was related to language proficiency of each individual. Participant – 2 highlighted as follow:

“I speak English, but a lot of the Korean people that worked in POCOG did not. So, they probably didn't have. They had, but they probably couldn't understand it. So that's the difference. So, there is a wealth of information out there. But it was all in English or French. So, I don't know, in that context, some of the, how my colleagues would have benefited from that, if they didn't speak the language.”
(Participant 2, Middle Management)

The official language of the OG is English and the official language of the IOC is English and French. Therefore, as source of knowledge, all the material given by the IOC is provided in those two languages, and it will be quite challenging for those host countries who is not use them. Participant – 2 added that, this was not only affected in understanding written material but also in interpersonal communication with the IOC counterpart. Thoben, Weber, & Wunram (2002) mentioned that different language can be one of KM barriers in related to interpersonal communication in which the longer effect can caused the ineffective work.

In addition, the issue related to personal capability was mentioned by Participant – 4 where he found out that most of government secondees might not be passionate in doing their task.

“So that was, a huge challenge I can see because most of them just, from local government and central government, they are just, officials. So, they had no idea what the, Olympics and Paralympic is about. So, it was challenging that even they are not really passionate about working for Olympic and Paralympic games.”(Participant 4, Middle Management)

This issue apparently caused by lack of understanding and unwillingness to learn due to different working environment between the Games and their office routine as government official and this implied that there was some knowledge that was not acquired by this group of people. Participant – 8 also stated the same issue where he found some of personnel were lack of willingness to learn.

“There were so many challenges. What I felt the most was the higher position person, supervisors’ level, couldn’t use my system, even though my system was mandatory to use in every OCOG because it was dealing with the IOC and we were all under IOC organization. But my team member, who was the old guy, like in their 40s or 50s, couldn’t accept to use it.” (Participant 8, Middle Management)

In this case, the complex operation of certain IT system was demotivated some personnel to use it, especially those in middle age who normally needs longer time to finally master on dealing with technology related matter. By analysing the finding it can be claimed that POCOG as organization do not have system which oblige each individual to be engage in learning or acquiring knowledge despite of any barriers they found. Different motivation of each individuals in this case was perceived as the challenge of tacit knowledge sharing (Riege, 2005). Some research in KM focus on individual as the main element of knowledge creation, since knowledge is emerging from the interaction between individual and the environment (Nonaka et al, 2000). Thus when individual does not encourage to do the interaction, the knowledge creation will not occurred.

4.5.3 Games Environment Interrupting the Knowledge Transfer

The Games environment also affected the KM process in POCOG 2018. The OG is always hosted by different country or cities for year and regarding to its scale the organization itself can be very complex in term of coordination among various stakeholder, levels of infrastructure, supply chain, etc (Adair & Frawley, 2013). In this case, it is quite normal that all member of OCOG were load with work and

the level of complexity itself is different from one game to another. In term of KM, the IOC has already put their effort to record every important matter related to organization of the Games. However, since it was held in different place with different culture and background, there always be something that is missing or not written. That things caused the occurrence of grey area in term of job distribution. This case was confirmed by Participant – 4 which said that there was some task in which no functional area was agree to do it.

“If everything, was clear and every, everyone just agrees, then we can revise the FAOP. But, most of the time I remember it was always some argument between the department. So, one of the main, kind of role and responsibility of director of each department was not to take any additional work of other department.” (Participant 4, Middle Management)

This statement, describe a situation where there was grey area in which there were certain job that was not be done because none of the department think that it was their job. In this situation, it can be confirmed that though explicit material was produced, in this case FAOP, but it still not gives clear information to be absorbed into knowledge. This issue could probably occur due to the busy schedule

of each personnel in which it led to negligence of some unclear job description. The hectic and busy schedule of OCOG, especially when it's near to games time also mentioned by Participant – 6 who said that some communication delay become issue for him especially with the internal POCOG.

“Those parties we had the issue the most were internal, with another department because everyone was so busy. So, I got an interview request to a manager on site. And she's so busy to read her email to answer her phone. So, I couldn't get into contact her. So, there were people, internal people who we had the trouble.” (Participant 6, Middle Management)

The busy schedule lead to some people neglecting other task as well due to their personal or team capability. In addition, the busy schedule also leads to some ignorant of other stakeholder need since communication between stakeholder was interrupted or ignored due to the believe that there should be no issue if everyone did their job well. Participant – 5 shared his experience related to communication issue.

“Most of big problem is communication. I think communication, our team leader was not very interested in volunteers' work. So, the team leaders don't understand that their tasks. They just instruct them. They just give tasks for them and they didn't understand whether volunteers

are work well or sleep well or eat well". (Participant 5, Low level Management)

Participant – 5 were working in athlete village and in charge for cultural event related work. The task he carried would be quite hectic in the games time, and the fact that his team manager was show an act of understanding the bottom-line issue shows that there was partial knowledge that was acquire in certain level of hierarchy in POCOG structure and it might not be documented despite of whether it was quite significant or not.

The working condition in PC 2018 led to several issue such as grey area of work distribution, delaying information sharing, and lack of communication between stakeholders. The poor working condition such as physical effort, environment condition, and hazard affecting in employee's performance which lead to low quality of work, negligence to cooperate with co-worker, absenteeism, etc (Kahya, 2007). In the previous research, there was no specific findings about internal stakeholders' relations, however the personal relationship was maintained in order to gain knowledge from external stakeholders (Parent *et al*, 2014). Previous sesssion has discussed on the equal role

of knowledge source which in related to this findings the internal knowledge sharing found to be delayed due to the games environment.

4.6 Hierarchical Structure as The Key to Overcome the Challenge

When questioning on how the participant deal with issue related to KM process, the findings show that reporting to higher level position manager or director was the only way to deal with complex issue as stated by Participant – 1 and supported by Participant – 2

“I report to my boss, my boss report to her boss. And it's very quick. It's 30 seconds report. I have to get this answer and he's not answering, not my fault. My boss contact, contact the spokesperson and the spokesperson contacted the director general of that department. Normally director general answers the phone, so it's top bottom approach.”(Participant 2, Middle Management)

The top bottom approach is often considered more effective in decision making process since it has authority factors which make the downline has obligation to follow that due to hierarchical structure (Koplowitz, 2008). Therefore, in the working environment like OG this approach is mostly used since the need of quick action is higher especially during games time.

Another issue related technical matter was easier to solve since the resources in POCOG were all well prepared for such issue. For example, for language issue, Participant – 2 said that all manuals were all translated in Korean and Participant – 4 also clarify that statement *“We did have quite big translation team in place within POCOG, whenever whoever needs support in terms of language. We were able to have support from the. The that department, language support department.”(Participant 4, Middle Management)*

Meanwhile, the issue related to individual capability, the only way to solve it was depending on the individual itself since it related to their own motivation. Goh (2002) stated that knowledge transfer is very dependable to the willingness to work and share knowledge with others. Thus, if this is not achieved, the knowledge transfer process will be interrupted.

4.7 Factor affecting Effective KM

The effective KM is something that an organization should achieve to ensure that knowledge is transferred and utilized following the ongoing circumstance of working environment. However, the indicator of effective in the KM context yet to be defined and researcher tend to let the participant define it for future comparative

study (Smits & de Moor, 2004). Thus, the participants of this research were given question what is the important things need to be noted related to KM, and particularly how it should be effectively conducted. The findings indicated that there are three main factors on effective KM in PC 2018 case.

4.7.1 Knowledge Management Process

In the knowledge management processes, one thing that need to be highlighted is the timing of knowledge transfer. Participant – 1 suggested that the knowledge should be transferred effectively in term of time and target to minimize the risk.

“I would like to quote Chris Pollard, Head of IKM of London 2012: First of all, it allows the teams to make better decisions, because they have all knowledge. Secondly, it will result in a better Games experience for the clients attending the Games and of course, thirdly, having that knowledge enables that we lower risk overall in delivering those Games. Ultimately, the key thing is helping people get the right information at the right time, to be able to learn on their journey, and ultimately delivering an effective Games.” (Participant 1, Top Management)

He emphasized the importance of sharing the knowledge in the right time since it could give opportunity to the receiver to absorb it

and create their own knowledge which applicable for the Games. This statement also implied by Participant – 7, where she also thought that if some knowledge were given in advance it would be very helpful to her to understand her working situation.

“For example, like venuization. We work at our offices, but at the games time, we all go to the venue. We work at the venue, we go to the competition venue or non-competition venue, and that becomes our workplace. And during the planning stage, we are like volunteer managers, we stay in the headquarter, but at the games time, we all go. We all be at the venue, different venue. We are being in charge of certain venue. So, this concept of venuisation, what is something new for most of us. So, I think that's one thing should be. thoroughly delivered and transfer this knowledge. So, it's kind of like, there is some knowledge that you didn't get, like, you think you need to know it in advance. Like, I mean, in the certain period that you, you need to acquire that instead of just a short time, And what time through before the games.” (Participant 7, Middle Management)

Her statement explained that in PC 2018 or probably in any other OG, those personnel in manager level should be relocate to particular venue and worked with new team consist of various FA who were assigned to be in charge on that venue. Therefore, there were a need of adaptation process for changing structure, working

environment, duty and responsibility, etc. In the OG life cycle the timing of knowledge transfer is important since once the Games done the other OCOG has to be ready to prepare for the next series (Parent, Kristiansen, & Houlihan, 2017). Thus, to understand when and what knowledge should be one of concern of the OGKM program.

However, in the other case like what have been experienced by Participant – 5, the case mentioned by Participant – 7 was not really affected him.

“The main point is the all tasks are really small and it's real separated, so they can do simple work. There are many people in POCOG and if the tasks are big, people like manager or volunteers couldn't do that thing, but the tasks are really small and they can do that tasks.”
(Participant 5, Low level Management)

In this case knowledge transfer process was considering the type of knowledge which transferred to different target, such as for the early preparation strategic knowledge will be given to top middle management and at the later stage operational level knowledge be given to low level management (Parent *et al*, 2017).

Participant – 2 also supported the importance of getting any knowledge as early as possible, especially now that he works for the

legacy foundation of PC 2018. He said, in PC 2018 the legacy planning was drafted a bit late that affected the funding of legacy foundation. He added, if he had the chance to know it in advance it would be benefit him in conducting his job now.

4.7.2 Knowledge Sharing Mechanism

In addition to period of the knowledge transfer, the knowledge sharing mechanism also found as the most significant factor in affecting effective KM. Based on the findings, POCOG knowledge sharing mechanism lies on two key aspect interpersonal interaction and IT based knowledge sharing and storage. Knowledge sharing system which refer to interpersonal sharing as stated by Participant – 2 who acknowledge the important of it as follow:

“The knowledge sharing system for me, from my personal experience was, it gave me more of an idea, like a base. It was just a base. And then I developed the program. To match the Korean environment because that's the biggest difference. Like it's something that works in Vancouver would not work in Korea, but basically gave me a base. Now, if I had questions, concerns or problems I always had access to my IOC counterpart in Lausanne. And then also, you know, I had one, two, three, three advisers at the IOC paid for that. If I had any problems, I'll just contact them directly” (Participant 2, Middle Management)

This finding confirmed that the interpersonal sharing system can be acted as the source of knowledge that acquired by the POCOG personnel which enable them to create their knowledge in various form such as planning, strategy, and other decisions that was made to accomplish their task and avoid risk or damage. Referring to Davenport & Prusak (1998), knowledge shared from the experiences of the experts can be one of the ways on how organization manage their knowledge effectively since it can give a bridge information on what happened in the past and predict what will be happened in the future. The sharing session given from the expert from IOC and past OCOG proved that in OGKM already has such system which enable the knowledge to be shared effectively.

The importance of this sharing system also emphasized the significant role of Information and Knowledge Management (IKM) Department within POCG itself as mentioned by Participant – 8

“There was like strategic sharing department. They are role is grabbing some information from other OCOG and sharing to our local member and our POCOG members strategy share to the other, next Olympic member. I think that department was the key to sharing the knowledge and thanks to their department, I could go to real Olympic committee and learn how to manage our workforce and volunteer and

I got the information and I share to my staff.”(Participant 8, Middle Management)

The statement given by Participant – 8 describe the role of IKM which she claimed could benefit her as personal to share her knowledge internally and externally. Moreover, the knowledge sharing system where technology also involved on it also considered as the most significant factor as stated by Participant – 6

“All the official documents are saved on the Onnara system, which is used by government authorities and those files are there for at least five years, ten years. We have a very important meeting regarding KM in late 2018, deciding whether we will keep that system or not. So, for the liquidation phase, if the Onnara system from PyeongChang games were shut down, if I need to find out something that happened before or during the games time, I would have to go to the government library and find those files in hand. But the decision was to keep that on our system. Because we had a lot of law suits and there can be many proofs in our former documents, which are uploaded on our system. So, the decision was we will keep that system until the liquidation phase. That was a very smart choice. If not, I don't know how to do my job in the liquidation phase.” (Participant 6, Middle Management)

This finding clearly explained the important of IT based filing or archiving system these days instead of old fashion filing system.

One important point that need to be noted form this finding is that the interaction between people and technology is believed to encourage the effective KM (Budzak, 2013). SOCOG in 2010 has been successfully applied a technology solution for its KM project which created based on analysis on external and internal information environment (Halbwirth & Toohey, 2001).

4.7.3 Significant of Individual Knowledge

For Participant – and Participant – 4, the most significant factor which help them to understand their task is apparently their own experience. Participant – 4 stated that:

“The ones I had gained from previous games helped me a lot in terms of understanding how LOC and IOC/IPC work together. In addition, a new knowledge obtained from POCOG related venue management helped me to understand what to do as VGM specifically.”
(Participant 4, Middle Management)

For particular role which require deep technical understanding like venue manager, the previous experience in the same role found as the most significant factor which allow the participant to acquire and create the knowledge during PC 2018. In one performance-based experiment conducted by Berry and Broadbent (1984, 1987) indicated

that participants with experience can perform better than those with less experience (Argote & Ingram, 2000). These findings again are very crucial since in individuals still plays the most vital role in KM process in any organization of the OG.

Chapter 5 Conclusion

5.1 Limitation of The Case Study Setting

In the previous research conducted in either summer OG such as Sidney 2000 (Halbwirth & Toohey, 2001), Beijing 2008 (Huang & Zhang, 2011), as well as winter OG Vancouver 2010 (Parent, *et al*, 2014), the data collection was done prior, during, and after the completion of the Games. The PyeongChang 2018 Winter OG has been completed two years before this thesis is written. In addition, the researcher also only limited the research participants from one stakeholder which is the POCOG among many other stakeholders of the Olympic Games. Therefore, there is some limitation where the real setting cannot be completely observed by the researcher, instead the full description of KM implementation will be provided by the participant of the research. The KM process described in this thesis also automatically be limited on POCOG working scope as focal organization in OG, and covered less from external stakeholders' perspective. Therefore, for future research, it is suggested to oversee the implementation of other stakeholder group or particular functional area.

5.2 Implication

The finding on KM process in PC 2018 has given some insight on how the KM in OG should be applied. The implication of this research is listed as follow:

1. The implementation of KM process in POCOG were focusing more on transferring knowledge through interpersonal communication with human mind was remain the main storage and source of the knowledge. For the future organization of OG, the OCOG should apply KM process which ensure all its knowledge to be kept in a way it can act as organization asset which valuable not only for Olympic scale sporting event but also other regional event. This implementation of this can be realized with the utilization of ICT to store, share, and create the knowledge.
2. Although the knowledge creation in POCOG considered as cannot fully documented all knowledge asset, the tacit knowledge generated from the process cannot be ignore. It means that, POCOG was actually created human capital with experience and knowledge which can be valuable for Republic of Korea in term of organizing international scale sporting

event. Furthermore, these resources should be valued in a way where such database of workforce be kept in the storage system to ease the process of recruitment for future event.

3. It needs to be noted in this digital era that information and technology plays huge role in helping human being doing various activity. In PC 2018, the Onnara system was one of the evidences of it. For future organization of OG in ROK, the OCOG can develop more integrated system to be utilized internally and externally. Meanwhile, other host city also can learn from ROK to consider in building such IT infrastructure to accommodate a huge data for better organization of OG.
4. People management is considered important point to be highlighted since it affects all aspect related to individual role in KM process. Thus, future OCOG which employ a structure which combined government secondees and experts can oversee the case in PC 2018 and come up with better strategy to ensure the role of each individual to be stated clearly and their knowledge to be kept considering shift of positions.
5. The need of knowledge for organizing OG is beyond minus seven years cycle of OG preparation. The host city might need

to understand what they need to plan especially for some infrastructure planning which need huge amount of budget allocation. Therefore, the knowledge sharing process should be maintain in way where there is priority scale on timing and to which target. This can be important note for the IOC as source of the knowledge to consider in delivering OGKM program in continuous cycle.

Overall, this research is expected to give positive contribution in for all stakeholders involved in organizing OG.

5.3 Conclusion

There are not many studies found which specifically examine KM in OG. Considering the scale of the enthusiasm in organizing the OG and the existence of common issue related to it, there is a need in conducting more research on KM in the OG in order to understand its implementation and suggest improvement for future OG.

Although KM in OG has now been practiced for more than 10 years through OGKM program, the implementation of real OGKM project was not resulted the same impact to each OCOG. As organizer of PyeongChang 2018 Winter Olympic/Paralympic Games, POCOG has already been experienced all the OGKM program that was

developed by the IOC ranging from debriefing, observer program, workshop, meeting, sharing document, etc. In addition, it is also found that the knowledge creation was centralized in Games Management Department for external sharing and Information and Knowledge Management Department for internal knowledge acquisition.

Regarding the KM process, POCOG has applied four activities in which knowledge acquisition was found to have occurred in the initial stage. Furthermore, the knowledge transfer was conducted more through soft mechanisms which led to the lack of documentation in knowledge transfer and unstructured knowledge storage since most of the knowledge remains in individual memory.

In regard to knowledge sources, the research found similarity with the practice of KM in previous OG. However, in POCOG the role of IOC was considered crucial in establishing knowledge sharing among stakeholders. In addition to that, the individual tacit knowledge also contributes in the KM process as every knowledge is basically generated from tacit knowledge. Furthermore, POCOG is also able to utilize individual knowledge into organizational knowledge through best practices such as knowledge coordinators and advisory groups facilitated by the OGKM program.

In term of knowledge creation (Nonaka, 1994) SECI model was all applied in POCOG in which socialization was the most frequent to be applied. This finding in fact lead to the conclusion that the POCOG most likely loose its opportunity to capture the new created knowledge within their internal source since socialization was considered the less effective process to applied. It also needs to be highlighted that combination process occurred through translation process due to the different language used in PC 2018 with another host city. Test event also considered as the peculiar method to apply Internalization since this only occurred on multisport event.

In implementing its KM, POCOG found several issues as their challenge such as people management, individual capability, and games environment. The return of secondees was mentioned the most as it affected KM process. The other factor that also affected KM was the personal capability and games environment which considered delaying the knowledge transfer. Top-down decision making, utilizing technical support, and individual self-motivation is considered as the solution that applied in POCOG.

There is some key aspect that need to be underlined in regard to effective KM in PC 2018. The most important factor lies on the

knowledge timing and target which has to be maintain following the OG and OCOG lifecycle. The second aspect was combining the people and technology to be applied as knowledge sharing mechanism. The third one is the important role of individual experience in acquiring knowledge effectively.

The findings of this research indicate that, though the KM was implemented since the early stage, there is still a loophole in its process. The timing and targeting of knowledge apparently can contribute to the late acquisition of knowledge. The impact of it can put the planning process into imperfection or many plans were also executed later than it should be. Thus, such issue like legacy and sustainability are still exist.

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국문초록

올림픽대회의 지식관리: 평창 동계올림픽/장애인올림픽 위원회 사례

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올림픽대회의 지식 관리는 올림픽대회조직에서 중요한 프로그램 중 하나로 꼽힌다. 시초는 올림픽 조직위원들이 국제올림픽 위원들 간의 지식공유 필요성을 인식하면서 2000년 시드니올림픽에서 시작되었다. 본 프로그램은 생긴지 20년이 넘었지만 올림픽대회 관련해서 풀리지 않는 문제는 아직 개선되고있지 않은 상황이다. 지속 가능성, 환경, 그리고 유산 이슈는 2018 평창동계올림픽 또한 예외가 아니었으며 미디어와 학술연구에서 가장 언급이 많이 되고있다.

본 연구의 목적은 2018 평창동계올림픽의 지식관리 (KM) 시행을 세부적으로 분석하는 것이다. 2018 평창동계올림픽 사례를 통한 질적 연구는 참여자를 반 구조화된 면접을 통해 실시하였다. 참여자 선정기준은

올림픽/장애인올림픽의 평창올림픽 조직위원들을 상대로 진행하였다. 한도가 없는 비디오 인터뷰를 진행하여 데이터 수집을 할 수 있었다. 지식관리 활동 체제와 SECI 모델을 이용하여 2018 평창올림픽지식관리 과정을 분석하였다.

인터뷰 결과는 4 개의 지식관리 활동으로 나누어져 있었으며 올림픽 위원회가 가장 중요한 원인이라고 언급되었다. 그 외에 또 다른 유의한 결과로는 지식 개발 과정에서 사회화가 존재하였고 대인커뮤니케이션이 지식을 얻는데 가장 쉬운 방법이라는 것을 알 수 있었다. 그밖에 개인 지식과 인력이 효과적인 지식 관리를 진행하는데 있어서 가장 중요한 요인이라는 것을 확인 할 수 있었다.

주요어: 지식, 지식 관리, 올림픽 대회, 2018 평창동계올림픽

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