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Actors, Networks and Skopos of Mobile Game Localization

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Actors, Networks and Skopos of Mobile Game Localization

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Abstract

Since the introduction of the smartphone and app stores, the mobile game has become a globally popular entertainment mobile application, and localization has been a key factor to facilitate the mobile game's global service. This thesis aims to describe the mobile game localization process by applying actor network theory and skopos theory as its theoretical framework. In order to achieve this goal, this study first suggests a definition of mobile game and mobile game localization that differ from existing research on video game localization. Then, it identifies both human and non-human actors in the mobile game localization process, namely publisher, project manager, translator, tester, player, translation brief, device, app stores, and technology. Based on ANT, this thesis maps the network of these actors and analyses the interactions between them. This thesis found that each stage of the localization process has its own key actor-network, and that their relationship influences the localization.

This thesis also analyses the translation of the mobile game text and linguistic quality assurance (LQA) based on combining ANT and skopos theory. It is found that mobile game text has four skopos including playability, entertainment, marketing, and pivot language. The mobile game text is translated based on these skopos, and the actor-network also influences the translation. LQA has become essential in mobile game localization due to the characteristics of mobile games such

as multi-media and small screen. The issues that are often found through LQA are length, homonyms, matching images, untranslated text, variables/tags/symbols, and cultural references.

It concludes that the mobile game localization process is complex, with various actors and their network. The result can be useful in understanding mobile game localization from a sociological perspective. It will also encourage researchers to consider mobile game localization as a new research area in translation studies.

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List of Acronyms

AI: Artificial Intelligence

ANT: Actor-Network Theory

AR: Augmented Reality

ASO: App Store Optimization

AVT: Audio-Visual Translation

CAT: Computer Aided Translation

CS: Customer Service

ESRB: Entertainment Software Rating Board

FPS: First Person Shooting

GCRB: Game Contents Rating Board

GCS: Global Content Strategist

GILT: Globalization, Internationalization, Localization and Translation

HP: Health Point

IP: Intellectual Property

KOCCA: Korea Creative Content Agency

KPO: Knowledge Processing Outsourcer

LISA: Localization Industry Standards Association

LSP: Language Service Provider

LQA: Linguistic Quality Assurance

NPC: Non-Player Character

NDA: Non-Disclosure Agreement

MCST: Ministry of Culture, Sports and Tourism

MMOG: Massively Multiplayer Online Game

MMORPG: Massively Multiplayer Online Role Playing Game

MT: Machine Translation

MTPE: Machine Translation Post Editing

PEGI: Pan European Game Information

PLC: Product Life Cycle

PM: Project Manager

RPG: Role Playing Game

SEO: Search Engine Optimization

Sim-Ship: Simultaneous Shipment

SL: Source Language

SNS: Social Network Service

ST: Source Text

TL: Target Language

TM: Translation Memory

TMS: Translation Management System

TMX: Term Base eXchange

TT: Target Text

TTA: Telecommunications Technology Association

UI: User Interface

QA: Quality Assurance

VR: Virtual Reality

1. Introduction

The mobile game has become popular software since iPhone was introduced in 2007. This innovative mobile phone also known as a smartphone has changed human life and made it more comfortable with various applications through app stores such as Google Play Store and Apple App Store. The mobile game as an application contributes to enabling people to enjoy entertainment wherever they go, and whenever they want. At the centre of the mobile game's success, localization of the game has a significant role. The localization of games brings global games to players, and nowadays, players can enjoy games in their preferred language. The game industry globally has been growing rapidly, and within that the mobile game is the new trend. The mobile game industry is continuously growing and now takes more than half of the game industry. The global game market size has been continuously escalating, with revenues of US$175.8 billion in 2021, within which mobile games make US$90.7 billion, which accounts for 52% of the global market (Newzoo, 2022)[1].

In the era of the 4th industrial revolution, the game industry has become an important sector which is not just for entertainment, but has become one of the core industries that can help to improve technologies such as Virtual Reality (VR), Augmented

[1] See https://newzoo.com/insights/trend-reports/newzoo-global-games-market-report-2021-free-version/.

Reality (AR) or Artificial Intelligence (AI). In addition, games are considered as useful media for various industries including education, psychology and technology. In the case of Korea, the Korean Ministry of Culture, Sports and Tourism (MCST) announced a 'plan for game industry growth' on 7, May, 2020. According to this announcement, the MCST will support the Korean game industry in various ways including export and new jobs by 2024. This implies that the game industry will continuously grow and the importance of localization will also be highlighted.

From the entertainment point of view, the game industry has become a major global entertainment industry. This growth is also reflected in South Korea's game industry, where mergers and acquisitions of major game companies have become a significant issue, with professional game players receiving celebrity status and game translation becoming an established profession. The Korea Creative Content Agency (KOCCA) considers games as cultural content, along with K-dramas, K-pop, movies, animation, and musicals. This implies that games are no longer considered a simple pastime or fun activity for children but, instead, comprise a major cultural content industry that is contributing to the growth of a national economy.

Despite the growth and the market size of the game industry, there is still a lack of research on game localization, and especially on mobile game localization. Therefore, this thesis will focus on mobile game localization using the case of localization from Korean into English.

1.1 Scope of Research

This research addresses mobile game localization from Korean into English. As the history of video game localization is comparably shorter than other translation fields such as literature and audio visual translation, there is no doubt that research on mobile game localization is scarce. However, given the fact that the mobile game industry has been growing fast, and the localization of the mobile game contributes to the growth, it is worth studying mobile game localization, and this research is therefore a pioneering work.

It is also worth studying mobile game localization based on Korean into English. Unlike the film and the book publishing industries, the digital game industry is not dominated by Western countries. In 2015, South Korea ranked 2nd in the global mobile game market with 14.1% of the total market share (Newzoo 2016). According to Top Publisher Award 2018 (TPA 2018) by App Anini[2], the mobile app intelligence platform, six Korean publishers were awarded among the top 52 publishers in the world: (Netmarble (5th), NCSOFT (18th), GAMEVIL (31th), Peral Abyss (44th), Kakao Corp (45th) and DoubleU (46th)). This indicates that there are many games developed in Korea that undergo localization for export to countries around the world, and Korean into English becomes one of the major language pairs in mobile game localization. In this sense, studying mobile game localization from

[2]See https://www.data.ai/en/insights/app-annie-news/top-52-app-publishers-2018

Korean into English can provide a general map for mobile game localization research.

The mobile game is not a simple digital game, but is complex software that includes various assets. Accordingly, the localization is also not a simple process. This thesis will shed light on the mobile game localization process by investigating diverse human and non-human actors involved, along with their relationships, using Actor Network Theory. It will also find how the relationships influence the localization through text translation and linguistic quality assurance (LQA) based on skopos theory. This study will be a useful reference for game translation and localization research by providing a new perspective on mobile game localization as well as the textual analysis.

1.2 Research Questions and Aims

This thesis aims to map mobile game localization from different points of view from existing research on game localization. The existing research on game localization has tended to focus on video games, and the existing literatures rely on Japanese games and the cultural adaptation that they undergo when being localized for other markets (ibid). This study will suggest a mobile game localization model based on Korean into English by considering all the factors involved in the localization process through integrating two different frameworks, Actor-Network Theory (ANT) and skopos theory. By applying these two frameworks, mobile game localization can

be studied not only from the translation perspective but also as social activity. To do this, the following sub-questions will be examined.

1. Within an ANT framework, who and what are the key 'actors' (human and non-human) involved in mobile game localization?
2. What are the various skopos and how they are related to individual actors?
3. Which levels and elements constitute the mobile game product localization process, and how do the various actors and skopos identified impact on the process?
4. How are actors and skopos reflected in mobile game text translation?
5. How are actors and skopos reflected in the LQA process?

By answering these questions, this thesis aims to:

First, add mobile games as a new research field to translation studies and contribute to position game localization as a discipline within translation studies. This thesis will be a pioneering thesis, and more research on mobile game localization can be expected.

Second, provide both academics and stakeholders involved in mobile games with insights into the practice of mobile game localization by offering the model of actors and skopos, and how each impacts on the localization process in significant ways. As one of the purposes of game localization is to sell the product in target countries, this thesis will be helpful not only for academic researchers in translation studies, but

stakeholders in both the game and game localization industries.

Third, this thesis will highlight the importance of LQA by analysing the LQA stage in detail. The necessity of LQA has been considered recently, but there has been no in-depth research about it yet. The LQA can be considered a new research area in translation studies as well as a new sector in the game localization industry.

Finally, make a theoretical and methodological contribution to translation studies through the consideration and integration of Actor-Network Theory and skopos theory.

1.3 Thesis Structure

There will be nine chapters in total for the thesis including the introduction and conclusion. *Chapter 2 Mobile Games* will introduce mobile games by providing information about the mobile game market. *Chapter 3 Localization*, and *Chapter 4 Theoretical and Methodological Framework* will discuss the key concepts from existing literatures and set the basic framework for this thesis. *Chapter 5 Mobile Game Localization Process and Key Actors, Chapter 6 The Network and Relationship between Key Actors in Mobile Game Localization*, *Chapter 7 Translation of Mobile Game Assets,* and *Chapter 8 Linguistic Quality Assurance (LQA) in Mobile Game Localization* are the findings chapters. Since text translation is not the only process in mobile game localization, Chapter 5 will elaborate on the general localization process and the key actors. Chapter 6 will identify the network

and the relationship between the actors. Chapter 7 and 8 cover the main stages of mobile game localization and the relationship between skopos and the actors by analysing the different text types and actors' interplays in detail.

Chapter 2 Mobile Games first discusses the definition of mobile games by reviewing the existing definitions and categories for mobile games then suggesting a new definition and categories for mobile games. It then moves on to give a brief mobile game history, then to discuss mobile game genre in general. Following this, the characteristics of mobile games including multimedia interactivity, mobile SNS platform, short product cycle, and internationalization will be examined. After discussing the mobile game, this chapter looks at the mobile game markets in Korea and globally. This will reveal the current mobile game industry status in Korea and globally.

Chapter 3 Localization explores key concepts of localization and includes five sub chapters: definitions of localization (3.1) and mobile game localization (3.2) and the status of mobile game localization in translation studies (3.3). The definition of localization will draw on Globalization, Internationalization, Localization and Translation (GILT) and on translation studies. In order to define mobile game localization, this section looks at the different levels of mobile game localization based on global one-build games and individual games. Following that, App Store Optimization (ASO), which is a specific characteristic of mobile game localization,

is studied. Finally, this chapter tries to map mobile game localization in translation studies by reviewing existing research on game translation and other translation fields such as audio-visual translation, software localization, culturalization, rewriting, and transcreation.

Chapter 4 Theoretical and Methodological Framework provides the theoretical and methodological framework for this thesis. First, a brief introduction to Actor-Network Theory (ANT), its application to translation studies, and the relevance to this thesis is explored. Then, skopos theory and its application to this thesis will be studied. Finally, the methods used for this study will be examined.

Chapter 5 Mobile Game Localization Process and Key Actors explains the mobile game localization process first, then details the key actors involved in each stage of the mobile game localization process. Following that, the roles of each actor are identified. The key actors include both human actors such as publisher, project manager, translator, tester and player, and non-human actors; translation brief, device, app stores, and technology.

Chapter 6 The Network and Relationship between Key Actors in Mobile Game Localization finds the relationship between the actors in mobile game localization as discussed in chapter 5 with the help of ANT. By following the actors, it will identify

which actors act and create the relationship for each stage of the localization process. The main interplays between actors in mobile game localization are 1) publisher, translation brief, technology, 2) publisher, project manager, translator, 3) translation brief, translator, 4) translator, technology, 5) publisher, app stores, 6) tester, technology, device, 7) player, app stores, translator, 8) technology, player, and finally 9) translator, tester, player.

Chapter 7 Translation of Mobile Game Assets analyses the game text translation based on skopos theory. First, the detail of mobile game assets (in-game text, voiceover text, game title and advertisement/marketing) that need to be translated is explored. Then, these assets are distinguished according to the skopos of game text translation: playability, entertainment, marketing and pivot language.

Chapter 8 Linguistic Quality Assurance (LQA) in Mobile Game Localization is another data analysis and finding chapter together with chapters 5, 6 and 7. LQA in mobile game localization is the final polishing process, and it is a growing sector in game localization. This chapter explores the most frequently found issues through the LQA: length, homonyms, matching images, untranslated texts, variables/tags/symbols, and cultural reference.

2. Mobile Games

In today's world, people are familiar with downloading and using applications from app stores on their smartphone. According to App data report[3], the number of game downloads has been increasing for last few years, and 142.9 billon apps and games were downloaded in 2020: 56.1 billion of those were games. There is no doubt that the mobile game industry started to grow significantly after the smartphone was introduced in 2007. Although there were mobile games in the features of phones prior to smartphones, it is obvious that the development of smartphones and application markets such as Google Play Store and Apple App Store contribute to the growth of the mobile games. In 2021 the mobile game industry took more than half of the global game industry business (Newzoo), and the revenue from the mobile game industry will surpass 100 billion U.S. dollars by 2023 (Statista).

Hence, mobile games have become a significant sector in the gaming industry, and the game analysing agencies have begun to categorize mobile games separately. Nevertheless, there is a gap between the industry point of view and the academic point of view regarding mobile game localization. Despite the gaming industry seeing mobile games as a new game category, mobile games are still considered as a part of the video games sector in game localization studies. Existing research on game localization focuses on video games such as console and computer games, and

[3] See https://www.businessofapps.com/data/app-statistics/

research on mobile game localization is scarce. Not surprisingly, mobile game localization is unfamiliar to scholars in translation studies as well. However, this thesis argues that mobile games need to be considered differently from video games based on the current point of view from the industry, as well as the research on mobile game localization which needs to be carried out separately from existing video game localization. In order to support this argument, this chapter explores the definitions, genres, and the characteristics of mobile games. Following this, the mobile games market both in Korea and globally will be studied in order to shed light on the current status of mobile games in the gaming industry. This chapter also supports the arguments in this thesis in terms of mobile games and key actors in mobile game localization.

2.1 Defining Key Terminologies

There has been some effort to define and clarify games among game localization scholars, but the terminology has not been clarified sufficiently, and different scholars use the terminology in different ways (O'Hagan and Mangiron, 2013, pp. 63-65). As Zhang (2015, p. 5) points out, when referring to this new dynamic medium, specific terminologies are used such as video games, computer games, electronic games, digital games, to name but a few. As mobile games are a relatively new field in both game studies and translation studies, it is not surprising that the definition of the mobile game has not been developed yet, and is still considered as part of the small game field in translation studies. In this thesis, defining the mobile game is important in terms of mapping the mobile game as a separate translation

field as well as identifying key actors and networks in the localization process in chapters 5 and 6. In order to develop the definition of the mobile game and to position the mobile game in translation studies, this section first examines the existing issues in the terminology maze as used by different game localization scholars and identifies how mobile games are described.

It is understandable that classifying a game is difficult as the concept of the "game" is broad. It could indicate a traditional cultural game such as "Squid Game" in Korea, games from TV game shows, board games, or games such as PC, console, or mobile games. However, it seems that "game" currently refers to "digital game" which is defined as "the entire field, and to embrace arcade, computer, console and mobile games in all their diversity (Kerr, 2006a, p. 3). Ramadan and Widyani (2013) also note the shift of the meaning of "game". They note that the birth of video games has slowly shifted the meaning of traditional games into digitalized multimedia games. In their research, they claim that the term "game" nowadays refers to video games which are "a type of play activity, conducted in the context of a pretended reality, in which the participants try to achieve a pre-determined goal and mediated in a form of digital media". The phenomenon that "game" is commonly used and understood as "digital game" in China (Zhang, 2015, p. 6) is also true in Korea. For example, when searching "game" in Korean in *Naver* which is the biggest portal website in Korea, the result produces different categories of digital games. This explicitly shows how digital games dominate current society in matters of terminology. In this sense, this thesis narrows the meaning of the "game" to "digital game" and suggests new

definitions for each game category.

Until now, discussion of game localization terminology mostly concerned how to distinguish video games, console games and PC games. It seems that in most cases, “video game” refers to console game, and “computer game” refers to PC games in both translation studies and game studies. Consalvo (2006, p. 119) points out that the term “video game” is considered to be closely associated with the console game through use of the abbreviation of “console video game” to “video game”. Joost Raessens and Goldstein (2005, xii) define a video game as “played on a dedicated console connected to a TV set” while a computer game is one “played with a personal computer either off-line or online”. This definition clearly distinguishes the video game and computer game under one common characteristic: that they are both digital games. O’Hagan and Mangiron (2013) also claim that console games are most commonly called video games as argued by various scholars, and they use the term video game in their research. In the meantime, few scholars highlight the entertainment and electronic aspects of the game. Frasca (2001, p. 4) defines the game as “computer-based entertainment software, either textual or image-based, using any electronic platform, such as personal computers or consoles”. Similarly, Mangiron (2013, p. 42) sees the digital game as “entertainment software applications containing text, images and sound that can be played on an electronic platform, such as a PC, a console or a mobile phone.” Bernal-Merino (2013, p. 24) identifies a more accurate and narrower characterization of the video game:

> a video game is a multimedia interactive form of entertainment for one or more individuals, powered by computer hardware and software, controlled by a peripheral (a control pad, a keyboard, a mouse, a joystick, a game pad, a motion controller, a steering wheel, a video camera etc.) and displayed on some kind of screen (a television set, an LCD or plasma monitor, or a portable display).

On the above mentioned discussion of game related terminologies, I will adopt both O'Hagan and Mangiron and Kerr's definition in which "digital game" is the general term and "video game" represents console games for this thesis.

Considering that the smartphone was introduced in 2007 and mobile games have been popular since then, it is noticeable that there is still a lack of discussion about defining mobile games apart from the above mentioned arguments on defining game related terminologies. It is interesting that the above mentioned studies have mostly been carried out by scholars who are based in countries where mobile games are relatively less popular, for instance, UK-based authors such as Newman (2004, 2008), Kerr (2006), Poole (2007), European-based authors Joost Raessens and Goldstein (2005), or North America-based author Consalvo (2006). Not surprisingly, mobile games did not attract much attention since they played a relatively small role in these countries. However, this study argues that the mobile game should be considered as one of the main platforms in game translation and localization, and will examine mobile games in detail in the next sections.

2.2 Defining Mobile Games

As explained in the previous section, the terminology issues in game localization have been discussed, but the mobile game was simply considered as one of the digital game platforms and has not been studied regarding terminology matters. However, in the current situation in which the mobile game takes more than half of the digital game industry, and in which research on game localization is growing, a clear definition of the mobile game is essential for translation studies. Unlike other digital games, the definition of the mobile game depends on how to define the term "mobile". As the name indicates, digital games such as PC games or console games are named after the platform that game is played on. However, it is not clear for mobile games as different scholars have different points of view on the definition of "mobile".

First of all, the definition of the mobile game is based on the terminology "mobile". The basic meaning of "mobile" is being able to move or to be moved easily. Hence, similarly to the PC game or console game, the mobile game was considered as a game that can be played on a mobile device or handheld device, and a few studies of mobile games take the broad meaning of mobile. Jeong and Kim (2009) note that mobile games are defined as "embedded, downloaded or networked games conducted on handheld devices such as mobile phones, portable consoles such as SONY PSP or Nintendo 3DS, and PDAs". They highlight that the key element of the concept is portability, and all games in portable devices including calculators and dictionaries can be considered as mobile games. Pitsanu and Witcha (2018) also see

the mobile game as a game that is played on a mobile platform such as smartphones, feature phones, smartwatches, PDAs, tablets, or handheld devices. However, since the term “mobile” refers to “mobile phone” in everyday life, later research on game localization tends to use a narrower meaning of “mobile” which refers to mobile phones in general. In the case of research on game localization, “mobile game” generally refers to a game that is played on a mobile phone device.

In the existing studies on game localization, mobile games have begun to be positioned as a platform. O’Hagan (2007) sees the mobile game as one of the different platforms for video games, pointing out that “video games can be divided up according to the different platforms on which they are played, including recent developments of games on mobile phones”. Bernal-Merino (2013, p. 31) also defines mobile games as “video games that are designed to be played on mobile phones”. According to his classification of video games (2013, p. 25), the mobile game is included in the group of gaming which includes the console game, computer game, handheld console game, and mobile game. In this classification, it is found that handheld console games and mobile games are separate. As such, “mobile game” in game localization refers to a game that is played on a mobile phone device. Even though the definition of mobile game has not been clearly delineated and different terms are used by different authors in academic literature, it seems that the definition of the mobile game now generally only includes mobile phone games. Not only do dictionaries such as The Oxford Dictionary and Collins dictionary define “mobile” as a noun meaning “a mobile phone”, but the search result of “mobile game” also

shows the games that are downloaded from app stores. The result of a Google search supports that it is enough to say that “mobile game” refers to mobile phone games. When searching “mobile game” in Google, the top results are all mobile phone games that are downloadable from Application markets such as Google Play Store or Apple App Store. This reflects the recent trend for how the word “mobile” is considered in society. In addition, as explained in the previous section, recently the gaming industry has seen the video game as a console game, the PC game as an online game, and the mobile game as different from both video game and online game. Furthermore, the mobile game industry has been growing substantially, and now takes almost 50% of all game platform business as shown in the figure below. This figure also shows that digital games are classified as mobile games, PC games, and console games. In this categorization, it is clear that the mobile game includes tablet and (smart) phone games, but not handheld device games. The reason that tablets are included with mobile phone devices is that they have the same features as mobile phones, and are often considered as bigger versions of mobile phones. Therefore players can download and play mobile phone games from app stores on tablets. The Korea Creative Content Agency (KOCCA) also considers mobile games as one of the standalone platforms. According to the White Paper from KOCCA, the game category is divided into mobile games, online games, PC games, video games, and arcade games, similar to Newzoo’s categorization. Table 2-1 shows how to categorize the game industry compared with other categorizations from different agencies. As seen from the table, the major agencies for the gaming industry consider mobile games to be different from console or PC games.

Figure 2-1. 2021 Global Game Market (source: Newzoo 2022 report)

Market Research: Market Entry Strategy for Korean Games in Global Market		Newzoo	PwC	Whitepapers by KOCCA
Online/PC	PC based online/off-line games	Casual Webgames	PC (Online)	Online
		PC/MMO	PC (Digital/Physical)	PC
Mobile	Smartphone, Tablet based games	Mobile	Social/Casual (App-based)	Mobile
		Tablet	Social/Casual (Browser-based)	
Video	Console device games (including TV or PC connected portable console)	Handheld	Console (Online/Digital/Physical)	Video
		TV/Console		
Arcade	Arcade specific device games	-	-	Arcade

Table 2-1. Game Industry Segmentation

(adapted from Game Industry Segmentation: Market Research for Developing Market Entry Strategy for Korean Games in Global Market, KOCCA, 2016)

Recent studies also tend to claim that a new definition for the mobile game is needed. Mayra (2015) argues that the most common ways to understand "mobile games" are as mobile phone games and handheld electronic games and video games are console games. Mayra points out that hand-held video games have much closer ties with video game console manufacturers while mobile phone game makers need to consider different kinds of phone models and mobile operators' services. This argument seems to reflect current mobile games and video games well, and this thesis also sheds light on the mobile games as mobile phone games.

Another way to define mobile games is by mobile network connection. Mobile games are only downloadable from app stores with network connection. For video games or computer games, there are video packages or CDs while there is no actual object for mobile games. Bernal-Merino (2013, p. 47) highlights this as "mode of distribution" which refers to the manner in which users acquire or have access to the video game. He notes that there are three modes of distribution including pre-packed games, browser games, and pre-installed games. Pre-packaged games are the type of games that can be purchased over the counter, browser games can be referred to as the web-based games that can only be acquired and played by using an internet connection and a web browser, with the games being downloaded on to the computers, while pre-installed games refer to the games that are pre-loaded on a device when consumers acquire the device (2013, pp. 33-34). In this regard, mobile games are similar to browser games, since they need a network connection and the games need to be downloaded to the device. However, mobile games are still

different from browser games. Most mobile games are app-based games which, in other words, users need to download from app stores. Once a game is downloaded, there are two types of games. One is network connection required games, and the other is games that can be played without network connection. The games do not require network connection to play but still need network connection when users need to purchase items or update games. In this regard, network connection is an essential factor for mobile games.

On the other hand, unlike these definitions, there is a completely different point of view to define the mobile game. In Taiwan, it seems that casual games are used to refer to mobile games. Chung (2012, p. 66) claims that "people can play casual games with the convenience of a mobile entertainment service, so casual games are also called mobile games, wireless games or web games". In addition, she claims that portable games and web games have become increasingly popular due to the development of smartphones and tablet PCs. However, this argument does not seem to hold up in the current situation. The "casual game" has been set as one of the game categories in both mobile games and video games, and furthermore, recent mobile games include not only casual games but also many other genres (see Chapter 2.2).

In summary, based on all the above mentioned support, it is enough to claim that mobile games nowadays refer not to all handheld device games but only to mobile

phone games. This thesis also uses the narrow meaning of “mobile” and “mobile game” to refer to “mobile phone game” hereafter. The next section explains the mobile game genre in order to further explore mobile games.

2.3 Mobile Game History

Mobile game history is related to the relationship between key actors in mobile game localization. The development of the mobile game can also provide evidence for how technology has influenced localization. Thus, this section briefly sheds light on the history of the mobile game. Mobile game history is short compared to other types of games. The first mobile game was *Tetris* on Hagenuk MT-2000 in 1994, and three years later *Snake* appeared on Nokia 6610 in 1997. The mobile game industry can be largely divided into pre- and post-Smartphone, as well as pre- and post-digital contents distribution platforms, such as the Apple App Store and Google Play Store. Until Apple introduced the iPhone in 2007, the mobile game industry was not such an exciting industry and had various limitations. The first limitation was the mobile device itself. The mobile phone prior to the Smartphone is known as the feature phone. The feature phone was usually in monochrome with a backlit-LCD display. Its storage capacity as well as processing speed was primitive compared to the Smartphones we see today. As a result, the games developed for these devices were simple and less attractive. The second limitation was the network. Today people enjoy 5G LTE service with up to 1000 MB/s peak download speed, compared with up to 200 KB/s peak download speed of the 3G network. This slow network speed restricted game developers to making the game with less graphics and smaller

contents. The third limitation was the difficulty in game distribution. Until the introduction of the App Store in 2008, game developers had to submit their games to mobile telecommunication companies. It was a closed market and selection of which game was going to be distributed was down to the mobile telecommunication companies. Such major limitations were all resolved with the arrival of the Smartphone, advancements in mobile network technology, and most of all, the open market platform.

In addition, mobile games were not popular among either game developers or players. Bernal-Merino notes that (2013, p. 32) mobile games were unappealing mainly due to their lack of processing power, low resolution screens, and the poor controls employed by mobile phones. However, since Apple's iPhone introduced technologies including high-resolution 3D engines and motion sensor, good quality games started to appear for the mobile phone (ibid).

2.4 Mobile Game Genres

Game genres have been categorized and have evolved together with the fast development of the game industry. In the game industry, there are a few game genre categories but there is no official game genre category. Hence, scholars or game industry people create and use the game genres based on different perspectives. Regarding game genre, Zhang (2015) points out that the classification of the game is useful to identify the game structure and the intention of the game design. It is

understandable that classifying game genres is not easy because there are different points of views regarding game genre. There is even an argument about whether it is justified to use the term 'genre' for games (Arsenault, 2009). It is true that a game does not have just one characteristic that determines its genre. For instance, a game would include both card and strategy characteristics, or action and RPG. Despite these arguments on the defining 'genre', it seems that 'game genre' is commonly used in many countries. In addition, if there are examined characteristics by game genre, it can be helpful in preparing the game localization. Hence, this study also uses 'game genre' in order to classify the characteristics of different kinds of games. In this section, game genre categorization from game academics and industry will be examined. Then, I will suggest a mobile game genre category from the mobile game translation point of view for this study. First of all, few scholars highlight the importance of classification of game genre and categorize based on the text type. Regarding the game genre, O'Hagan and Mangiron (2013, p. 70) highlight that:

> The various debates regarding the use of genre classification notwithstanding, from perspectives of translation and localization the concept of genre is still relevant and useful, as text types are significant in translation, game genres help identify similar characteristics of texts and also often text volume (text-heavy games as opposed to action-heavy), thus indicating the particular translator competence required.

Based on this explanation, O'Hagan and Mangiron (2013, p. 68) adapt game genre as in the table below:

Game genre	Explanation
Action	Any game whose main purpose is the player's action, involving his/her quick reflexes and co-ordination skills. The genre includes "Beat'em up" games. The latest sub-genre is rhythm action which may be treated as a separate genre.
Adventure	The player's perspective is usually fixed just behind her/him. Includes detailed back stories.
Racing	The player is engaged in driving a vehicle.
Shooter	The player sees the action in a first-person (FPS=First Person shooter) or third-person perspective with the goal of firing the arsenal.
Massively Multiplayer Online Game (MMOG)	A game is played online with a large number of players.
Platform	The player needs to overcome various obstacles, while accumulating power (power-up).
Puzzle	The player's mission is to solve a puzzle, using logic.
Role Playing Game (RPG)	The player takes on the role of a character and embarks on a lengthy quest. Includes detailed back stories.
Simulation	The player plays God and manages real-world stimulated situations.
Strategy	Games that place the player in a strategic conflict to be resolved.
Sports	Games that emulate sports such as tennis, football, golf, etc.

Table 2-2 Game Genre (O'Hagan and Mangiron, 2013: 68)

There is no official classification of mobile game genre, but there are some industry classifications, and the major statistic or research organizations uses different mobile game genres to analyse information on mobile games. For example, PLAYLINER categorizes mobile genre as battle, puzzle, casino, strategy, action, casual, RPG, family, adventure, arcade, sport and simulation. Playlab uses strategy casino, casual,

RPG, puzzle, action, simulation, card, adventure and arcade. Statistia (2016) categorizes mobile game genre into 10 genres including arcade, action, puzzle, simulation, adventure, casual, sports, strategy, role playing, and card. In this section, the common genres that these three game analysing agencies use are examined with examples in order to understand mobile games in detail. It also helps in understanding the game translation assets in mobile game localization which will be studied in Chapter 7 in detail. The mobile game genres to be examined in this section include arcade, action, puzzle, RPG, card, casual, and adventure game. In addition to these common genres, the edutainment game, which is a new trend in mobile games, will be studied.

1) Arcade game: Arcade games originally referred to "all those games to be found in penny arcades at the beginning of the 20th century and included other popular games, such as football and pinball tables" (Bernal-Merino, 2013, p. 25). As pointed out by Bernal-Merino (ibid), "arcade game" was not a game genre but one of the classifications based on the location of play. As the game industry has developed, the original arcade game started to disappear from the game industry. Instead, it recently became one of the main mobile game genres by providing a nostalgic feeling with graphics which are very similar to the original arcade games. Furthermore, arcade games are generally simple and easy to complete missions or instant challenges as well as there being no specific scenario to follow. From the localization point of view, this means that translatable text volume is low and the localization process is relatively simple. For example, *Minecraft, Subway Surfers* and *Angry Birds Friends* are included in mobile arcade games.

2) Action games: Similar to video action games, mobile action games emphasize physical challenges and focus on characters remaining safe and alive: thus it is not a story based game. It includes various game modes and missions: *Gangstar city, The Musketeers, Infected Wars, Flippy Knife, World of Tanks Blitz,* and *Legacy of Discord are popular mobile action games.*

3) Puzzle games: Contrary to what the name indicates, mobile puzzle games are not games that solve simple puzzles. According to App Samurai[4]*,* puzzle games are games in which our brains participate to a significant degree, since players need to think of strategies to meet the objectives. They are the second most played games on mobile devices throughout the world with more than 30% of total downloads, and examples of popular puzzle games are *Free Fire* (by Sea), *PUBG Mobile* (by Tencent), or *Subway Surfers* (by Kiloo).

4) Strategy games: Strategy games focus on strategy or tactics in the game. *Civilization, Clash of Clans,* and *Iron Marines* are popular strategy mobile games. In general, strategy games include various text types. Although there is no long background story, they have specific themes for the game such as dominating countries, creating civilizations, or defeating an opponent clan. In addition, the volume of the game text is relatively high as it includes various explanations for every single strategy.

5) Role Playing Games: RPG (Role Playing Game) in the mobile game genre is the same as the video game RPG in which players take the role of a character. The

[4] See https://appsamurai.com/your-complete-guide-to-mobile-game-categories/

difference is that it could be divided into two types as O'Hagan and Mangiron distinguish; MMOG and RPG in the table above or MMORPG (Massively Multiplayer Online Role Playing Game) in online games, while RPG is the most used genre in mobile games. In general, RPG includes various characters, quests, items, maps or rewards as compared to other genres of mobile games. Thus, RPG games are considered to include the greatest text volume among game genres. A new trend in RPG is introducing mobile versions of online (MMO) RPGs. In RPG, the background story is important for the players. As the genre name shows, each player has their own role in the game and it is important to understand the background story of the game in order to play the role well. Examples of mobile RPGs are *Lineage M* (NC Soft), *Blade and Soul* (NC Soft), and *Raid: Shadow Legend* (Plaium).

6) Card games: As the name indicates, the main game strategy is to use cards in the game, and there are descriptions of each card. In the card game, players use game cards to process the game, and upgrade cards by collecting small shards. The card games are more popular in mobile games than other console or online games. Unlike card games in real life which play with trump cards, the genre of mobile card game is complicated.

7) Hyper Casual games: hyper casual games are a recent new trend. As the name indicates, they are similar to casual games, but are more simple than normal casual games. In other words, from the localization perspective there are not many game assets to be localized. However, interestingly, since the revenue of hyper casual games is through advertisements in the games, it is important to launch the games in as many countries as possible. Thus the vast majority of hyper casual games are

translated into seven to fifteen languages, and service as many countries as possible. From a business perspective, global service of hyper casual games is cost effective, because generally the text volume is approximately between 100 – 200 words. Thus even if a game company translates 15 languages, the cost is small but still enables it to be launched in many countries. For example, *Air Hockey World League* is a hyper casual game, published by Fingertap games. The text volume is approximately 500 words and it is localized into 15 languages. Hyper casual games are a new trend in the mobile game industry, and the air hockey game is one of the most popular hyper casual games. Rather than a small volume of text, this genre of game includes more sign language such as symbols. Thus, this is useful to explore the characteristics of mobile games as well as UI or system message translation together with casual games.

8) Adventure: adventure game refers to games where players follow the quests according to the game story to reach the final challenge. This genre includes an adventurous story and players can become immersed in the game. In adventure games, players are taken into a new world, follow the journey and complete the mission through many different stages. To do this, players need to read and understand text carefully, and translators are required to consider this characteristic of the genre when translating. As in *Krystopia: Nova's Journey* (by Antler Interactive) or *80 days* (by Inkle), with adventurous games, in many cases it is easy to imagine what they are about from the title.

9) Edutainment game: As the name suggests, the edutainment game is a game that combines education and entertainment. Basically, the game aims at an educational

purpose, but at the same time, it includes entertaining contents so the gamers can benefit from learning in an enjoyable way. This genre of game is comparably new. Since the mobile phone is not only for adults but many children also use smartphones nowadays, game developers have begun to make mobile games aimed at children. From basic numeracy and literature to writing skills and social activities such as how to cross the road safely, edutainment games include broad contents for children. This genre of game has become one of the most popular games in the mobile game industry. A research agency IMARK Group[5] reported that the worldwide revenues for game-based learning products reached US$ 5.8 billion in 2020, and the revenues are expected to grow at 21.2% during 2021-2026. Previously, the spike in growth rate in the 2006 to 2013 timeframe was driven by the success of new edugames running for the Nintendo DS. However, the most recent growth is due to the popularity of mobile edugames for smartphones. Even though the edutainment game has become a major genre of mobile games, this genre is not one of the main mobile game genres from the localization point of view. In general, edutainment games are made for local children based on the local education system. For example, in Korea kids can learn Korean characters or the Korean math curriculum through the games, and children from English speaking countries can learn the alphabet or subjects from their own education curriculum from the game. Thus edutainment games are not generally localized for global service. It is worth discussing the edutainment mobile game as one of the mobile game genres, but note that for this

[5] See https://www.imarcgroup.com/game-based-learning-market#:~:text=The%20global%20game%2Dbased%20learning,21.2%25%20during%202021%2D2026.

study, it is excluded.

Despite the above classification, many recent mobile games are not easy to classify by their genre as they include a mixture of contents. As Bernal-Merino (2013, p. 25) notes, due to the success and proliferation of video game products, the categorization now often coexists and overlaps in many different ways, so similarly mobile games also combine existing genres, for example, action RPG games or strategy simulation games combine in one game. This is to say, the characteristics of each genre can be mixed. For instance, the world famous mobile game *Clash Royal* is a strategy card game. Generally, strategy games include a large volume of in-game text and background story. However, in the case of *Clash Royal*, there is less in-game text as it is a card game but it has more events than other card games. Whenever new concepts of games are introduced, new game genres are also introduced.

While the above classification is based on the characteristics of the game, the mobile game genre can be classified from the translation perspective based on what translatable assets are included. Translatable assets in mobile game text includes UI, system message, tutorial, quest, skill, item, character, help message, dialogue, voiceover text, game title, and app store description. Each asset has its own translation strategy and these details will be examined in Chapter 7. Based on these assets, the mobile game can be broadly divided into two categories; one is a story based and complicated game and the other is a simple game. The translatable assets

are different depending on the volume of game text. The volume of the text varies depending on the game genre, such as puzzle or RPG. Overall, the volume of mobile game text is less than that of online and video games. Puzzle games or casual games that are not story-based tend to include a smaller quantity of text, and dialogue does not play a significant part while (MMO) RPGs or strategy games that rely on story and character development include more types of translatable assets.

This is a similar classification to that in which Bernal-Merino (2007a, p. 3) categorizes game genre into two types in terms of translation and localization, the ones that "require more research than creativity and the ones that require more creativity than research". In regards to his classification, O'Hagan and Mangiron (2013, p. 70) support the idea that story based games are more creative while the others require more accuracy. As has been pointed out in this section, there has not been any official classification for mobile game genres, and it is becoming even more difficult as there are more mobile games coming out which have overlapping characteristics. Nevertheless, it is worth identifying a few genres in detail in order to apprehend the general idea of a mobile game. In the next section, a few characteristics that make mobile games differ from other digital games will be examined.

2.5 Characteristics of Mobile Games

Mobile games share similarities with video games but at the same time they are differentiated from other games due to their unique characteristics. It is important to understand the characteristics of mobile games for this study as the characteristics make different localization processes necessary for mobile games. In addition, this will provide evidence regarding different actors and networks which will be discussed in Chapter 6. The main characteristics of mobile games are multimedia interactivity, mobile SNS platforms, short product cycle and internationalization.

2.5.1 Multimedia Interactivity

The first characteristic of mobile games is multimedia interactivity. Multimedia interactivity is one of the main digital game characteristics which the mobile game shares. Unlike other multimedia such as films or TV programmes which are one-way communication media from the media to the receivers, games and users communicate interactively. For example, when starting an RPG game, players are asked to choose a character and enter a nickname, and players must follow the instructions in order to progress the game. During play, the game provides certain missions that players must achieve in order to move to the next level. In this process, the players' choice determines the different results, and if the players leave the game, that game does not progress further. In this sense, interactivity in games is "active participation" (Zhang, 2015, p. 21), and without interaction between players and games, games are not worthwhile products. In addition, as pointed out by Zhang (ibid), the interactivity of digital games is related to translation and localization,

since the communication between players and the game is facilitated by language.

Other game translation and localization scholars also highlight the interactivity of games as an essential factor that makes games different from other types of media. According to Bernal-Merino (2013, p. 20), multimedia interactive entertainment software is an accurate term with which to describe video games. He argues that "it incorporates the key concepts that set video games apart from other forms of entertainment, namely that they are multichannel entertainment products, with an emphasis on interactivity and the consistent feeling of commanding the game experience in contrast with what happens with the more passive experience of reading books or watching films". Mangiron (2007, p. 307) argues that the digital game is "an interactive multimedia text that combines words, images and sound, and whose main objective is to entertain". Other studies, for example research on video games and empathy, show that video games are definitely interactive media since they can trigger empathy as the players identify with characters in the game (Wulansari et al., 2020). Mangiron (2013, p. 42) also highlights the interactivity of games, defining games as "they are, therefore, interactive multimedia and multimodal products with a strong audio-visual component, based on complex systems of rules, and designed with the primary function of entertaining, albeit not exclusively limited to that function". As seen from the opinions on interactivity in games, interactivity is the characteristic that makes games different from other entertainment products. The above claims all agree that digital games are entertainment products as well as interactive multimedia products.

Like other digital games, the mobile game is also considered a multimedia product. In the case of mobile games, they contain texts, images, and videos, and each of these is designed to interact with users. The difference from the digital game is that the interactions are achieved through touching the icons on the mobile phones directly, while in the case of video games players need either joy sticks or separate controls to communicate with the game. Despite the size of a mobile phone being generally smaller than video game platforms such as PS2 or Nintendo, mobile games include almost the same multimedia features as video games. In this sense, the mobile game can be considered as currently the most widely used multimedia interactive entrainment software when considering the global penetration of the smartphone.[6]

2.5.2 Mobile SNS Platform

One of the main factors in the tremendous growth of mobile games is the growth of mobile messenger and Social Network Service (SNS). Mobile SNS is different from the game community. The game community is a place where players share their ideas about the game, while mobile SNS is a place where friends can play the game together and share items or game resources. In Korea, mobile games became very popular following the game *Anipang*. This game is based on a mobile messenger Kakaotalk in Korea. Kakaotalk is a Korean mobile messenger with 600 million users. *Anipang* is a simple casual puzzle game, and it requires items known as “hearts” to

[6] See Figure 5-6 Penetration rate of smartphones in selected countries 2020 (Statista 2022)

continue the game. Players can either buy the hearts or ask their contacts in the friends list of Kakaotalk to send some. The game became the top mobile game because players found it very interesting to interact with their friends. In addition, the mobile games based on the mobile SNS platform allow players to enjoy the games by asking for items from each other, competing with each other, and checking friends' ranking at any time. Since the success of *Anipang*, Kakaotalk has become a platform for mobile games and many mobile games have been developed specifically for Kakao alone. Similarly, Facebook also made games for the Facebook platform. Facebook game *Farm Town* in 2009 was a game in which users could help each other to manage and harvest their virtual crops.

Another essential function of the SNS platform is connecting a game to SNS. Many mobile games include a connecting or sharing function, in most cases with Facebook. In this case, the games are not played on the SNS platform, but there is a function that can connect the game with SNS so players can invite their friends or see others' game results. In this case, players can log in to the game with the SNS IDs and continue to progress the game. By doing so, players can access the game more easily, and this causes players to stay with the game longer. Since these messenger and SNS platforms are operated on mobile phones, the mobile phone users found it easy and interesting to interact with their friends while they are playing. The SNS platform has also become one of the most valuable platforms for marketing games. Due to the growing number of SNS users, advertisement on the SNS platform becomes essential for the game marketing. This ultimately leads to translation of the

marketing text of the game.

2.5.3 Short Product Life Cycle

Short product life cycle (PLC) is one of the commonalties that Schäler (2008) suggests. He points out that localization commonalties include frequent updates, short product life cycles, composition of material and consistency requirements, and most of the localization effort being spent on updates to previously localized material. Among these commonalties, frequent updates and short product life cycles are characteristics that the mobile game has in addition to actually influencing the mobile game localization process. However, in early 2000, there was no update service for mobile games. Instead, the developers focused on launching new games. Once a mobile game gained popularity among game players, the period in which players enjoyed the same game became longer[7], and the publisher started to focus on updating in order to retain the users.

Prior to discussing frequent updates, it is important to note that there is a difference between updates for general mobile applications and for mobile games. Although it is often said that a mobile game is also a mobile app as it is serviced on the application stores, they are different when it comes to updates. As argued by Schäler, frequent update is one of the commonalties in digital material. However, according

[7] See http://www.econovill.com/news/articleView.html?idxno=275701

to a study by McIlroy, Ali and Hassan (2015), many mobile apps are updated very frequently, but almost half of the frequently-updated apps do not provide the users with any information about the updates. In mobile games, this frequent update is the characteristic that makes the mobile game different from other games. According to research on game update (Hyeong et al., 2020), "in online games, a game update denotes the process of creating new content and changing the game environment by adding new items, play modes, and ranking systems". They also note that game updates provide new stimuli to players and cause them to play the game continually, and that in turn increases player retention and overall gameplay. Unlike other games, mobile games need constant updates to keep the players playing the game for a long period. It is obvious that when players play the same game for a certain time and achieve the highest level, they begin to find it boring and will start to find new games. For game companies, keeping the players in their game is important for their revenue, and introducing new contents through update is one of the methods used to make players play the game constantly.

According to a game article[8], when games are updated, there is remarkable revenue growth. For example, *Seven Knights* rose to top 7th from 10th by updating upgrade systems, and *Ragnalok M* was increased to top 8th from 30th through event update. Accordingly, mobile games are often updated in many ways such as new characters, new stages, and various events. Other industry articles also point out that frequent

[8] See http://www.gamechosun.co.kr/webzine/article/view.php?no=150934

updating is important in order to be featured by app stores. For example, an article by Kris Marszałek from Software Brothers (2016)[9] explicitly notes that Apple has a really soft spot in their hearts for frequently updated apps. This frequent update is not only a characteristic of mobile games, but at the same time, it is a demand from players. Mobile game players get used to frequent updates, so when there is no update for a certain period, they put comments on the game community site about updates. From a translation perspective, when a game is localized into other languages, these updates need to be translated as well, and this update needs to maintain consistency with the previous translation.

Short Product Life Cycle is another factor that makes mobile games different from other video games. According to an editor Carol M from Investiopedia[10], PLC refers to the period of time over which an item is developed, brought to market and eventually removed from the market. It is well known that mobile game PLC is shorter than for other games due to the many competitors and fast changing trends. Generally, it takes several years to develop an online or video game while it takes a few months to a couple of years for mobile games. This is to say, developing an online or video game costs more than developing a mobile game. Thus, for the publisher, the published game needs to stay in the game market for a long enough time to make revenue. On the other hand, the mobile game often terminates its

[9] See https://softwarebrothers.co/blog/how-to-get-featured-app-store-google-play/

[10] See https://www.investopedia.com/terms/p/product-life-cycle.asp

service earlier than expected when the game is not as popular as the publisher expected. As the time and cost are relatively lower than online or video games, it is often more cost effective to terminate the service and make a new game. PLC also influences the update schedule. According to an interview from a game article[11], online games have updates every two to three months due to a long PLC, while mobile game updates are prepared more frequently than for other games. When a game needs to be localized, this PLC eventually influences the localization process. For games that have a longer PLC, more contents and more actors will be engaged while for games that have a shorter PLC, the general localization process will be conducted over a shorter period. The short product life cycle is not a matter of good or bad for mobile games, it is rather a characteristic that is different for mobile games than for other types of games.

2.5.4 Internationalization

Internationalization is not only a key concept in defining localization (see Chapter 3.1.1) but also an important characteristic of mobile games, especially for global one-build mobile games (see Chapter 3.2.1). Fry (2003, p. 43) notes that internationalization is "the process of ensuring at a technical/design level that a product can be easily localized". Internationalization has been studied under the GILT strategy so far (Chapter 3.1.1) for video game localization. Recently, it is found that internationalization is not only a strategy in translation studies, but it is

[11] See http://www.ddaily.co.kr/m/m_article.html?no=109551

specified as a task in the game localization job description. Since localization becomes essential for higher revenue, many mobile games are already considered for the export market at the planning stage. By doing this, the publisher recognises that internationalizing a translatable asset is useful for mobile games in terms of quality of the localization, cost effectiveness and decreasing the time for global launching. This means that what were once regionally sensitive texts, such as character names, location, items, and other content, have now become universal terminology. Furthermore, unlike video games, many mobile games are developed with a global one-build strategy, that is, a single game program for all languages and regions. All aspects of a global one-build game, including its images, actions, and content, are the same for all countries. Internationalization is now an essential process prior to localization in order to make the localization process easier.

2.6 Mobile Game Market in Korea and Globally

This section explains the current mobile game market in Korea and globally as well as the localization market. The current mobile game localization industry reflects the current situation of the mobile game industry. For instance, the analysis of the export and import market for mobile games in Korea where exports are much higher than imports explains why the demand for translating Korean into foreign languages is higher than for translating foreign languages into Korean. Hence, it is worth examining the current mobile game industry in Korea and other countries in order to explore the game localization industry. This chapter first explores the mobile game industry in Korea, then the mobile game market of other countries.

The game industry in Korea has been considered as one of the key cultural contents and is now designated as one of the industries in the era of the fourth industrial revolution. This indicates that the game industry in Korea is not just an entertainment, but a core contents industry, and the mobile game stands in the centre. According to KOCCA's report, since 2009, the mobile game industry in Korea has experienced a two-digit growth every year, and the global mobile game industry has also been achieving high growth. In addition, as shown in the figure 2-2, the mobile industry in Korea has been continuously growing up to 2020, taking more than half of the whole game industry, while the portion taken by the PC game is gradually decreasing.

Figure 2-2. Trend of proportion of the domestic game industry by platform (last 7 years)

The growing trend for the mobile game is expected to continue while other game platforms such as PC, console, and arcade are not expected to grow as much as mobile games, but to either decrease or slightly increase in Korea as shown figure 2-3. This trend is due to the easy accessibility of the mobile game compared to other game platforms. Any smartphone user can access mobile games by simply downloading from an app store and can play anytime, anywhere, while PCs or

console devices are required for PC and console games. Considering that the smartphone penetration in Korea is 76.5% in 2020 (Statista 2022), it is understandable that many famous PC games also transfer to mobile games.

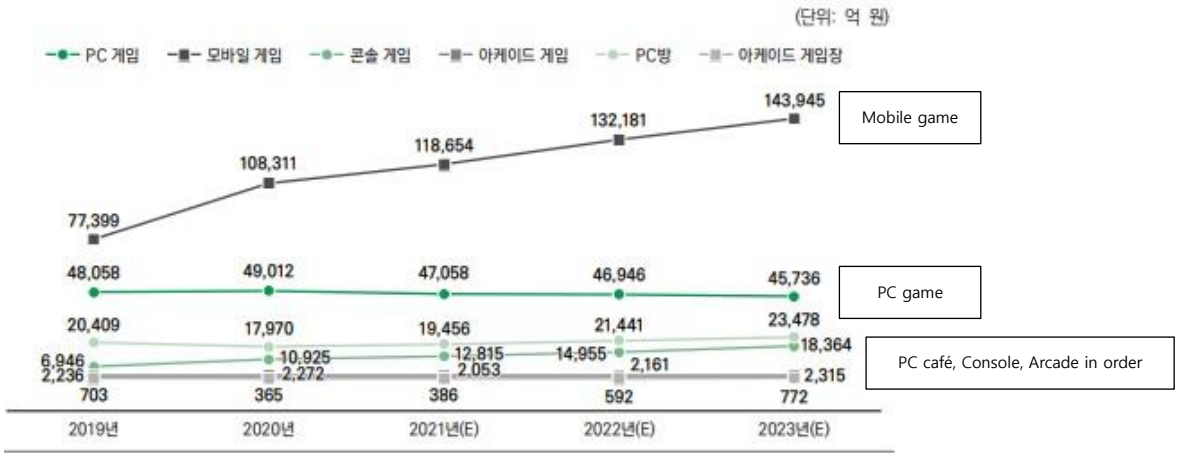

Figure 2-3. The growth of game industry by platform (KOCCA 2021)

The growth of the mobile game industry indicates the growth of the worker as well. According to the Game White Paper published by KOCCA, the number of people who work in the mobile game industry, in roles such as developing and publishing, has increased in 2020 by 17.2% compared to the previous year. In addition, among game users between the age of 10 and 65, it is found that 90.9% of people have played mobile games.

The growth trend of the mobile game is the same in the global market as well. The global mobile game industry benefitted immeasurably from the open market platforms such as Apple App Store and Google Play Store. What was once the exclusive domain of a few game companies and the mobile telecommunication

companies, the open market platform allowed even an individual game developer to make and sell the games without any restriction. For instance, the mobile game industry in Asian countries has been growing rapidly. The growth of the mobile game industry in Asia (excepting Japan) is due to the development of the internet, PC and smartphones[12]. In addition, the report foresees that high population countries such as India and Southeast Asian countries will also be key countries in the mobile game industry. According to a report "Can't stop, wont' stop: 2016 mobile and VR games year in review"[13], three Asian countries, China, Japan and South Korea are among the five largest mobile games markets in the world. In the USA and European countries where the video game dominates the game industry, the mobile game has been established as a key sector. According to the analysis, which examines the combined mobile, mobile VR and VR markets, Asia represents the largest mobile games market in the world, producing $24.8 billion in revenue in 2016, while North America and Europe generated $6.9 billion and $5.7 billion respectively. It also states that the ever growing US mobile market represents a tremendous opportunity for marketers, as now Americans play mobile games more often than they watch Netflix, Hulu or YouTube. Americans spent 5% more year on year on mobile games in 2016, and the report states that that number will continue to rise. From the translation and localization point of view, the languages and cultures of these expected countries will need to be considered as essential factors. Mobile game

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[12] Market Research for Developing Market Entry Strategy for Korean Games in Global Market (KOCCA, 2016)

[13] See https://blog.unity.com/technology/cant-stop-wont-stop-the-2016-mobile-games-market-report

companies also form an important part of the European app economy and affirm its strong position worldwide. In addition to King and Supercell, other successful mobile game companies from the EU including Wooga (Germany), Gameloft (France), Digit (Ireland), and Rovio (Finland) have introduced various mobile games. According to a report "Mobile games in Europe, innovation in European digital economy" by Deloitte (2015)[14], European developers of games have established themselves as leaders in the global app economy. Of the top 10 apps in the iOS app store and Google Play store, six were made by companies headquartered in Europe. According to the survey commissioned for the report, there were more than 21m players of mobile games in France, Germany, Spain, and the UK alone.

Traditionally, game developers are partnered with a local publisher, or established local subsidiary for each target country to do the translation and marketing of a globally launched game. This way of business is still practiced for major online PC games. However, the cost of hiring a local publisher, whether it is fee based or revenue sharing, as well as establishing a subsidiary was very high. So the developers narrowed the target countries to those they believed to have significant market potentials. As a result, many games were translated into only a few popular languages. But since the development of the open market platform, publishers can upload their own games in as many target countries as they choose, without spending any up-front cost. Publishers can now reach global users without the need for an

[14] See https://www.isfe.eu/wp-content/uploads/2018/11/deloitte_report_isfe_2015.pdf

expensive local partnership or subsidiary. Accordingly, the demand for both popular and non-popular languages has significantly increased. Today, the majority of games developed in Korea are translated into 7 to 9 languages, making it much more pressing to develop an in-depth understanding of the translation process and its requirements. Furthermore, according to a questionnaire conducted by KOCCA for its "Market Research for Developing Market Entry Strategy for Korean Games in Global Market", the majority (88%) of Korean game companies is exporting their games already or has a plan to export the games within a year, and 85% of these companies were mobile game companies. The main countries to which Korean games are already exported or planned to be serviced in detail include the USA, China, and Japan: Taiwan and Germany were also included. The companies answered that Indonesia, Thailand, and Brazil were interesting countries for global service as well. Many global language service providers (LSPs) have recognized the exponential growth of the mobile game industry and available business potential. Today, it is not surprising to see LSPs marketing their services at global game conferences and exhibitions such as G-Star in Korea and China Joy in China. Although there is no statistical data available that sheds light on the actual size of the global mobile game localization market, there is no doubt that it is a market that is benefiting from continuous growth, especially with expansion of mobile device distribution in developing countries such as Africa and India.

As the mobile game market is growing, government agencies are often engaged in the mobile game localization process, and influence on two categories, one is

supporting and the other is regulation. In Korea, there is a government branch called the Korea Creative Content Agency. This is the government branch under the Ministry of Culture, Sports and Tourism that supports the growth of cultural contents, such as K-POP, K-Drama, K-Movies, and games. Under the KOCCA, there is a Game Hub Centre as a subsidiary which is responsible for selecting both game companies and translation companies that will get grants from the agency for exporting their games to other countries. Every year, the Game Herb Centre announces a game localization support project, and game companies apply for the project. If a game company is selected for this grant, the company can select a translation company that can translate their games. In addition, there are various support projects for the development and translation of mobile games sponsored by local district governments for local game developers. Some projects pay certain budgets directly to LSPs where as some provide bulk funds to the game developer and require translation of a certain number of languages. In such cases, it is understandable that the government agency involved provides an opportunity for global launching. The government agencies also engage in localization by approving an age rating and censorship of the game. In Korea, the Game Contents Rating Board (GCRB) deals with the rating and censorship of games. According to Korean GCRB, there are five categories of Korean games (Mobile, PC, Online and Video games) including all ages, PG 12, PG 15, 18 and testing. As indicated above, the mobile game industry has been rapidly growing globally, and localization is essential to this global trend. In the next chapter, the details of localization will be studied.

3. Localization

With the advances in the software industry since the mid-1980s, the localization industry has been developed both practically and academically. The scope of localization is broad and localized products are found everywhere in everyday life. In addition to the software industry, the term "localization" has also been used in other industries such as food, TV programmes, and electronic products. People have been using products without noticing that they have not originated from their own countries thanks to localization. As the localization industry attracts increased attention, there have also been various research projects on localization. However, localization is still considered as a relatively new industry and field of academic enquiry, as it lacks theoretical mapping and unified understanding among scholars. As a result, various definitions exist for the term localization. In addition, there has been a blurred barrier between localization and translation which is debatable in both the industry and academic fields. To avoid operating with an imprecise definition of translation and localization for this thesis, it is first necessary to clarify the concept of localization. Therefore, various definitions of localization, as well as the difference between translation and localization are explored in this chapter. Following this, mobile game localization is examined in the theoretical framework of Translation Studies.

3.1 Definitions of Localization

As the term "localization" has been used in various industries, the definition of

localization has been perceived from different points of view. Nevertheless, it is safe to say that the main concept of localization is "taking a product and making it linguistically and culturally appropriate to the target locale (country/region and language) where it will be used and sold" as in the definition of the Localization Industry Standards Association (LISA) (Esselink, 2000, p. 3). Nowadays, it seems common to use the term "localization" mainly for the software industry (Mazur 2007, O'Hagan and Mangiron 2013, Bernal-Merino 2014, Zhang 2015). For this thesis, localization is understood in the context of GILT (globalization, internationalization, localization and translation). This section examines the definition of localization within the GILT context as well as in Translation Studies.

3.1.1 Localization in the GILT Framework

GILT is the acronym for globalization, internationalization, localization and translation. This term is used for mapping localization in localization research. According to Yves Gambier (2016, p. 891), GILT refers to the four correlated and interdependent activities that comprise the current industry, and the order of these in the acronym indicates the current sequence of processes that should ideally take place. The first activity in the GILT industry is globalization, and there are a few definitions of globalization. According to Bernal-Merino (2014, p. 35), globalization refers to a "range of processes necessary to prepare and launch products worldwide based on the strength of a world-aware product design". Similarly, Schäler (2008, p. 196) also points out that globalization is a business strategy that addresses the issues associated with taking a product to the global market, such as world-wide marketing,

sales and support. While the definitions of Bernal-Merino and Schäler focus on launching products in the global market, Fry's definition is narrower claiming that globalization is "[t]he process of making all necessary technical, financial, managerial, personnel, marketing and other enterprise decisions to facilitate localization" (Fry 2003, p. 42). On the other hand, Esselink (2000, p. 3) provides a broader concept of globalization, arguing that globalization is "[a] term used to cover both internationalization and localization". For these different definitions, Mazur (2007, p. 345) argues that it seems reasonable to adhere to the meaning of globalization that is already well-known and well-established, which is that "globalization should be understood as a situation where a company goes global and markets its products in a number of different countries". This thesis agrees with Mazur's opinion in terms of the main concept of globalization. Internationalization is a key step that proceeds localization.

In the GILT industry, internationalization refers to "the process of ensuring at a technical/design level that a product can be easily localized" (Fry, 2003, p. 43), in other words, any elements that make it difficult to localize are eliminated to make the process "easier, faster, of higher quality and more cost-effective" (Cadieux & Esselink, 2004). O'Hagan (2005, p. 77) notes that internationalization in GILT "refers to a specific pre-localization process which involves building technical allowances into the original product to minimize the subsequent need for re-design or re-engineering". All these scholars commonly point out that internationalization is related to design and technical factors in the game. Schäler (2008, p. 196) highlights

the linguistic and cultural aspects in the definition of internationalization. According to his definition, internationalization is "the process of designing (or modifying) software so as to isolate the linguistically and culturally dependent parts of an application, as well as the development of a system that allows linguistic and cultural adaptation supporting users working in different languages and cultures". As the definitions explain, internationalization is the process which proceeds prior to localization. As explained in Chapter 2.5.4, in the mobile game industry, internationalization has become an essential process, because it is now considered as a way to reduce time, cost, and possible cultural issues. Regarding internationalization in game localization, Chandler points out the importance of internationalization of games as "if the product has been properly internationalized, the game will not need to be redesigned or have additional features added to accommodate the translations. This makes the actual localization process fairly painless" (2005, p. 12). The importance of internationalization is also found in game industry job descriptions. In the game localization industry, the general tasks were either translating or project managing. Since publishers realize the effectiveness of internationalization, they now seek to find people who can conduct internationalization. However, though games are well internationalized, some games still need text rewriting or image redesign based on the needs of the target country or locale, in other words, localization.

Localization has several definitions, but under the GILT framework, localization is an appropriate term for software products and is often defined as "[t]he process of

adapting and translating a software application into another language in order to make it linguistically and culturally appropriate for a particular local market" (Esselink, 2000, p. 2). Similarly, Bernal-Merino also sees localization as a process which is "adapting a product to each of the importing locales in terms of their linguistic, technical, cultural and legal requirements" (2013, p. 61). O'Hagan and Ashworth also describe localization as "a process of facilitating globalization by addressing linguistic and cultural backgrounds as the sender" (2002, pp. 66-67). While scholars seem to highlight localization as a process, agencies seem to focus on localization as adaptation of digital content. The Localization Research Centre in Ireland defines localization as "the linguistic and cultural adaptation of digital content to the requirements of a foreign market and the provision of services and technologies for the management of multilingualism across the digital global information flow" (cited from Zanettin, 2021, p. 40).

Given the various definitions of localization, Mazur (2007, pp. 347-348) proposes a definition of localization which is appropriate for this thesis as "the process of adapting products that are part of global networks to the linguistic and cultural requirements of a given locale". Since the terminology localization is derived from locale, the definition of locale is always explained when dealing with localization. In the GILT framework and in most of the video games research, a locale identifies people with a common language and culture, but the physical location may be different. In other words, in the GILT framework a locale is a "virtual location, more akin to the concept of culture", and it is "language-country pairs" (Cadieux &

Esselink, 2004). On the contrary, it seems that “locale” in reference to the mobile game is slightly different from its reference in the video game. In the case of the mobile game, it is more likely to identify a group of people with the same language, but where the culture could be different. For example, in video game localization, despite both Portugal and Brazil using Portuguese, they are two different locales, and different localization is needed, while in mobile games the same localization process is conducted. In mobile game localization, targets surpass locale. For example, Korean source text is translated into U.S.A English or Brazilian Portuguese rather than UK English or Portugal Portuguese. This is a result of the number of targets. In other words, there are more players in the U.S.A and Brazil than in the UK and Portugal. As explained in 2.5.4, some of the factors that are difficult to localize are mostly edited prior to localization. Hence, it is fine to launch the same game in countries speaking the same language, even though their cultures are different. There might be some small differences in spelling, for instance in the case of UK English and U.S.A English, e.g. “colour” or “color”. However, this is a small concern that would not generally trouble players. From the business point of view, revenue is the main purpose of localization. Thus when a mobile game is localized, the language is chosen based on the greater number of expected players.

The last component to be examined in GILT is translation. In the GILT industry, translation is analysed from the perspective of professional workflow models, and translation is a part of localization (Pym 2004, Mazur 2007, Yves Gambier 2016). From this point of view, there has been discussion about the difference between

translation and localization. Schäler (2008, p. 196) distinguishes translation and localization based on the digital material. He notes that translation does not necessarily deal with digital material whereas localization is *always* (author's highlight) happening in the digital world. Munday (2008, p. 191) observes that the distinction between localization and translation is "blurred, but generally localization is seen by the industry as a superordinate term that encompasses translation". Dunne (2015, p. 551) points out that "localization of a given program required that a separate set of source code be maintained and that a different executable be compiled, tested and debugged for each target locale", and that text-based contents translation "is not 'localization' as the process has been traditionally understood, because it does not entail modification of the properties of objects in a software user interface" (Dunne, 2015, p. 560). Bernal-Merino (2014, pp. 86-87) also argues about translation and localization from a similar point of view. He claims that:

> the term 'localization' would be more appropriate if used to refer to the overall industrial context. That is, localization should only be used within translation studies when referring to the whole industrial process of customizing a software product to the requirements and needs of another locale, and not to refer to the translation of texts appearing in computer applications […] However, given the fact that the term has already been established in the industry and its use is inescapable, we should make a distinction between the all-comprehensive 'product localization' which would encompass all aspects (technical, functional, legal and linguistic), and

the narrower ‘linguistic localization’ that would only include language-related aspects.

In terms of the above definitions of GILT, Pym’s brief definition of GILT explains the correlation between the elements within GILT. He explains that “within a company that has been globalized, products are internationalized so they can then be localized quickly and simultaneously, and part of that localization process is translation” (2004, p. 125). As in the arguments above, it is clear that translation is considered as “just a part of localization, since localization encompasses the broader range of processes” (Pym, 2004, p. 4) in the GILT industry.

3.1.2 Localization in Translation Studies

Localization in Translation Studies is understood differently from localization in GILT. Broadly, while localization in GILT is considered as a broader concept than translation, localization is a part of translation in Translation Studies. As Yves Gambier (2016) points out, the translation paradigm has been changed through changes in the platforms and media, from the printed book paradigm to the digital paradigm. Since Translation Studies was recognized as an academic research field, new disciplines for Translation Studies have been created by referring to practices such as audio-visual translation and localization. For example, research on literature translation was popular until media translation became more popular amongst translation scholars. Since the time when films began to require translation for subtitles and dubbing, audio-visual materials have become another domain of

Translation Studies. Then, software translation became one of the domains of Translation Studies in the context of localization, and localization became a new paradigm (Pym, 2010).

There is still a lack of research on localization to establish relevant theory. However, progress has been made and the field is now considered as one of the research areas in Translation Studies. For example, localization is considered as an applied area in Translation Studies in the form of "Translation and Technology" (Williams and Chesterman, 2002). As Sandrini (2008) points out, although Translation Studies are rather slow in adopting the localization field of research, it is important to deal with localization in training programmes and research. A growing number of books and articles in Translation Studies also include and investigate localization. *The Moving Text: Localization, Translation, and Distribution* (Pym, 2004), *Introducing Translation Studies* (Munday, 2012), *Exploring Translation Theories* (Pym, 2010), and *Handbook of Translation Studies* (Gambier & Doorslaer, 2011) are some of the Translation Studies publications that discuss localization. This is significant for the fact that localization is now embraced as an academic element in Translation Studies. In addition, taking localization one step further, some scholars explore localization as a new discipline. For instance, *A Practical Guide to Localization* (Esselink, 2000), *Translation-Mediated Communication in a Digital World: Facing the Challenges of Globalization and Localization* (O'Hagan & Ashworth, 2002), *Perspectives on Localization* (Dunne, 2006), *Game Localization* (O'Hagan & Mangiron, 2013) and *Media Across Borders: Localizing TV, Film and Video Games* (Esser, Bernal-Merino,

Robert Smith, 2016) investigate localization as a new paradigm.

Considering that Translation Studies has a "sophisticated epistemic basis to examine and explain all kinds of translation phenomena" (O'Hagan & Mangiron, 2013, p. 98), localization can be a new paradigm in Translation Studies in terms of explaining new industrial translation practices. While traditional translation focuses on equivalence between source and target text and has difficulty explaining things relating to cultural aspects, localization is a "viable solution" for the problem that "languages and cultures are so indeterminate that no one can be sure about equivalence" (Pym, 2010). In conclusion, based on the above definitions, localization is a broader concept than translation, and translation is one essential aspect of localization. Despite the lack of research on localization so far, the localization paradigm is gradually being adopted in Translation Studies.

3.2 Defining Mobile Game Localization

As pointed out in Chapter 2, research on games is still a new field, and mobile games have been considered as a new sector in both the game industry and Translation Studies. Accordingly, there is a lack of research on game localization, especially on mobile games. What exists is mostly about video game localization, and the mobile game is considered as one form of video game. However, recently, the mobile game has been categorized separately as its market size is exceeding that of video games: thus it is necessary to clarify what mobile game localization encompasses. Therefore,

in this section the characteristics of mobile game localization and its relevance in Translation Studies are explored. This section examines the various opinions of scholars on game localization, and explores the difference between the mobile game and the video game, and reviews translation theories that can be applied to mobile game localization.

Since mobile games became popular, the term “mobile game localization” is widely used in both the game and the translation industries. However, like video game localization, the meaning of localization is ambiguous and sometimes interchangeable with target-oriented translation, sometimes with a whole industrial process (Bernal-Merino, 2016). Chandler explains game localization as "the process of translating the game into another language" (2005, p. 12). The game industry also simply understands localization as translation, and the two terms are used interchangeably, based on users’ convenience, not on conceptual differences as discussed in this study. On the other hand, in the academic field, as explained in the section above, there has been clear discussion on differentiating translation and localization, which also applies to game translation and localization. Bernal-Merino (2006) has said that 'game localization' may be commonly used in the industry, however, he suggests using the term 'translation' for linguistic transfer rather than localization. In addition, the actual process of game localization shows a clear distinction between (overall) localization and translation. To avoid this ambiguity, this thesis considers mobile game localization as a whole process of servicing games in other countries, and translation as one of the localization processes.

In video game localization research, researchers seem to follow the general concept of localization in GILT, and agree that localization includes the whole process from preparation to final launching. Esselink (2000) defines localization as the overall task, with translation being just one task and one part of the process that includes other tasks such as project management, image adaptation or setting up a language gateway. O'Hagan and Mangiron (2013) also consider game localization as a whole process and translation as one of the localization processes. Bernal-Merino (2014) points out that there are two localization types, one is an all-comprehensive 'product' localization and the other is 'linguistic' localization. He argues that using the term game localization is inaccurate in Translation Studies since it also refers to non-translational activities, and that one should always specify using the term 'linguistic localization' to avoid confusion with other stages of the localization process. According to him, translation is only for text, and localization is the whole process. Fernandez-Costales (2017, p. 121) points out two key practices in game localization. The first one is the simultaneous shipment (Sim-ship) which can be defined as "a localization model consisting of releasing an original game and localized versions at the same time in different territories" (O'Hagan and Mangiron, 2013, p. 10).

This feature is in some part similar to and in some part different from mobile game localization. In the case of mobile game localization there are two types of localization model, one is sim-ship and the other is general localization which publishes in the original country first then localizes for global service. When a game is chosen for simultaneous global launching then the game undergoes sim-ship. On

the other hand, it is common in the mobile game industry that the publishers wait until they see the possibility of success of the game in the original country. The second feature is language related features which are usually targeted in French, Italian, German, and Spanish. He points out that these languages have been the standard in game localization in the last few decades and recently some developers translate their game into the languages of China, Brazil, Korea, Poland and Russia (O'Hagan and Mangiron 2013, p. 16, Bernal-Merino 2014, p. 9, Edwards 2014, p. 288). However, as research from Newzoo for the top 10 mobile game markets in 2021 shows, unlike video game localization, the top countries for mobile games are China, United States, Japan, South Korea, United Kingdom, Germany, Taiwan, Canada, Australia, and France. As this research is based on the global market, it is reasonable to understand that the languages of those countries are popularly localized in the mobile game industry.

As seen above, existing research on game translation and localization agrees that games are software products, and to sell these products in other countries, there need to be processes other than translation. Broadly, mobile game localization can be explained following Pym's brief definition of GILT above. First, mobile game companies are trying to launch their games in as many countries as they can, so that globalization is possible. Then products, in this case mobile games, are mostly internationalized from the planning stage, then the games are localized for global service, and finally, translation is a key process for localization. Though mobile game localization shares similarities with video games in terms of process and game

assets, mobile game localization can be identified in a different way from the video game, based on different levels of mobile game localization and App Store Optimization (ASO).

3.2.1 Different Levels of Mobile Game Localization

The level of localization is one of the factors, which makes mobile game localization unique. Considering that localization is a process, there have been arguments about localization levels. The *Oxford Handbook of Translation Studies* (Szarkowska et al., 2013) categorizes localization levels into translation level, technological level and cultural preference level. According to this, textual material and text strings are translated at the translation level. These translated textual material and strings are then re-engineered at the technological level, and finally cultural norms are adapted at the cultural preference level. This categorization is process based, but other scholars use the depth of localization for their categorizations. Chandler (2005, pp. 12-14) categorizes localization levels as no localization, box and docs localization, partial localization and full localization. Similarly, Bernal-Merino distinguishes between two levels of localization: partial localization and full localization. According to his explanation, full localization is the process and the decision to translate all the dialogue exchanges in the game, and is mostly taken by the marketing department, (2014, p. 165), and players expect this level of localization for AAA titles. Meanwhile, partial localization is documentation, user interface and subtitles, but no voiceover localization (2014, p. 188), which is often called *box and docs* translation (Chandler, 2005, p. 14). O'Hagan and Mangiron, on the other hand,

highlight the marketing point of view. They claim that the level of localization is "determined by marketing strategies and usually prioritized by the size of market – the bigger the market, the more chance of full localization" (2013, p. 141).

In terms of these arguments, mobile game localization has both similarities and differences. First, mobile game localization can be conducted at a translation level as indicated by Szarkowska (2013) as well as at a technical level and cultural preference level. This will be explained in detail below. On the other hand, there is no partial localization or box and docs localization as pointed out by Chandler (2005) and Bernal-Merino (2014). Rarely, there are mobile games that look like partial localization has been conducted as the game is localized up to certain level. In this case, these mobile games have not gone through partial localization which localizes only a few assets as Bernal-Merino points out above, but higher levels of the game are yet to be localized. This is generally the publisher's decision based on the tight launching schedule or in order to check the players' response first. In general, it takes a few days to weeks or months to move up to a very high level of the game. Hence, while players achieve the high level, the publisher has time to complete localization of the latter part of the game. In addition, the publisher sometimes decides whether to finish the localization or not after they have checked the players' response. When they confirm that the localized game is going to be successful based on the first part of the localization, then they conduct the remaining localization. In both cases, players do not recognize that the game has not been fully localized unless they achieve the levels which have not yet been localized. Hence, this research adopts

Szarkowska's categorization of localization level and edits for the mobile game localization as translation only, translation + X, and full localization.

1) Translation level: Casual games are generally localized at translation level. As mentioned in relation to the mobile game genre, these casual games are so simple that they are understandable with a short tutorial and a few tries. In other words, these games include minimal texts that are required to play such as a tutorial, UIs, titles and game description, and the text volume is 100-1,000 words. In addition, as most casual games are already internationalized, there is no need to conduct technical or cultural reference changes.

2) Translation + X: This thesis suggests this localization level as appropriate for mobile game localization. This level refers to text translation plus different game factors such as events, notice or price for different countries. This type of localization is often conducted for global one-build games.

The term "global one-build" system or strategy is a newly coined word in the game industry. Global one-build game is a strategy in which the same version of a game is released in all countries across all platforms such as Google Play Store and Apple App Store. In other words, all the aspects of a game such as image, game method or story are the same, and the only thing converted is the text, which is converted to the local language in different countries. When a game is downloaded and installed, it is automatically set to the same language as the player's mobile device current language setting. When a player needs or wants to change the language, the player

needs to go into the settings section and change the language as required. The illustration below shows how players can select their preferred language in the language setting via local language form or flag. From the localization perspective, the flag form of the language setting section could be debatable, as there are many countries that use the same language as an official language. However, as explained in Chapter 3.1.1, using the flag of a country that has the most players is common in mobile game localization.

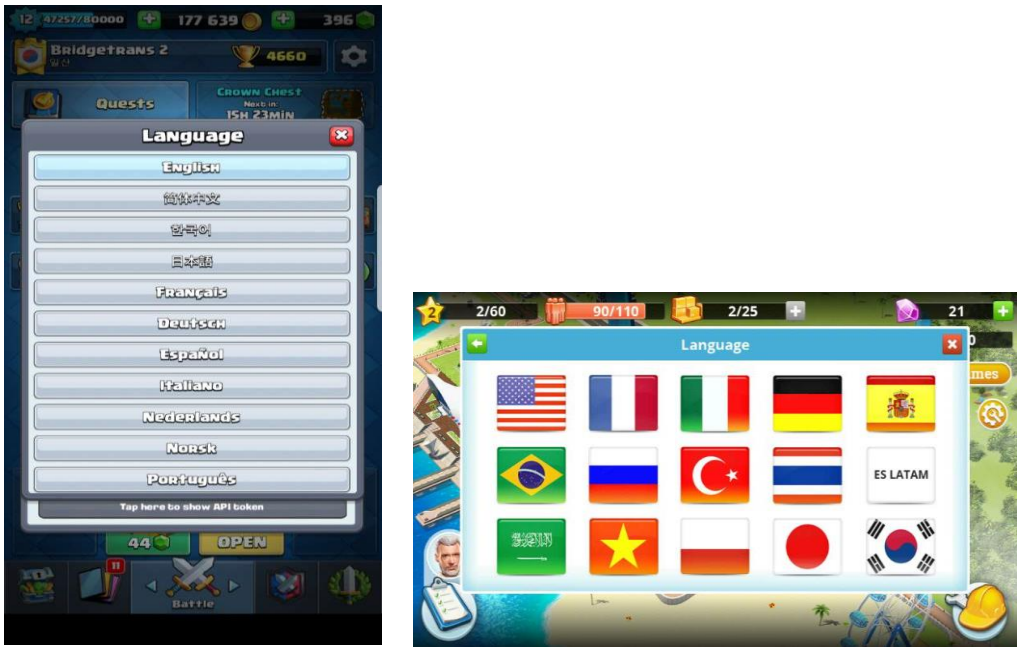

Figure 3-1. Language Selection Menu

The illustration below is an example of a global one-build game. As we can see, the game image and content are exactly same and only the languages are different. Hence, players from various countries can play the same game simultaneously with their own language. According to the Telecommunications Technology Association (TTA), global one-build games are the recent trend for game developers launching

games in multiple countries. Since revenue from the global market makes up a significant part of the total revenue of a game, many game companies try to export their game to as many countries as possible. In these global one-build games, internationalization is already considered from the game development stage. As a result, there is no need to localize software assets including images, characters, system strings or coding. This leads to economies of time and cost for localization as well as making simultaneous shipment more effective. Nevertheless, there are still cultural references including character names, place names, puns, and age ratings in game texts to localize. In global one-build games, these cultural references are localized through text translation without amending or deleting any images. Even in-game movie assets are the same in all countries with the text localized for the target countries. This will be discussed in detail later on in the movie assets localization section.

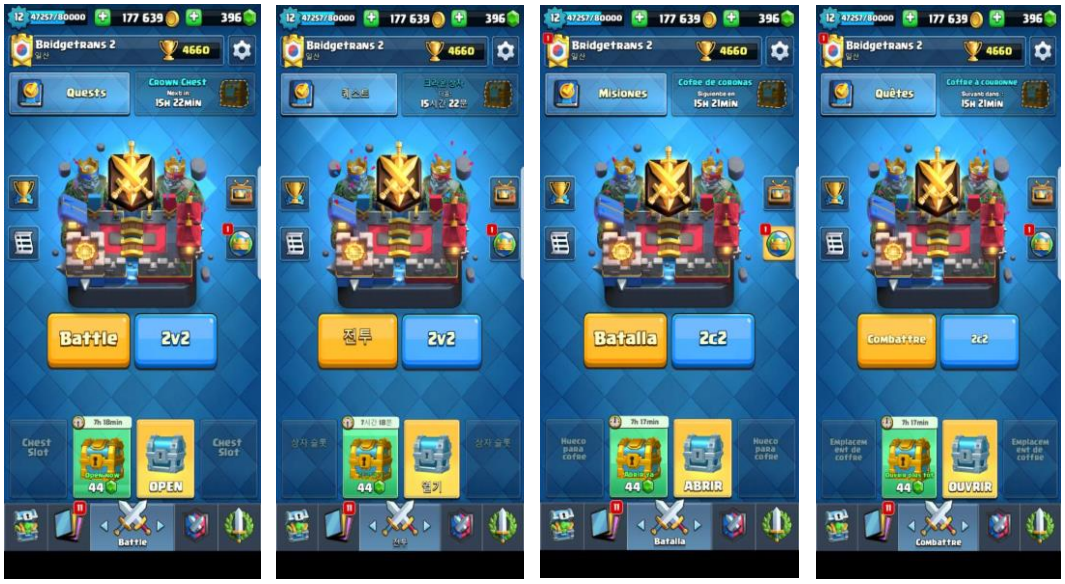

Figure 3-2. Global One-build Game in Different Languages

3) Full localization: similar to the video game full localization as explained above, the large sized mobile games such as RPG are localized at a full localization level. Similar to the AAA titles which are fully localized for each target country in video games, large sized mobile games are also localized at full localization level. For example, the global version of the *MapleStory M* by Nexon includes a new upgrading system and higher grades of weapons that do not exist in the original version. In other words, the same game can have different assets including character images, items, quests or movies based on the cultural and marketing factors of the respective country. For these games, localization includes both textual and non-textual contents, and translation is only one step in the localization process. Although most mobile games are developed as global one-build games nowadays, still there are many big RPG mobile games, and they are released as different versions in each country. A Korean mobile game *Seven Knights* and *HIT* have succeeded in Japan through individual build localization. *Seven Nights* was released in 2015 in 140 countries simultaneously. At its initial launch, the title of the game was *Seven Nights for Kakao* which means it was developed solely for Korean users, and launched on the Korean SNS platform called Kakao Talk. For its first global release, it was translated only into English, Chinese (Traditional), and Thai. It was launched as one-build under the title *Seven Nights*. However, for release in Japan, various game assets including the main scenario, dubbing, and game system, in addition to texts were localized to be familiar to Japanese players. For example, Korean games tend to prefer fast level-up, evolution or upgrade while Japanese players prefer slow growth. Furthermore, Japanese players are familiar with Gacha,

which refers to a lucky draw mechanism for obtaining new characters for the game. In the Korean version, two characters can be merged to create one higher level character, but this was changed to the Gacha system in the Japanese version. Images of characters are also one of the key assets to be localized. Figure 3-3 shows how the players' preference for game characters differs. According to Choi (2009), it is found that Korean players prefer more realistic images of the character compared to Japanese players. Hence, as Figure 3-3 shows, the original character on the left was changed to an animation-style drawing (on the right) for Japanese release.

Figure 3-3. HIT Character Illustration (Left: Korean, Right: Japan) (Source: INVEN)

Cultural references are also important factors to be handled at full localization level. Figure 3-4 shows how the cultural differences in a game are shown. In Arabic countries, the clothing that the original characters are wearing is not suitable, even in games. Accordingly, the characters wear the appropriate cultural costume.

Figure 3-4. Lineage main screen (left: Korea, right: Arab)

In relation to the localization model, O'Hagan and Mangiron (2013) suggest two localization models; in-house localization and outsourcing based on how translators work. In the video game localization industry, in-house localization refers to a team which belongs to a publisher while outsourcing is to an external agency, a localization service provider, who takes responsibility for the entire localization process (Zhang 2015, p. 144). In the case of video games, publishers are generally large sized as developing a video game takes a long time and huge resources are required, and they have in-house localization teams. In the case of mobile game localization, many mobile game publishers are small-to mid-sized companies that do not have an in-house localization team. In addition, considering the internationalization of the mobile game, a separate in-house localization team is not necessary for many publishers. For mobile game publishers, it is rather cost effective to outsource the translation and the publisher focuses on operating the games. In Korea, major publishers such as NC Soft, Nexon, or Gamevil have their own localization teams. Generally the in-house localization team of a mobile game

publisher manages a small volume of translation, communication with the translation agency, making the translation brief, and LQA.

3.2.2 App Store Optimization

App Store Optimization (ASO) is another essential concept in mobile game localization. ASO is the marketing strategy employed to improve the visibility of a mobile application in an app store such as Apple App Store or Google Play Store. It is similar in concept to the search engine optimization (SEO) for websites. The main goal of ASO is to position a specific app in the top rank on search results to promote more downloads for the app.

Many popular online tech blogs such as Search Engine Watch and TechCrunch have used this term, but it was first introduced by Android mobile app developer Johannes Borchardt at a presentation in Droidcon in Berlin, Germany on November 3, 2009. Borchardt admits that he may not be the first person to use this term but there is no other record of public usage of the term prior to this, and he is credited for the term in various media. According to Borchardt, "App Store Optimization means everything that helps your app to be more visible in app stores"[15]. ASO strategy will consider various marketing aspects of a game including keywords, description, icons, screenshots, and video clips. This section will focus on keywords and description,

[15] See http://droid-blog.net/2011/06/23/app-store-optimization-aso-14-keywords-description/

since it involves text localization.

In most cases, the title and app store description text for a mobile game is already ASO considered in its original language. However, a popular search keyword for the source language may not be so popular in the target language. A well thought out keyword phrase may be interrupted or broken up in the target language due to grammatical difference. To enhance the exposure in the app stores, ASO is required. For instance, a game is a shooting game in which the player must shoot incoming zombies before they overwhelm the player. The word 전투 (literally battle) is a popular search keyword in Korean language app stores. Potential translation words for the term would be combat, fight, battle, and war. Through ASO, it is possible to check the term's popularity in the target language app store by searching for the word in the app store. In addition, ASO also shows keywords that result in the highest exposure of other similar genre games.

Although the words are similar, each word displays a different genre of games. If the game is a strategy game involving building up a kingdom and conquering the world, then selection of the keyword "battle" or "war" will be more appropriate than "combat" or "fight". If it's a First Person Shooting (FPS) game in which a player goes around shooting other players, then "combat" will be more appropriate. If it is a martial arts fighting game, then "fight" will be more appropriate. The purpose of ASO is to expose the game to a potential player who is searching for a specific genre

of game. If a player in an English speaking target country is searching for a war strategy game, the player will probably type in “world war game”, “war game”, “war strategy game”, or something of that nature. But if the game description was translated as “fight” or “combat”, the game will probably not show up or it may be too far down the list of search results. But if the keyword is translated as “war” or “battle”, and other ASO key words are applied, then the game will have higher chance of being exposed to potential players. Application of ASO in localization will not only enhance the quality of translation but also increase the marketing potential of the game.

3.3 Mobile Game Localization in Translation Studies

There has been research on video game localization which tries to map game localization in translation studies, for example *Game Localisation: Translating for the Global Digital Entertainment Industry* by Minako O’Hagan and Carmen Mangiron (2013), *Translation and Localisation in Games* by Miguel A. Bernal-Merino (2014), *Digital Game Localization in China* (2015) by Zhang, and other articles about game localization, but it is still an emerging topic in translation studies (Zhang, 2015, p. 42). There are few studies about game localization in Korea as well. Most of the studies are based on online game translation from English into Korean (Lee, 2013, Park 2013, Won, Goo & Kim, 2018, Kim, 2019, Kim, 2021), and recently, a research on translation by game fans (Park, 2021) has been published. These previous research on general game translation and localization is mostly based on video games or online game, and video games have become the standard in game

localization. Game localization itself has not been theorized, however, there are efforts from many scholars to incorporate game localization into translation studies. Mangiron (2006) claims that theory is still catching up with the practice of localization, and a commonly accepted principle in the industry is that localized products should retain "the look and feel of the locally-made products" (Fry, 2003, p.5). Despite the growing volume of research on game translation and localization, mobile game localization is still a new domain in translation studies. Considering that the video game is still a new topic in academic studies, it is not surprising that there are very few studies on mobile game localization. For example, Troy, L., Smith, M., & Gallery, R (2010) focuses on the technical part of the mobile game localization such as localization file format, Term Base eXchange (TMX), or Unicode in their research *Mobile Phone Game Localization*. Sanchez, P. M., & Sanchez, R.L (2016) shed light on the mobile game localization by providing an overview of the mobile game localization process through *The ins and outs of the video game localization process for mobile devices*. The lack of research on the mobile game translation or localization is same in Korea. Although Korea is one of the top countries in the mobile game industry, research on the mobile game localization is almost none. There is a study about translation techniques for mobile games (Park and Oh, 2010), however, translation in this study refers to transferring, not the translation in translation studies. As the mobile game has become the key player in the global game industry in this era, it is worth studying mobile game localization in translation studies. Given the fact that a game is not a standalone element but multimodal unit, several translation field of research can be applied to

comprehensively cover game localization. Therefore, it is necessary to explore each translation theory in game localization. In order to map the mobile game localization in the translation studies, the following sections will compare mobile game localization with related translation studies including audio-visual translation, software localization, culturalization, rewriting and transcreation.

3.3.1 Mobile Game Localization and Audio-visual Translation

Audio-visual translation (AVT) has been an established research area within translation studies since the 1990s (Diaz-Cintas & Remael, 2007), and game localization is often compared to AVT as they share similarities in terms of multi-media. For example, several characteristics such as integration of texts and visual graphics, interaction with final targets, and limitations of applying translation on the screen are very similar. Mobile game localization shares similarities with AVT and video game localization, but there are also differences. Existing research on game localization and AVT agrees that both video game localization and AVT are involved in translation of subtitling and dubbing (Mangiron and O'Hagan 2006, Fernandez 2007 Bartoll 2008, Fernandez-Costales 2012, Bernal-Merino 2013). In both cases, text appears as a form of either subtitle or dubbing, and there is a length limitation for the text. Also, as O'Hagan and Mangiron (2013) point out, most modern video games incorporate written text and graphics as well as audio, often with full motion pictures that are also characteristics of audio-visual media. Mobile game localization also has similar characteristics in terms of subtitles and dubbing. Similarly to the video game, text in the mobile game appears as a form of subtitle, but the mobile

game does not include dubbing to the same extent as video games. Due to the small capacity of mobile phones, only a few mobile games provide dubbing in games or in promotional movies.

Mangiron and O'Hagan (2006, p. 14) identify the different conventions of video game and film subtitling as follows:

1) Game subtitles often appear at a faster speed than in films in cinema, so as to keep pace with generally rapid game actions;

2) In the subtitling of games, the semantic unit is not as important as it is in cinema. One character's dialogue can often be segmented into two or even more lines of subtitles that may not follow semantic units;

3) The length of the subtitles in games has to be rigorously adhered to and is usually calculated in pixels rather than the number of characters so as to maximise the available space;

4) In some cases, game subtitling, for example, the name of the character who is speaking is set as default and appears when the character appears. However, game players can choose to turn off this feature if they prefer;

5) In game subtitling, the use of a different colour, often light blue or yellow is allowed to highlight crucial information.

By comparison, mobile game text shows different characteristics. First, mobile game subtitles do not appear at a faster speed than in cinematic films in general. In many

cases, mobile game text has an arrow which has the function of moving to the next page. Hence, players can have enough time to read the text and move to the next text when they are ready. Also, text that appears while playing is generally not a long text, so players usually do not have issues with reading time. Second, as Mangiron and O'Hagan (2006) point out, Fernandez (2007) also agrees that semantic or grammatical units in game subtitling are not as important as in cinema. However, they are considered in quality assurance in mobile game localization. Some publishers provide guidelines about the number of lines or semantic units such as breaking a line before an adjective for translation agencies. Thirdly, the unit of subtitle length is also different in mobile game localization. Unlike video game subtitle space which is measured by pixels rather than number of characters, the number of characters for one line is generally provided. Hence translators or linguistic testers can adjust the length to fit in the accepted number of characters. The function of turning off a character's name is also different. As mobile game subtitling does not have that function, players have no choice in this. Finally, in addition to Mangiron and O'Hagan's font colour issue, Fernandez (2007) points out a problem with the font of the subtitles used in games, which is consistently white, which is not readable when appearing over a white or light-coloured image. Unlike video games, mobile games are free to use many different colours of fonts in the subtitles. It is totally up to the game developer, and the font colour needs to appear in the translation as well. Hence, there is no issue about unreadable texts due to the font colour in mobile game subtitling.

Another unique characteristic of mobile game localization compared with video game localization and AVT is the fact that players do not know who did the translation for the game. It is obvious that translators have a very important role in both AVT and digital game localization as they are the ones who actually translate the text. Thus, when translation issues are found, the translator is judged by the final users. Especially in film translation, the translator of the film is included in the credits. Video games also often include the name of the translation companies or translators in the credits. On the other hand, it is really difficult to find the translator or translation agency responsible for the translation of the mobile game. Hence, from the player's point of view, the translation issues found in the mobile game are the publisher's responsibility.

3.3.2 Mobile Game Localization and Software Localization

Game localization is often considered as a part of software localization, and that applies to mobile game localization as well. This is not only because a game is software and there are software assets in the game, but also because the terminology 'localization' is itself associated with the rise of the consumer software industry (O'Hagan Mangiron, 2013, p. 87). Many game translation or localization scholars agree that game localization shares similar features with software localization. O'Hagan (2005, p. 78) points out what game localization and software localization have in common in terms of internationalization. Both game and software localization involve making elements such as code, core feature set, and UI generic enough to minimize re-engineering when the product is localized. Zhang (2015, p.

43) also claims that game localization shares several similar features with software localization in regards to both including language translation and software engineering, both sharing an identical localization cycle, and both adopting the Sim-ship model. Bernal Merino points out both the common and differing aspects. He notes that 'multimedia interactive entertainment software' is an accurate term to describe video games, because interactivity is the very core of all computer applications and video games are only one example of this (2013, p. 141). He also points out that linguistically, software products are multi-textual as they contain different types of texts such as end user agreement (legal), hardware specifications (technical), and manual (pedagogical), and the video game also has different assets and file formats such as in-game text, art assets, revoicing and subtitling (2013, pp. 122-123). From the translation point of view, the translatable text is extracted from the software products. Hence, unlike other documents, the text which needs to be translated always includes tags and variables. These tags and variables could affect the operation of the game as well as the morphology and syntax of the language. In addition, the language input issues such as usage of double byte language or double spacing are a serious issue in both software and mobile game localization as they can cause technical problems.

On the other hand, there is an argument that localizing digital games is significantly different from the process of localization of software products. Thayer and Kolko (2004, p. 478) claim that a software program is primarily designed to facilitate work whereas digital games primarily facilitate play, hence, digital games require a

different approach to the localization process. Zhang (2015, p. 43) points out that from the translation point of view, the help systems and tutorials of software tend to be more concrete and specific than those of games, and the translation of help systems and tutorials for games might be intentionally vague in certain areas to maintain the mystery of the game. In the case of mobile game localization, the contrary seems to be the case. First, the help systems and tutorials are much shorter than for video games, and they are generally intuitive so that players can easily follow the instructions. Bernal-Merino (2013, p. 116) also points out that the translation of software products must favour clarity and brevity over other characteristics.

3.3.3 Mobile Game Localization and Culturalization

Game localization is also closely related to the concept of 'culturalization' also known as 'cultural localization'. Similar to computer software applications, where designers and developers unintentionally apply their own cultural values to software interface design (Pyae, 2018), the developer and the writer of the game also add their own cultural factors to the game without realising that it could affect translation and localization. The main aim of game localization is to make the game more enjoyable and according to many scholars, cultural factors are the key aspects for achieving this in game localization. Chandler (2005) argues that culturalization refers to any cultural issues that require attention. Dietz (2006, p. 129) defines culturalization as the adaptation of games "to account for certain cultural conventions and preferences". Finally Di Marco (2007, p. 2) defines cultural localization as follows:

> adaptation of visuals, sound and scripts conceived in one language by members of one culture to another language and another culture, in such a way that they seem at once fully consistent with the assumptions, values and other boundaries and outlooks of the second culture, and internally consistent within the semiotic strategies of the original video game text, visuals and sound.

According to the above definitions, culturalization in a game is intended to address cultural factors and culturalization is a part of localization. However, culturalization as described by Edwards seems to be slightly different from the above definitions. Edwards argues that "culturalization ensures that gamers will not be disengaged from the game by a piece of content that is considered incongruent or even offensive" (2011, p. 21). She also argues that "culturalization is going a step further beyond localization as it takes a deeper look into a game's fundamental assumptions and content choices" (ibid.). From this point of view, culturalization is a higher level modification than localization. Therefore, players enjoy a game more when it is culturally well adapted, and they can engage with game contents at more meaningful level.

Translation of humour is also a part of cultural localization in mobile games similar to other video games. Mangiron (2013, p. 103) points out that one of the main values and functions of humour is to provide fun and pleasure, and humour serves functions such as strengthening the player's sense of belonging to a group and culture,

engaging players and helping them to become immersed in the game world. There might not be lots of humour to translate in mobile games as the average text volume of a mobile game is less than in video games. Nevertheless, it is important to mobile game translation and localization since it's been shown that cultural references actually influence playability. Lee (2013) examines whether or not literally translated humour in a localized video game can be understood by target culture game players. He conducted questionnaires with gamers and analysed how they feel with the humour in StarCraft II. In the study, he found that if translators could not provide cultural information or appropriate humour, gamers cannot respond to the humour. Translators should edit or add hidden cultural references to enable the target players to understand the humour. As O'Hagan and Mangiron claims (2013, p. 104), game translators should have cultural competence and awareness to detect occurrences of humour in games.

3.3.4 Mobile Game Localization and Rewriting

In translation studies, rewriting is a major shift in translation approach from earlier linguistic orientation to one that stresses culture by Susan Bassnett and Andre Lefevre in 1990 (O'Hagan and Mangiron, 2013, p. 236). Rewriting in translation studies sees translation as "one of the many forms in which works of literature are 'rewritten', one of many 'rewritings'" (Bassnett and Lefevere, 1990, p. 10) or "the most obviously recognizable type of rewriting" (Lefevere, 1992, p. 9). O'Hagan and Mangiron (ibid.) applied this notion to game localization. They claim that "rewriting" can be replaced with the concept of "localization", and "literature" can be replaced

with “digital entertainment media”. In addition, they argue that although games are technological objects, the concept of rewriting is highly relevant to the recent translation practice serving the contemporary interactive digital entertainment industry (2013, p. 237). Mangiron and O’Hagan (2006) also argue that “the concept of rewriting can be useful to shed light on game localization by highlighting the significance of culture, power and manipulation”. They also claim, “(g)ame localization as rewriting highlights the translator’s active role in finding innovative ways to transmit the essence of game play experience from one culture to another” (2013, p. 241).

As Mangiron and O’Hagan (2006) point out, “rewriting” is useful to understand the translated text in terms of culture, power and manipulation in mobile game localization. Although it is true that the aim of game localization is to produce the same product recognised under the same brand (Bernal-Merino, 2013, p. 134), there are some game texts that require rewriting based on the target countries’ culture (see Chapter 8.3.6). In addition, the fact that mobile game localization is controlled by the publisher in many ways (see Chapter 5 and 6) is seen as manipulation, as has been pointed out by Lefevere (1992). For example, a game title in a target language is decided by the publisher. Although it can be literally translated, if different vocabulary can make a better impression or a specific word is more recognisable to players, then the title can be translated totally differently by the publisher.

On the other hand, Bernal-Merino (2013, pp. 135-136) has different opinion about rewriting. He argues that the term is more frequently found in the comparative literature field or applied to interlingual translation, complete reinterpretation or remaking of a known story and a fictional world. Hence, there is no clear differentiating feature that would clearly separate rewriting from translating. In addition, he adds that rewriting can be useful in debates in creative writing and comparative literature, but the term seems too broad to explain the process of video game localization as the aim of video game localization is to make it accessible and enjoyable for other language speakers.

The rewriting in game localization is related to Roman Jakobson's three modes of translation. Game localization as a multi-media translation has all three modes of translation as outlined by Roman Jakobson (1959, p. 2). The three modes of translation are:

> Intra-lingual translation or *rewording* is an interpretation of verbal signs by means of other signs of the same language.
>
> Inter-lingual translation or *translation proper* is an interpretation of verbal signs by means of some other language.
>
> Inter-semiotic translation or *transmutation* is an interpretation of verbal signs by means of a non-verbal sign system.

Inter-semiotic translation is also often found in mobile game localization. There are

various versions of mobile games that use the *Harry Potter* motif. In this case, publishers acquire intellectual property (IP) for *Harry Potter* and make games. When it needs to be launched in Korea, this needs to be translated which refers to inter-lingual translation, and finally the Korean text needs to be easy for all ages hence it will be re-written for readability as well as for enjoyment of the game. Several scholars of game translation and localization comment on the intra-lingual translation in games. O'Hagan (2006) points out that most of the dubbed games include intra-lingual subtitles, and inter-lingual subtitles are used for those target languages in which the game is not dubbed. In game localization, intra-lingual translation is often found in two forms. First, intra-lingual translation is often found in LQA when testers rewrite the translated text in order to shorten the text in general. In this case, the translation is between Korean and Korean, in other words, rewording is done. Another intra-lingual translation found in mobile game translation and localization is when a game is edited for a different age group. This is similar to intra-lingual translation in literature translation. An example of this is translating *Gulliver's Travels* from the adult's version into the children's version.

In the case of mobile games, when a game is made for players of age 18 at first service but it is found that the revenue would be better for a lower age, the developer and the publisher decide to change the game to be suitable for the younger age. In doing so, only the game text and some images are edited. In the games that use famous IPs intra-translation also applies. For example, a famous Japanese comic book *Slam Dunk* has been used in many media including TV animation, movies, and

games. As with audio-visual translation, the translation is different according to the media although the source text is the same. In the case of the mobile game, it includes cut-scene movies which are a part of TV animation. The TV animation in Korea is dubbed like most TV animations, but the animation included in the mobile game has a form of subtitles without any voice. Inter-semiotic translation is often found in mobile game localization. In the case of mobile game localization, symbols are often used instead of text due to the small screen of the mobile device. For example, it is well known that 'x' refers to number, not multiplication.

3.3.5 Game Localization and Transcreation

The term "transcreation" has been used in many industries such as literature, advertisement, or game localization. It seems that the concept of transcreation began in pre-colonial India, and in Indian translation history, transcreation is a term which refers to the creative translation of the ancient Sanskrit spiritual texts into modern Indian languages (Zhang, 2015, p. 50). As the transcreative practices in India were often performed on sacred text, transcreation was considered as "readable, not strictly faithful translation" (Di Giovanni, 2008, p. 34). In recent years, the term has gained popularity in various industries and is considered as a portmanteau word which combines translation and creation in order to emphasize the huge amount of creativity involved (Gaballo, 2012, p. 95). In game localization, Mangiron & O'Hagan (2006) introduced the concept of transcreation to describe the freedom of game translators. Luigi Iaia (2014, p. 517) also notes that transcreation grants great freedom in video game localization to adapt original text to target cultures through

additions or modifications. According to Fernandez-Costales (2012), transcreation may be observed in those genres that rely on narrative techniques and well-developed plots like RPG, action and adventure games.

In mobile game localization, transcreation is often applied to notice text. When player start a mobile game, they often see a notice that provides information about downtime, updates or events. Game text is translated by the translator, whereas notice is written by the game manager based on the original translation. As game managers understand the preferences of the game players, they change the text to make it more interesting for the players. An example is found from a source notice sentence from *Dominations* as below.

Source: Silk Road Surplus!

> The Silk Road, a famous trade route from Asia to Europe, was established by the Han Dynasty in 206 BC. A recent boom in commerce along this route has created a surplus of trade goods! Receive double the amount of trade goods in Storehouse shipments from now until September 14, 2pm UTC!"

Target: 수송품 두.배. 상륙작전!

진행 기간: 09/11(금) 23시 ~ 09/14 23시

꺄앗! >_< 부장님이 출장 가셨어요!!! (돌아오지마ㅅ…ㅔ….) 씐난 기분을 몰아 GM 클레오가 쏩니다!

이벤트 기간 동안 [무역저장고]에서 받는 무역 수송품의 양이 3에서 6으로 2배 증가!

As seen from the source and the target text above, the basic form of the structure of the text is different. First, the source text consists of long sentences while the target text looks a lot simpler than the source text. The target text first shows the event time based on the Korean time zone. The second Korean text is completely different from the source text. The second sentence seems to be included for the enjoyment and excitement of the players since the first sentence from the source text is not that important to play the game. The first word and the symbol "꺄앗!" literally means "Hurray!" and the symbol ">_<" represents the facial expression showing an excited smile. Then the next sentence "부장님이 출장 가셨어요!!! (돌아오지마ㅅ…ㅔ….)" is "My boss went on a business trip!!! (Please don't come… back…)". Then it says "With this happy feeling, GM (game manager) introduces an event!" This sentence reveals the Korean work space atmosphere in a fun way. The last sentence explains the source sentence "Receive double the amount of trade goods in Storehouse shipments". As this example shows, the translation is based on the source text but it is rewritten or even manipulated for the target reader.

Although the term transcreation is used in various industries, there are also critical opinions regarding the concept of transcreation. Bernal-Merino (2006, p. 35) argues that the term 'transcreation' does not seem accurate enough to be used in translation studies, and there is no clear definition of 'transcreation'. In addition, he argues that transcreation shares similarities with domestication, localization or target-oriented translation as it implies a target reader centred philosophy of translation (2013, p. 130). In other words, he sees that there is a lack of terminological consistency to validate the term 'transcreation' against the more traditional 'translation'.

To sum up, this chapter has explored the definition of localization and mobile game localization, as well as relevant theories in translation studies. As discussed in this chapter, it is worth studying mobile game localization independently given the definition and characteristics. In addition, very few studies address the whole process of game localization while the others cover game translation strategies and cultural adaptation so far. Since this study seeks to explore the whole mobile game localization process as well as the actors and their relationships in the process, an interdisciplinary theoretical framework is required. The next chapter will examine theoretical framework employed in this study.

4. Theoretical and Methodological Framework

This chapter will explain the theoretical framework employed in this study. Many scholars in the game translation and localization field have argued that game localization is not simply translation but more than translation. This is due to the nature of game products, which are "complex, multimedia, multimodal, technically sophisticated cultural products" (Mangiron, 2017, p. 82). Mobile game localization, too, is a complex process. Even though the scale of the product, such as text volume or graphic size, is smaller than in the case of video games, the general localization process is similar in that it includes preparation, translation and quality assurance (O'Hagan and Mangiron, 2013). However, as discussed in chapter 3, mobile game localization has its own characteristics, which differ from video game localization, so a different approach is required for mobile game localization. As Mangiron (2017) points out, an important characteristic of game localization research is its interdisciplinary nature. It has been approached from various studies such as translation studies, game studies, media studies and culture studies, to name but a few.

In this thesis, mobile game localization will be studied in the interdisciplinary framework for two reasons. First, mobile game localization is a complex process and it is not done simply through translation. This means the traditional textual analysis method in translation studies is not enough to examine mobile game localization. Second, despite the fact that the textual analysis is not sufficient to study mobile

game localization, it is still important because it will show how the human and non-human actors actually influence the translation. Hence, this study also uses textual analysis with examples. Therefore, this study employs Actor Network Theory (ANT) from sociology and skopos theory from translation studies as its theoretical framework. The integration of these two theories will be the base for building a mobile game localization model. First, this chapter introduces ANT, its application in translation studies, and the theory's relevance to this thesis. Subsequently, skopos theory and its application to this thesis will be explored. Finally, the methods used for the data selection, collection and analysis will be examined.

4.1 Actor-Network Theory (ANT)

Actor-Network Theory (ANT) was developed by the French sociologists Michel Callon, Bruno Latour and John Law in the field of science and technology studies as a means to understand the social construction of science (Callon, 1986; Latour, 1987; Law, 1992), and then gradually adopted by other fields including translation studies. ANT primarily focuses on the analysis of a process rather than products, as well as the relationships between actors and how they influence the shape of a network. In other words, ANT does not attempt to explain the reason for a network's existence, instead its emphasis is on how the network is formed. As the name suggests, ANT consists of the elements "actor" and "network". In ANT, the terminologies "actor" and "network" are different from their conventional usage and definitions. ANT views the actor[s] as "entities that do things" (Latour 1992b: 241), "a semiotic definition – an actant - something that acts or to which activity is granted by others"

(Latour, 1998: 7), “anything that can induce, whether intentionally or not, an action” (Buzelin, 2005, p. 197). In other words, actors in ANT refer to both “human actors” and “non-human actors” such as artifacts, devices, graphs, etc. This is the most radical point of ANT: that anything that can affect the other elements can be actors. This is due to the “generalized symmetry” principle (Callon 1986a, p. 199). This means humans and non-humans have the same degree of importance, and the human and non-human should be integrated into the same conceptual framework. Also, ANT proponents believe that both human and non-human actors play equally important roles in the networks (Callon & Latour 1981; Latour 1987; Law 1994).

Similar to the ‘actor’, ‘network’ in the ANT is also different from the standard notion. Network in ANT is not a physical, concrete network. According to Latour (2005, p. 13), a network is “a concept, not a thing out there”, and it refers to “a string of actions where each participant is treated as a full-blown mediator” (ibid, p. 128). Due to the confusion the name states, Latour (ibid, p. 132) even stated that the name should be different, replacing network with worknet or action net to avoid confusion. Later, Latour emphasizes that “network” in actor-network theory is different from its common technical meaning in the sense of a sewage, or train, or subway, or telephone “network” (ibid.). Such networks are created with heterogeneous elements: human and non-human actors. In other words, actors are individual entities while network in ANT is a group of actors connected with each other. In addition, all actors in the network need to play their role to keep the network stable, and they need to cooperate because they depend on each other. Regarding the terminology, Law &

Callon (1988, p. 285) point out that ANT is concerned to map the way in which actors "*define and distribute roles, and mobilize or invent others to play these roles*" [Italics are those of Law and Callon]. According to ANT, society is not deemed to exist out there as some sort of scaffold (Law, 1992). However, this does not mean ANT denies the existence of social structures; it rather argues that society is made up of associations between actors and their relationship with other actors (Justeen & Mouristsen, 2011, pp. 174-175).

In ANT, the emergence of the actor-network is called "translation" (Callon, 1986). Translation in ANT is different from how the term is used in translation studies. Translation in ANT refers to "all the negotiations, intrigues, calculations, acts of persuasion and violence thanks to which an actor takes or causes to be conferred on itself the authority to speak or act on behalf of another actor" (Callon and Latour, 1981, p. 279). In other words, translation is "the transformation of an object during the course of an innovative process" (Latour, 1998, pp. 172-194; Buzelin, 2007, pp. 136). As this translation is a continuously changing process, Callon (1986) divides the network building process into four stages such as problematization, interessement, enrolment and mobilization. The problematization is the initial stage of the translation process in which focal actors attempt to identify the problem and involve other actors to configure a problem-solving network. Then, in interessement, the focal actors negotiate with other actors regarding the roles in the network. In enrolment, actors accept the roles that have been given, and finally, mobilization of allies occurs in which the focal actors maintain their position and the commitment of

the actors they claim to represent. By doing this, a larger actor network is created to support the proposed solution.

ANT allows researchers to observe how the actors move, how the actors create a new network, or how the network becomes enlarged or weakens by "following the actors". Therefore, it focuses on investigating. From this perspective, ANT sees the attempts to open the "black box" by tracing the relationship between the actors involved. As Latour (1996, p. 378) highlights, ANT is a "network-tracing activity" that tries to describe real models. ANT as a "relational and process-oriented sociology that treats agents, organisations, and devices as interactive effects" (Law, 1992, p. 389) is also useful for translation studies, and several scholars have already applied this theory in their translation process research since Hélène Buzelin introduced it to translation studies in 2005. As Buzelin (2005, p. 212) highlights, ANT is useful to "grasp the complexity and the non-linear character of the translation process as well as the hybridity of the translating agent". It is also acknowledged by various scholars from translation studies that ANT is useful to focus on the translation process, actors' roles, and the influence of mediators involved in the process (Buzelin 2005, Chesterman 2006, Kung 2009, Hekkanen 2009). In addition to Buzelin (2005a, 2005b), Abdallah (2005, 2012), Chesterman (2006), Bogic (2009), Hekkanen (2009), Jones (2009, 2011), and Kung (2009, 2015) have applied ANT to their translation studies research. Chesterman (2006, p. 22) suggests that ANT could be applied to translation studies as a way to establish what networks exist; what the various nodes are, both human and non-human; what the

range of the network is; what use is made of each of the nodes; the frequency of links in different directions; the flexibility of the network; or the ways in which compromises are born and become necessary. Abdallah (2005) first employed ANT in analysing both human and non-human actors in audio-visual translation and the quality of translation. Several years later, Abdallah (2012) used ANT to explore how translation production networks are organized and how their actors interact with each other, especially focusing on translators. Zhang (2015) also approaches game translation through ANT. In her PhD thesis, game localization is examined with actors and networks between government agency, translator, technology, game, game player, and game industry. Zhang's research focuses on game localization in China, especially from foreign games to China. Considering the game industry in China is highly influenced by the Chinese government, the study considers the government as one of the key actors in game localization in China. As these studies demonstrate, ANT is useful and could be adopted in translation related studies.

4.2 Actor-Network Theory for This Thesis

This thesis aims to map the network and identify the key actors in mobile game localization by tracing the workflow as well as examining how the relations between the actors influence the final localized product. In mobile game localization, a translator is not the only one "who carries out all the tasks that make up the provision of a translation to a client" (Gouadec, 2007, p. 111), but many other human and non-human entities are involved. In this sense, ANT is the most suitable theory to trace the localization process because ANT considers both human and non-human

elements as actors. According to ANT, actors are individual entities that take actions and can influence others. Accordingly, the perspective that ANT takes on non-human actors, which is that non-human actors play significant roles in the network, is useful for non-human entities in mobile game localization. Therefore, ANT is useful to explain the roles and relations of the non-human elements in mobile game localization.

In addition, the existing textual analysis which has been used mostly in translation studies is not sufficient to reveal the interplay of actors in mobile game localization. Although most existing studies on game localization understand that there are various actors involved in the process rather than just the translator, not enough research has been conducted. As Kung (2015) points out, ANT can effectively bring the attention of translation studies to the process of production and it can help reveal how different actors influence translations. ANT can be seen as similar to the theory of Descriptive Translation Studies (DTS) by Toury. Pym (2010, p. 63) defines the aim of DTS as "to describe what translations actually are, rather than simply prescribing how they should be". In this context ANT is similar to DTS in the way that DTS focuses on describing translation and finding translation norms. However, DTS focuses on analysing the source and target texts, while ANT deals with more than just text, and focuses more on social interaction (Kung 2015).

4.3 Skopos Theory

Skopos ('purpose' in Greek) theory was introduced by Hans J. Vermeer in the 1970s to explain the purpose of translation and the translation action. Prior to skopos theory, equivalence-based translation theory dominated the field of translation studies, and most research involved comparing source texts and target texts. However, some scholars found that professional translating includes many cases where equivalence is not called for at all and became dissatisfied with the relationship between theory and practice, and so skopos theory was born (Nord 1997a: 8). According to Vermeer (1989/2004: 234):

> What the skopos states is that one must translate, consciously and consistently, in accordance with some principle respecting the target text. The theory does not state what the principle is: this must be decided separately in each specific case.

According to skopos theory, one of the most important factors in deciding the purpose of translation is the receiver of the translation. Hence, translators should understand the reason for translating the source text (ST) as well as the function of the target text (TT). As a result, skopos theory lays less emphasis on equivalence compared with traditional equivalence-based translation theory. Instead, it postulates that there are three rules that translation should follow: skopos rule, coherence rule, and fidelity rule. The skopos rule is the top-ranking rule and highlights that "the end justifies the means" (Reiss and Vermeer, 1984, p. 101; Nord, 1997, p. 29). Vermeer (Nord 1997, p. 29) explains the skopos rule as:

> Each text is produced for a given purpose and should serve this purpose. The Skopos rule thus reads as follows: translate/interpret/speak/write in a way that enables your text/translation to function in the situation in which it is used and with the people who want to use it and precisely in the way they want it to function

In other words, according to the skopos rule, depending on the purpose of the translated text, the translation could be free or word-to-word translation, or "anything between these extremes" (ibid). TT does not have to convey the ST and can be changed according to the purpose of the TT. Therefore, translators need to use translation strategies that can achieve the purpose of the TT, and should be able to justify the choice of a particular skopos in a given translational situation (ibid). Secondly, the coherence rule states that "the TT must be interpretable as coherent with the TT receiver's situation" (Munday, 2016, p. 128). In other words, translators should consider intended users' (assumed) background knowledge and situations, and this helps receivers to better understand the TT. Munday (ibid.) notes that if the TT does not fit the needs of the TT receivers, then it is not adequate for its purpose. Thirdly, the fidelity rule occupies the lowest position of the three rules. It states that there must be coherence between the TT and the ST, and that the TT must have a certain relation with the ST. However, as Munday (ibid) explains, the fidelity rule does not say what exactly this coherence relationship should be. In sum, the hierarchical order of these rules posits that the translation first should ensure that it fulfils its purpose, then ensure that the TT is coherent in itself, and lastly, ensure that the TT has coherence with the ST. The theory was not uncontroversial, though. It

was criticized on the basis that it could be interpreted as suggesting that translators can choose any purpose they want. Nord's function plus loyalty model (1997) underpins this criticism. Nord notes that translators have 'loyalty' which is responsibility, and this gives the skopos theory an ethical element. According to Nord (1997, p. 125), 'loyalty' means that "the target-text purpose should be compatible with the original author's intentions".

4.4 Skopos Theory for This Thesis

It is obvious that the main function of game localization is to provide players with the game in their own languages, so that they can understand and enjoy the game. According to O'Hagan and Mangiron (2013), the priority of game localization is to maintain the gameplay experience for the target game players, "keeping the 'look and feel' of the original". Considering this function of game localization, past academic studies on game localization have adopted skopos theory for their explorations of game translation. O'Hagan (2015) argues that game localization can be explained within the skopos theory framework. A functionalist approach to translation is opportune, as the key goal of the final localized product is to prioritize the entertainment function in the target culture.

Šiaučiūnė and Liubinienė (2011) note that skopos theory could be a toe-hold for game translators and the most suitable for game localization as the aim of localization is to make as many alterations as it may require so that a game is made

easy to use and understandable for its consumer. Fernandez Costales (2012) also agrees that video game translation may require a functionalist approach where the strategies are selected according to the context and the particular purpose, or skopos to be fulfilled. Chung's (2012) research on casual games script translation on Facebook, too, draws on skopos theory, emphasizing that the function and purpose of script translation should be decided by game players. According to her study, in the case of game localization, game players who are the end users are justified in deciding the function and purpose of game translation, and they are correspondingly entitled to evaluate the quality of game translation from their gaming experience. On the other hand, some scholars consider skopos theory as a useful theory for game localization but may not go beyond providing professional translator candidates with a "superior standpoint" (Odacıoğlu, 2017). Hence, Odacıoğlu (2017) proposes to move towards an 'integrated localization theory', combining skopos theory and translation studies theories within the context of localization theory. Zhang (2015) also agrees in her PhD thesis that skopos theory sheds light in discussing translation strategies applied in game localization, but that this does not provide a sufficient framework for game localization. These arguments see a game as a complex product which requires more than just translation for global service.

The above mentioned studies all agree that skopos theory is appropriate and useful to explore game localization, especially to analyse game text translation. However, it is important to address that the existing research has been carried out based on translation for players only. In this thesis, the publisher is considered as a key actor,

and the purpose of the publisher for the localization is also examined. In the mobile game localization, publisher involves in the title translation and the app description or app marketing text. The purpose of localization of these two assets is to gain most exposure to the players. In other words, the recipients of the TT should be considered for most game assets, while business aspects should be considered for the title and marketing text translation. Considering the fact that the ultimate purpose of game localization is to make revenue through providing well localized games to players, translators are not the only ones responsible for the title and marketing translation, but other stakeholders are also involved in the translation. Until now, game title and marketing translation have been studied from a literature perspective. However, in this study, game title and marketing translation are examined focusing on the marketing skopos.

In this study, the skopos of the mobile game text translation is characterized by playability, entertainment, marketing and pivot translation. Under these skopos, there are sub-functions including informative, expressive, and persuasive suggested by O'Hagan and Mangiron (2013). According to these categories, the translation of each asset and LQA will be analysed. In addition to the translation itself, the skopos of the game has an important role in the LQA stage. Given the fact that LQA is a polishing stage to make the translation look appropriate in the game, this stage can completely draw on skopos theory. During the LQA, testers try to amend the translation in order to achieve the purpose of the localization which is to immerse gamers into the game, and allow them to experience the 'look and feel' of the original in their culture. To

achieve this, translators change words or sentences, which we can consider under two concepts, 'carte blanche' and 'playability'.

According to dictionary definitions, "carte blanche" means "complete freedom to do something" (Cambridge Dictionary) or "complete discretion or authority" (Collins Dictionary). Johann Roturier argues that carte blanche could be a solution when adaptation issues appear throughout a document that is trying to trigger a reaction from the user. In this case, rather than being specific about how the content should be translated, "translators may be given complete carte blanche to create a document in the target language that matches the intent of the source text" (2015, p. 174). Both academic literature and the game industry address this "carte blanche" translation and localization strategy. However, it seems that industry adopts this concept more broadly than academic literature. For instance, Blizzard Entertainment's 'carte blanche' localization strategy includes not only the translation text but also all other localization assets. Blizzard Entertainment's StarCraft II localizations were given 'carte blanche' to change anything and everything related to audio and graphics in addition to text localization (Barnes, 2012)[16]. On the other hand, O'Hagan and Mangiron's carte blanche is much more focused on translation. They argue that:

> Translators are often given *carte blanche* to modify, adapt, and remove any cultural references, puns, as well as jokes that would not work in the target language. Localisers are given the liberty of including new cultural

[16] See https://www.kinephanos.ca/2015/playing-with-the-trace/

> references, jokes, or any other element they deem necessary to preserve the game experience and to produce a fresh and engaging translation. This type of creative licence granted to game localisers would be the exception rather than the rule in any other types of translation (…) With games, fidelity takes a different meaning whereby the translator does not have to be loyal to the original text, but rather to the overall game experience. (2006: 15)

As seen in this argument, O'Hagan and Mangiron specifically claim that carte blanche is given to translators and localizers (they use both "translators" and "localisers" synonymously) who are responsible for the language. As argued by O'Hagan and Mangiron, it is prestigious for game translators and localizers to be given the right to change the translation without faithfulness to the source text. Video games are products that are not designed to convey certain significant ideas to the audience, but they must be entertaining and bring profit to their producers. In other words, the game translators receive carte blanche in order to sell the game in the local market better (Mateusz, 2013).

Playability is the main goal that all game companies seek to achieve the success of the game. As Bernal-Merino (2014, p. 40) points out, playability is crucial because it affects not only the final feel of the product but also the player's enjoyment of the game experience. Maintaining the playability in the localized game is important so that "game immersion can be achieved and maintained successfully by taking the suspension of disbelief a step further and creating a convincingly personal

experience for players each time they enter the game world". The following definition from the online Usability Glossary explains playability from the gamer's point of view:

> The degree to which a game is fun to play and usable, with an emphasis on the interaction style and plot-quality of the game; the quality of gameplay. Playability is affected by the quality of the storyline, responsiveness, pace, usability, customizability, control, intensity of interaction, intricacy, and strategy, as well as the degree of realism and the quality of graphics and sound.[17]

Since the main priority of game localization is to preserve the look and feel of the original game play experience (Mangiron and O'Hagan, 2006) for the target language players, playability should be considered an important factor. Regarding playability, Ponnada and Kannan (2012) explain that the primary characteristics that make a mobile game enjoyable are its content, storyboard, rewards, graphics, sound effects, and user experience. These playability components are all strongly related to localization. For example, the storyline, content, rewards, interaction, graphics, and degree of realism are all factors related to localization.

González Sánchez, Padilla Zea and Gutiérrez (2009) define playability as "a set of properties that describe the Player Experience using a specific game system whose

[17] See http://www.usabilityfirst.com/glossary/playability/

main objective is to provide enjoyment and entertainment, by being credible and satisfying, when the player plays alone or in company". They also claim that "playability represents the degree to which specified users can achieve specified goals with effectiveness, efficiency and especially satisfaction and fun in a playable context of use". The above mentioned studies on playability reflect skopos theory. In order to maintain playability in localized games, it is important to understand the purpose of game assets that need to be translated and to establish ideal translation strategies for each asset.

An example of poor quality of mobile game translation shows how playability can be affected. For example, a mobile game *Seabeard* in Korean is well known for bad translation. This game is considered a successful mobile game with more than 1 million downloads in the world. However, complaints about the Korean translation are constantly aired through personal blogs or the game community.[18] The beginning of the game is translated without any problem, but when players play a little deeper, it is not possible to understand the Korean translation. According to the players' opinions about the translation as shown in figure 4-1, they want to quit playing the game as they cannot understand what they have to do in the game, or because the Korean text seems like a riddle for which players need to find the answer. It is obvious that text translation should be precise. Especially for games that include various quests, players are not able to complete the quests when they cannot

[18] Seabeard Korean community, https://cafe.naver.com/seabeard

understand the text. In other words, bad translation seriously affects the playability.

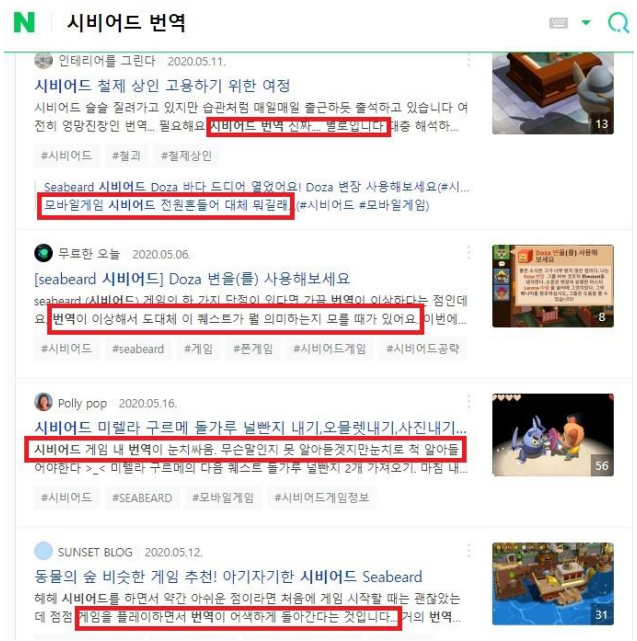

Figure 4-1. Player's opinions about translation of *Seabeard*

In a nutshell, skopos theory is useful to explain translation strategies since it emphasizes the purpose of target rendering. Furthermore, skopos theory can be applied to explain how and why the translation is modified in the LQA process.

4.5 Methods for This Study

This thesis aims to develop a mobile game localization model by illuminating the mobile game localization process as well as identifying the 'actors' involved in the overall process. As discussed in 4.1 the key methodological principal of ANT is "following the actors". Accordingly, this study investigates how the actors move, make a network, or disappear. To do so, this study conducts a case study based on mobile game localization from Korean into English. This thesis is also an empirical

research which means analysing problems by means of data rather than relying solely on logical argument (Kunzli, 2013, p. 53). In chapters 7 and 8, I will pay particular attention to the translation and the LQA by means of trace analysis. Trace analysis refers to the analysis of data which is already available, and the classic example in translation studies is the analysis of a translation with its source text (ibid.) This section starts with a brief review of the suitability of a case study approach for this research, to then discuss data selection, collection and analysis.

4.5.1 Case Study

A case study is a method that enables a researcher to examine the data within a specific context, and it can be considered when a holistic, in-depth investigation is required (Zainal 2007). According to Yin (2009, p. 18), a case study is defined as "an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident". Consequently, a case study approach is suitable for ANT research. Camila Braga and Maribel Suarez (2018) note that the works that use ANT should incorporate methods capable of exploring the phenomenon considering the context in which they occur. A case study could be anything from an individual person or text to a whole organization, as well as a process or an event (Saldanha & O'Brien, 2014, p. 207). In this research, the case study is the 'network' of Korean mobile game localization, more specifically, Korean mobile game localization into English. As a business person as well as a game translator myself based in Korea, Korean mobile game localization network has been chosen for the case study.

According to my experience with many other game publishers and LSPs in other countries, it is found that the mobile game localization network is almost similar in other countries as well. Through this case study, this study seeks to identify and describe the overall process of mobile game localization and to propose a mobile game localization model based on mobile game localization processes and actors with their various and at times differing translation strategies and skopos. It is important to note that since ANT is a process to open a black box, my own experience in the industry helps to look at the inside of the whole process. In particular some parts of the network in this study such as publisher – app stores, or tester – device have not been studied or revealed in academic literature. Hence, many references or examples of these networks in this study are from industry.

4.5.2 Data Selection and Collection

In ANT, researchers can observe the actor-network, conduct interview, or analyse non-human actors in order to trace the movement, creation or disappear of the network (Latour 2005). According to Saldanha & O'Brien (2013, p. 217), combining multiple sources of data provides a good way of verifying the reliability of the findings from any one of the sources. Based on this, this thesis use game translation text analysis, Internet research, and observing the mobile game localization process in order to analyse the actor-network in mobile game localization. Considering that the case study is a broad method that may encompass the use of several types of collected data, following data is collected for this thesis.

4.5.2.1 Primary Material

In translation studies research in general, texts such as source texts and translations in particular, constitute one of the primary sources, and case studies are often based on written sources (Saldanha & O'Brien, ibid., p. 218). In the case of mobile game localization, too, the game texts, both source texts and translation, are essential material. Through the texts, not only can the translation strategies be revealed but also the influence of each actor on the translation can be explained. For this research, game texts including in-game text (UI, system message, tutorial, quest, skill, item, character, help message, dialogue), voiceover text, game title text and marketing text are collected to conduct textual analysis on translation and LQA. It is important to note that separate translation text and LQA conducted text are collected for this research to explore actors, networks and skopos of the translation stage and LQA stage in detail.

Generally, it is extremely difficult to gain first-hand information from game developers and publishers due to confidentiality issues (O'Hagan, 2009, p. 216). However, in the case of mobile games, it relatively easier to obtain the final source text and translation text compared to video games. As explained in chapter 2, mobile game users can change the language in the language setting section in game. Therefore, for research purpose, researchers can see the language they want as long as the game provides the language. Nevertheless, it is still very difficult to obtain the first version of translated text which has not completed LQA yet. The text that can be obtained from the actual game is the final version of the translation. In other words,

the translation text that players see is already reviewed and edited, not the first version of the translation. In order to examine how the LQA affects the translation, this study selects the game that I can obtain as a business person myself in both a translation agency and game publisher. The games selected and used for this study are globally published Korean mobile games from various genres. Most examples used in this research are from *Guardian Soul* (RPG game, published by Mobirix, 60,000 words), *Civilization War* (strategy game, published by Clegames, 50,000 words), and *Fishing Hit* (casual game, published by Fingertap games, 4,000 words). Note that these games did not require non-disclosure agreements (NDA). As discussed in the mobile game genre (chapter 2), mobile game genre can be classified as a story based and complicated game and a simple game upon translation point of view. Although the volume of the text is different in each genre of games, the general localization process is almost the same. Hence, I believe that it is useful to use examples from each genre in order to show that mobile game translation strategies and localization process are not just for a specific genre, but they can be applied to most games. In addition to these games, other mobile game texts are collected through actual game playing in both languages in order to explain mobile game translation.

4.5.2.2 Secondary Material

For this research, academic literature and Internet Data Collection are the main secondary data. The literature review is essential in the case study in order to contextualize theoretical viewpoint or subject area, and academic literature also can

be a key source of information (Saldanha & O'Brien, 2013). In this study, existing studies and academic articles are helpful to build a mobile game localization model, and to map the network.

In order to obtain industry opinion about mobile game localization, this thesis uses Internet search as a means of data collection. As Best and Krueger (2004, p. 1) point out, the Internet has emerged as a popular medium for data collection, and more researchers are relying on the Internet. For this thesis, data on the localization process from the translation industry (graphs or text descriptions of the localization process from major translation companies) and statistical data about the game industry such as yearly game market revenue in Korea and globally, global game market per region with growth rates, forecast per game platforms, to name but a few are collected from reliable sources such as Newzoo or KOCCA. This statistical data provides official information about both the game and game localization industry situation, for instance how import and export of games has been changing, or how mobile platforms have been growing in the game industry. This data is used to support the current situation of the Korean mobile game localization industry for this study. In addition, due to the lack of research on mobile game localization, industry stakeholders' opinion is important for this thesis. In particular, the relevant data pertaining to the importance of LQA in the mobile game localization, the mobile game industry trend, and some parts of each actor's role in this study are obtained from the data through Internet search. The Internet data collection for this thesis started since the beginning of this research, and has been constantly updated as the

mobile game industry is a fast growing industry. The industry opinions are mostly obtained from large LSPs' websites and game industry statistics websites.

4.5.2.3 Physical Artefacts

Physical artefacts are another source of information that is "non-textual objects that are revealing of the situation or play an important part in the event or processes studied. These can be technological devices such as tools or instruments, a work of art, photograph, etc" (Saldanha & O'Brien (ibid., p. 224). The physical artefacts collected for this study include screen captured images and data graphs. In mobile game translation, text based translation can be changed according to game images, play interaction, length limitation, or dubbing. Thus screen captured images can physically show how and why the translation was changed during the localization process. The screen captured images are obtained by playing actual games that are downloaded from app stores, performing LQA, and searching internet.

4.5.3 Data Analysis

Saldanha & O'Brien (2013, p. 228) note that analysing case study data can be considered as trying to find an explanation that makes all pieces of evidence fit together as part of a large puzzle. They also note that the data analysis process is "partly deliberate and often determined by a previously chosen conceptual framework, and is partly unconscious and determined by our world-view and by presuppositions we may not even be aware of" (ibid). Regarding this, this study

analyzes the overall network and localization processes, using ANT and skopos, to then propose a mobile game localization model. First, details of all actors involved in the localization process (human and non-human), and their relationship and interplay are examined. Then, a textual analysis is conducted. Based on skopos theory, the collected data is analysed by function of the text: providing players with the same 'look and feel', maximizing exposure, and the role of the source text for other language translation. For this thesis, textual analysis does not only mean analysing the translation and LQA in mobile game localization, but it is also used to explore how the various actors impact on the translation, in both linear and non-linear ways. Due to the fact that text translation and LQA are the main stages of mobile game localization, textual analysis is the fundamental method to explore how mobile game translation and LQA are carried out. The comparison of the Korean source text with English translation text will show how the text is translated, and the final LQA completed text analysis will identify the changes that have occurred based on the skopos of game localization. Furthermore, textual analysis of the title and the marketing text will reveal how the other actors such as publishers or app stores affect the text translation. The result of textual analysis and comparison will reveal detailed factors that influence the localization process as well as the translation and localization strategies.

5. Mobile Game Localization Process and Key Actors

In this chapter, a mobile game localization model will be proposed with the help of Actor-Network Theory (ANT). Until now, the existing game localization models were mostly video game localization models and explained only the process of the video game localization. Since the mobile game has taken the biggest sector in the gaming industry and is considered as a separate gaming platform (see chapter 2), this thesis proposes a mobile game specific localization process model in the context of Korean mobile game development. In order to adapt ANT for this research, this thesis focuses on mapping the network and identifying the key actors of the mobile game localization process that determine the outcome of the localized mobile game. First of all, the mobile game localization process in Korea will be examined, then the actors in each localization stage will be identified. It is necessary to note that although this study is based on the case of Korean game localization, most countries that publish localized mobile games follow a very similar process. This chapter then identifies all the actors found through the localization process in detail.

In order to apply Actor-Network theory to mobile game localization, all human and non-human factors that are found in the mobile game localization process are considered as "actors" in this thesis. It is found that there are more actors in mobile game localization compared with other translation fields due to the complexity of the mobile game localization process. In addition to the translator, who is generally considered as the main actor in Translation Studies, there are other human actors such

as publishers (also known as gaming companies), project managers, LQA testers and players. At the same time, there are also non-human actors such as translation brief, devices, app stores, and technology which relate to the outcome of the localization. These actors have their own roles and connect with each other in the mobile game localization process. It is also found that the role of each actor is not limited to a specific stage in the localization process.

5.1 Mobile Game Localization Process

Based on the mobile game localization industry practice, this thesis illustrates a mobile game localization process as below in figure 5-1. Figure 5-1 illustrates the whole process of mobile game localization from preparation to the final publishing and update. The existing game localization process is mostly based on video games. The video game localization process by O'Hagan and Mangiron (2013, pp. 128-129) consists of three stages including pre-localization, translation, and post-localization. In that model, the pre-localization includes creation of the localization kit, appointment of a localization coordinator and translators, and preparatory work, the translation includes translation and editing, and finally, the post-localization includes quality testing. The game localization process from LSPs is also similar to this, but more specific. For example, according to a global translation company Andovar, localization process for games includes 1) familiarization, 2) collect data and develop localized content (file preparation, full step translation voice-over), 3) integrate localized content into subcomponents (text, graphic, audio integration),

assembly of subcomponents, 4) QA Review/Testing and delivery.[19] Another localization company SMARTLING points out that the game localization process involves as 1) run a content analysis, 2) develop a locket, 3) localize your code, 4) integrate with a translation management system, 5) actual translation itself, 6) regional localization, and 7) quality assurance.[20] One of the biggest game localization companies based in Korea Latis Global explains the game localization process as 1) analysing, 2) preparation, 3) translation, 4) review and LQA, 5) linguistic build testing and rewriting, 6) post-processing, and 7) managing translation file and TM.[21] As seen from these game localization process in the existing studies and industry, the common game localization process involves with preparation, translation, and quality assurance. The above mentioned examples of the localization process are similar to that of mobile game localization in that the mobile game localization process also includes preparation, translation and quality testing. However, as discussed in chapter 3, the game localization in this study refers to the whole process of servicing a game to other countries. Hence, unlike existing studies or industry process which generally considers the production and the distribution as post localization work, this study sees the publishing and update as part of the localization process due to the mobile game's characteristic of frequent updates (see chapter 2.3.3). Furthermore, when the localization process is categorized as pre-

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[19] See https://blog.andovar.com/localization-process-complex-games

[20] See https://www.smartling.com/resources/101/video-game-localization-how-to-localize-your-video-game/

[21] See https://latisglobal.com/blog/global-insight-blog

localization, translation, and post-localization, there could be a terminology issue. Due to the prefix 'pre' and the suffix 'post', it could be seen that the translation equals localization, and the pre-localization and post-localization are supporting stages. Figure 5-1 is the suggested mobile game localization process, the details of which will be explored in this chapter.

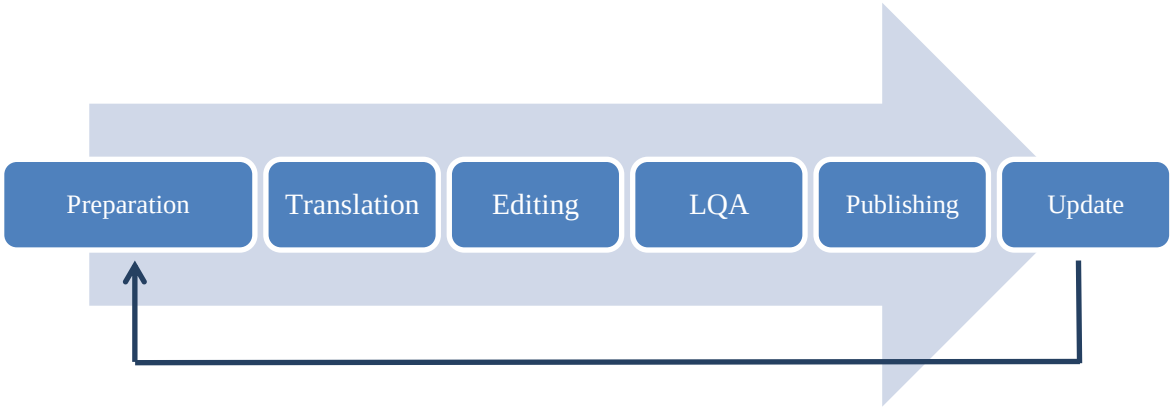

Figure 5-1. Mobile game localization process and stages (by author)

5.1.1 Preparation

The first stage of the mobile game localization is a preparation which consists of all the activities that take place prior to the commencement of the actual localization. O'Hagan and Mangiron (2013, p. 128) note that the aim of this stage is "to ensure the project will be carried out smoothly and on time with minimum problems." Once it is decided to localize a game, three main tasks, being preparing translatable text, assigning translator(s) and making a translation brief including glossary and style guide, are conducted in this stage.

First of all, the translatable text is prepared by the publisher by extracting the game text from the game. Most mobile games are developed by 3 major gaming engines, these being Unity (by Unity Technology, Denmark), Unreal Engine (by Epic Games, USA), and Cocos2D (open source software framework created by Argentinian game developer, Ricardo Quesada). Since most, if not all, translators are not familiar with these programs, the publisher extracts and creates the texts in CSV file format from the game for translators to translate. CSV (or comma-separated value file format) allows the user to store tabular data, and it can be imported to or exported from spreadsheet or database programs such as Microsoft Excel.

As shown below in figure 5-2, when extracting game text, there is a string ID for each text segment. This is necessary for the correct placement of translated texts back into the game. It is highly unlikely that an English speaking game developer will understand Thai, Chinese, or 15 other popular languages in which many globally published games are translated. Hence indexing where each translation should be placed back into the game is essential. In addition, the string descriptions for each segment are often included in the text in order to help with translation. Unlike general documents or texts, game text often includes segments with just one or two words. In this case, it is not easy to understand the intention of the words or where the words are to appear. In this sense, the string description helps translators understand the meaning of the text. These characteristics make game text different from other categories of translation.

	B	C	D	E
1	ID	Description	KOR	ENG
2	1	New Guardian	윈디아	Windia
3	2	Windia's Skill	용오름	Rising Dragon
4	3	Windia's Skill	봄바람	Spring Wind
5	4	Windia's Skill	정령의 가호	Fairy's Blessing
6	5	Windia's Skill	돌풍	Cyclone Gust
7	6	Rising Dragon Description	적군 전체에게 주문력의 888%만큼 피해를 주는 바람을 일으켜 모든 보호막을 제거하고 띄웁니다.	Generates a powerful wind that removes all enemies' shield. Lifts the enemies into the air and deals damage of 888% of Spell.
8	7	Spring Wind Description	4회 공격 시마다 3초간 아군 전체를 주문력의 888% 만큼 지속 회복시킵니다.	Continuously restores HP of all allies by 888% of Spell for 3 seconds on every 4th attack.
9	8	Fairy's Blessing Description	HP가 60% 미만인 아군을 주문력의 888% 만큼 회복시키며 회복 시키는 대상과 자신에게 5초간 상태이상 보호막을 생성합니다. (재사용 대기시간 20초)	Restores HP by 888% of Spell for allies with HP below 60% and generates 5 second shield against debuff over the healing ally and Windia. (Cool Time: 20 sec.)
10	9	Cyclone Gust Description	5회 공격 시마다 강력한 바람을 불러내어 주문력의 888% 만큼 피해를 입히고 적 전체를 넘어뜨립니다.	Summons devastating wind that knocks down all enemies and deals damage of 888% of Spell on every 5th attack.
11	10	New Battle Content	종족전	Battle of Race
12				
13	11	Windia Background Story	추운 곳을 싫어하며 따뜻한 곳을 찾아 날아다니는 요정 소녀. 때로는 자신의 의도와는 다르게 강한 바람이 불어와 모든 것을 날려버릴때도 있다고 한다.	She is a Fairy who travels constantly in search of warm habitat. Sometimes, she unintentionally brings forth powerful wind that blows away
14				

Figure 5-2. Example of extracted translation text

Other file formats that can be extracted from the game development programs are txt or xml file formats, but they are not used as often as the CSV file. Since many of the Computer Aided Translation (CAT) Tools used by translators are compatible with the CSV file format, the translation agency either uses the file as it is or converts it to Excel file format, which is more popular among translators throughout the world.

Secondly, assigning translator(s) is another key task in this stage as this could affect the quality of the translation. As the game industry continues to grow, game translation has become a new sector in the translation industry. This trend leads to demand for translators who understand games and who have a speciality in game translation. As explained in chapter 2.2, game genres are various and each genre has different characteristics. Hence, project managers from translation agencies try to

appoint the most suitable translators based on their career, background and interests to get the best outcome.

Finally, the translation brief which includes glossary and style guide is created in this stage. The translation brief refers to translation reference, and it is useful for both publisher and translator to understand the game and decide translation strategies. However, not all games have these references. Depending on the game size, generating these references is often skipped. For small sized games such as simple puzzle games, the glossary is not as necessary as it is for larger games.

5.1.2. Translation

Prior to examining the translation stage, it is important to note that "translation" in this section includes both translation and editing for the purpose of analysis. The existing studies also consider both translation and editing as translation. In the case of video game localization, the translation stage includes the translation, editing, and voice-recording (O'Hagan and Mangiron, 2013, p. 129). This is a common perspective in the translation industry also. It could be arguable that the translator and the reviewer are two different actors from the ANT point of view as the translation and the editing do not happen at the same time, and are generally conducted by different people. However, from the localization point of view, both of them are included in the translation stage. Hence, this study includes both translation and editing in translation stage.

When a translatable file, glossary and style guide are prepared, the translators are assigned, and start the translation based on the provided texts. Unlike other translation fields, when Korean mobile games are translated into other languages, there are three different translation processes depending on the target language. The first process is when the source text is Korean and the target text is English, Chinese (simplified and traditional) and Japanese. In this case, the text is translated directly from Korean into each language. Since English is a standard foreign language, and China and Japan are regionally close to Korea, there are relatively more translators for these language pairs. Hence it is not difficult to find translators for these languages.

The second process is translating Korean into English first, and then translating that English text into other languages. As discussed in chapter 3.3, recent mobile games are translated into many languages including French, Spanish, German, Portuguese, Russian, Thai, Hindi, Vietnamese, and Indonesian. A game developed in English has no problem in being localized into these languages, since there are many translators for English and for these language pairs. However, it is more difficult to find translators for the above mentioned languages directly from Korean. Therefore, most translation agencies translate Korean into English and then use the English text as the source text, so that English becomes a pivot language (see chapter 7.2.3). In this process, Korean text is not the original text any more, but the English text is the

source text. Hence, the quality of the final target texts is reliant on the English text. For instance, if a sentence is mistranslated from Korean into English, then the texts in all the other languages will need to be edited.

The last process found in mobile game translation in Korea is translating Chinese or Japanese into English or vice versa. This is not a common case in the game translation industry, however, some of the games are translated in this way. This is often found when the publisher buys a game from developers in other countries. For example, when a Korean publisher buys a game from Japan with a licence to publish the game in English, the game text needs to be translated from Japanese into English as well. In this case, the translation is completed directly from Japanese into English in most cases.

When the translation is completed, editing is carried out. In the editing process, editors (otherwise known as reviewers) compare the source text with the translation, and make the appropriate changes to ensure the translation has no critical issues. This includes unifying the writing style, finding and correcting any linguistic issues such as mistranslation, untranslated text, or typing errors. Depending on the size of the localized game, this process is often skipped. These issues are not generally found in games with a small volume of text, but the editing process is highly necessary for games with large volumes of text.

The editing task can benefit from a CAT tool quality assurance (QA) function. The QA from CAT tools is generally conducted after the editor reviews the translation in terms of context such as mistranslation and readability. The QA function in CAT tools is useful to find out issues such as grammar, typos, different usage of terminologies, missing texts or untranslated texts. These issues are easy to miss for an editor; hence it is especially useful when text volume is high. For example, if a character name is saved as “Jena” in Translation Memory (TM) but the translator uses “Jenna” for the same source, it is detected in the machine QA with an error sign. These issues can interrupt playability of the game as players are not able to find the right character when the name of the character is translated differently. By using this QA function, the translated text can retain consistency as well as playability.

5.1.3 Linguistic Quality Assurance (LQA)

One of the main processes to ensure the quality of the localization in mobile game localization is the Linguistic Quality Assurance. LQA is the stage at which translated text is applied to the game, and review of the translation is done while playing the game. When the translation and editing are completed, the publisher integrates the translated files with the game in order to allow the testers to play the game and check how the translation appears in the actual game. In the video game localization process, this is a part of the post-localization process (O’Hagan and Mangiron, 2013, p. 137). Although the classification of this stage between the video game and mobile is different, the purpose of the stage is the same. O’Hagan and Mangiron (ibid) claim that:

this is the stage when translators and reviewers can view the isolated strings they translated in context for the first time. This allows them to detect errors caused by the lack of contextual information at the earlier translation stage and improve the quality of the target version.

During this process, many changes are made based on the context, image, and activity on the screen. The LQA not only reviews textual contents, but also considers non-textual and semiotic elements. This process ensures that the mobile game undergoes the full localization process, not just linguistic translation. During the translation stage, translation is performed based only on text, and often results in target texts delivering a message that is incorrect or that interrupts playability of the game. Through the LQA, the translated text is fine-tuned and localized. The LQA process enhances the quality of the game localization, which enhances game playability through various editing works. The LQA will be examined in detail in chapter 8 with examples.

5.1.4 Publishing

In the mobile game localization, publishing a game refers to launching a localized game in the app stores. Once a localized game is published, the game is considered as the final product for players to download and enjoy. Hence, publishing is generally considered as the final stage after completing localization. For the same reason, most research on translation or localization sees the LQA as the final stage of the localization process, not the publishing. However, this study includes publishing

in the localization process for two reasons. First, as explained in 2.3.3, there are frequent updates which require the same localization process after publishing in the case of mobile games. This indicates that the publishing could be included in the localization process. Second, the publishing procedure could affect the mobile game localization. Once the LQA is completed, the publisher of the game applies for the game to be uploaded to the app stores, such as Google Play Store or Apple App Store. During this process, translation could be changed according to advice or requirements from the app stores. When the localization requirements are met, the game can be uploaded and published for players. In addition, the publishing schedule also affects the outcome of the localization. When the publisher decides to localize a game, the localization and publishing schedule are planned. If the publishing schedule is tight, time for localization is also insufficient and this often leads to poor quality of the localization. For these reasons, this study identifies the publishing stage as a part of the localization.

5.1.5 Update

As explained above, frequent update is one of the characteristics of mobile games, and the various updates such as in-game updates or events are made continuously until the game service is terminated. As shown in figure 5-1, updates are made after publishing, and they are also required to be localized. This indicates that the mobile game localization process is not a one way process to complete, but it is rather a circular process. For the updates, the whole localization process except the LQA is conducted. For instance, the publisher prepares translatable text for the updates and

adds new terms to the glossary file, the translator translates the text, the reviewer edits the translation, the publisher integrates the update text with the game, and finally the updated version of the game is serviced. The LQA is excluded because the volume of an update is in general comparably smaller than the original. However, when there are substantial updates, such as new characters or new maps, the LQA is also conducted.

5.2 Actors in Mobile Game Localization

Considering Actor-Network theory as discussed in chapter 4, various human and non-human actors are involved in the mobile game localization. Zhang (2015) sheds light on the video game localization based on ANT; however, still there has been lack of research which ANT is applied in the game localization. There has been research on the game localization process, the translator, and the project manager respectively. However, there is no research that explains the mobile game localization process together with actors in the process. Therefore, this study will suggest the mobile game localization process and actors in each stage based on the Korean mobile game industry as in figure 5-3. The in-depth exploration of the mobile game localization process revealed that five human actors, namely publisher, project manager, translator, LQA tester, and player, and four non-human actors, being translation brief, device, app stores, and technology are found as main actors based on the localization process. It is important to note that the actors identified in this study are the key actors in the mobile game localization, however, they are not finite, and there may be more actors in other instances. The figure 5-3 shows two different features of the mobile game localization

and of the actors. First, each stage in the process has more than one actor as illustrated. The other feature is that some of the actors appear in several stages at the same time. For instance, technology is an actor that relates with other actors in almost all the stage. In the case of the publisher, it acts as a main actor in all the stages except the testing stage, and the translator also appears in both the translation and update stages. These features reveal that each localization stage is a standalone stage but is related to the other, and the actors also have a network in the process. In this section, human actors and non-human actors are examined in detail.

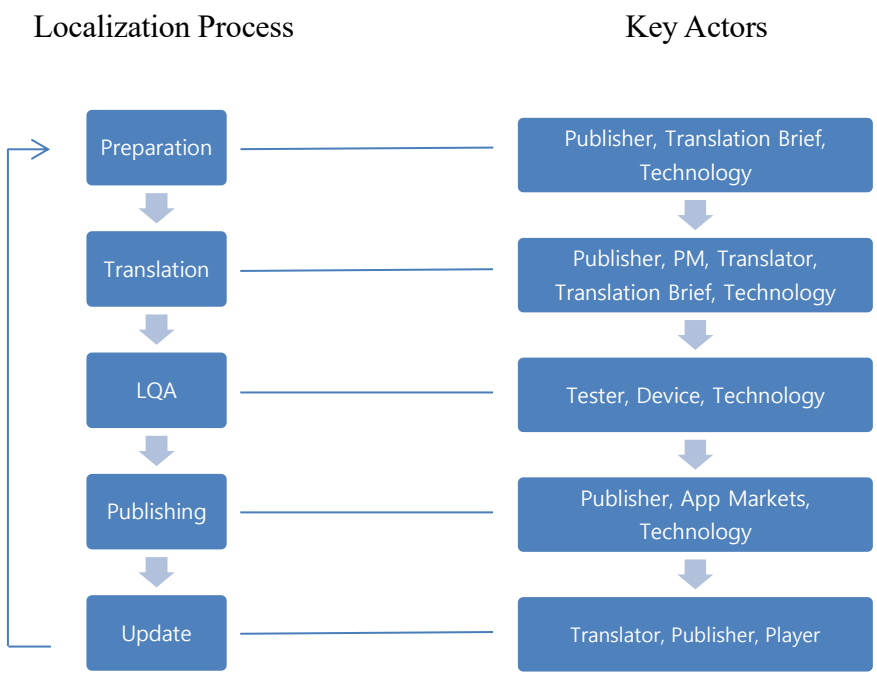

Figure 5-3. Mobile game localization process and key actors in each stage

5.2.1 Publisher

"Publisher" in the game industry generally refers to the gaming company that is in charge of servicing the games. It is often found that both developers and publishers are called gaming companies. However, as the name indicates, the developer and the publisher have different roles in the gaming industry. In general, developers make games and publishers release games that they have contracts for. In this case, developers either sell the games to publishers or make a contract to share the revenue. There are cases where publishers also act as the developer. Some large sized publishers like Netmarble or NCSoft in Korea have their own subsidiary for game developing. In this case they publish their own games together with other games from other developers to make their portfolio bigger. In Korea, game portals such as Hangame and Netmarble have tried to include more games in their portals to become bigger companies and get economic advantages compared with other companies. However, as it was not easy to develop many games at the same time, they adopted a 'publishing' system. Through publishing, they support developing costs for game developers while publishing the games through their portals, and share revenues. For the publishers, there was a risk that the game invested in might not succeed, but it was still helpful to create powerful portals as well as to get more users' attention since they have many games.

Now the publishing and developing relationship has become a key business model in the Korean gaming industry. In the video game industry, the relationship between the developer and the publisher is clear. The developer is considered as creator of the

product, and the publisher as key financier for a given game, and this is a relevant factor in understanding game localization and its position within the gaming industry (O'Hagan and Chandler, 2016, p. 311). However, in the case of the mobile game industry, the boundary between the developer and the publisher is often blurred. As explained above, in the case of some big publishers that make their own games, the developer is same as the publisher. In addition, from the localization point of view, the developers do not involve in the localization process in most mobile game localization cases. It is the publisher that both starts and completes the localization process from the preparation to update. From my personal experience, only very few developers provide opinion about translation because not many developers fully understand the localized languages. Hence, when translators or testers have inquiries about the game, it is the publisher's role to address it in general. In other words, most of the developer's roles in the mobile game localization are included in the publisher's responsibility. In this sense, this study does not separate developer and publisher, but rather publisher includes developer.

The publisher, as a human actor from an ANT perspective, involves the whole localization process. This indicates that the publisher interplays with all the other actors, and the roles of the publisher could affect all the stages. Despite this importance of the publisher in the mobile game localization, the existing translation studies have neglected the publisher's perspective on localization, and not surprisingly there has been a lack of research on publishers in the academic literature. This might be because the translators have been considered as the main actors in translation studies,

while publishers have simply been considered as clients who pay the localization cost. O'Hagan and Chandler (ibid.) also mention that game localization is typically financed by a game publisher. With regard to the publisher in the game localization industry, Chandler (2014) addresses the relationship between developer and publisher in the *The Game Production Handbook.* However, this only shows the relationship between developer and publisher, rather focusing on the publisher itself. O'Hagan and Chandler (2016, p. 316) also explains the relationship between the game development team and the translator. According to Chandler, it is helpful for the developing team if the translator is flexible as to the translation schedule and the volume of the text, because game development works on very tight schedules. If the translator is not able to deliver the translation quickly, the development team has no choice but to use machine translation, and this affects the quality of translation.

Many scholars claim that the purpose of the game translation and localization is to make sure that players enjoy the game. It is obvious that this is the main purpose of the game translation and localization from the translation studies point of view. However, it is necessary to note that the ultimate goal of the publisher, who plays an influential role in the gaming industry as a whole (O'Hagan and Chandler, 2016, p. 311) is to make revenue. The roles of publishers can explain how the publisher can be involved in all the stages of mobile game localization. Prior to examining the roles of publishers, it is worth noting that this study does not include outsourced publishing tasks. One of the new trends in the mobile game industry is outsourcing some of the publisher's work. Since a publisher cannot handle all the localization

works, some of the works, such as operating games or customer service are often done through outsourced companies. These could be seen as separate actors involved in mobile game localization. However, as those works are included in the original publisher's work, this study does not consider those outsourced companies as separate actors. The roles of publishers in the mobile localization process include supporting translation, pricing, marketing, and communicating with app stores.

The first role of the game publisher is supporting translation. This includes deciding languages to be translated, preparing translatable text, communicating with the translation project manager, and applying App Store Optimization in the translation. When a game is chosen for global service, the publisher decides on languages to be translated. As discussed in chapter 2.4 and 2.6, Korean mobile games are in general localized into 7 to 15 languages. In order to decide on the languages to be localized, publishers analyse the target cultures, markets and potential players. When the decision is made, the publisher prepares translation files. As explained in the preparation stage, most of the preparation tasks of mobile game localization are the publisher's responsibility.

While translation is conducted, the publisher communicates with the project manager regarding the translation or terminology issues. Since the gaming industry is a fast-moving industry where new games or new contents are launched every single day, it is important for the publisher to introduce the game on a scheduled date. In order to

do this, the publisher needs to communicate with the translation project manager constantly to ensure completing the translation before the due date. If the translation in not completed, this could affect the whole global launching schedule, and this not only disappoints the players who have been waiting for the localized game creating a bad image of the game to players, but also leads to less profit for the publisher. Hence, the publisher constantly communicates with the project manager in order to prevent schedule issues.

In addition, the publisher is involved in the title and marketing text translation by using ASO. As discussed in chapter 3.2.2, ASO is essential in mobile game localization in terms of the game's exposure. As greater exposure of the game creates greater possibilities for downloading the game, the publisher uses ASO and changes some of the translation from the marketing text such as the game description in the app stores, or the game title. This shows that translation is not only the translator's work but that the publisher could also influence the final translation.

Pricing is another major task of the publisher in the mobile game localization. Despite most mobile games being free to download, there is always in-game purchase where players are able to get game items by paying actual money during the game. The proper pricing of the app is important for the publisher as it is directly related to the revenue of the game, and it is one of the essential factors in order to be featured in the Google Play Store. In mobile games, it is common for the price of

purchasing items shown in the game to be different in each country based on the currency. When the publisher decides the in-game price, it is not simply converted based on the exchange rate, but also considers the target cultures. For example, the price for the *Roblox Premium* is 4.99 in British Pounds while it is 6,500 Korean Won on any day. There are two reasons for this. First, if the price is converted based on the exchange rate, the price is different every time the players try to pay, and this could be problematic for both the publisher and the players. For the publisher, the revenue would be dependent on the exchange rate, and players would feel it to be unfair when the payment goes up due to the exchange rate. Second, the price is based on the commonly used price in the target country. The above example also shows that each country has its own commonly used pricing system. For example, in Korea, the price is generally ending with zeros, while the British price tends to end in point 99. This is because in reality the lowest value now used in Korea is 10, while the 1 and 5 penny units are still used in the UK. The familiarity of the pricing helps the players to feel comfortable making payment.

Marketing the localized game is another key job of the publisher. When a publisher launches a game, marketing is very important since good marketing leads to the success of the game and to high revenue. Hence, publishers constantly promote their games both prior to launching and after launching. In order to expose their games to the public, major game publishers spend millions of dollars on marketing by making eye catching trailers and TV advertisements. The new mobile game advertisement trend is hiring famous celebrities to get attention. If the game is a globally published

game, each trailer and advertisement is translated into the local language by subtitling or dubbing. Creating game events is considered to be a good marketing method. For the publishers it is important to make players interested in the game and encourage them to become loyal players. Events are an effective way to keep the existing players while bringing in new players at the same time. Thus publishers stage various kinds of events including launching events, holiday events, special events and many other events on a regular basis. Despite the fact that most of the global one-build mobile games have the same game contents, the events are localized based on the target cultures. In particular, events that are related to special days need to be fully localized. For instance, not all countries celebrate Christmas or Lunar New Year's Day. As each country has different special days, the events need to be adapted for the target culture.

Managing the game community is a recent trend in the mobile game industry. The recent mobile games tend to create their own game community for the players for two reasons; one is marketing prior to the game launch, and the other is getting feedback on the game from the users. In most cases, mobile games run pre-launching events and provide special items. The new trend of operating a game community is to use a Social Network Service. In order to join the events, players need to sign up or follow the game community. After launching the game, players can share the game strategies, leave comments about the game, join the on-going game events, or communicate with the game developer, publisher or other players in the community. For this, publishers use the most popular platform in the target country. For instance,

Naver Cafe is the most popular community platform in Korea, while Discord is popular in America. The importance of managing the game community is also related to the localization of the game. The community is a place where the players not only exchange their opinions about the game itself, but also actively discuss the translation. When translation or localization issues are found while players play the game, they leave comments and feedback about the issues. When the manager of the community finds the comments on translation, that issue will be delivered to the person who is in charge of it, and it will be solved. Some of the big issues which might lead to social issues need to be solved as quickly as possible. The issues are often handled through customer service. Prompt solving of a problem and replying to players' inquiries or comments can give a good image of the game to players and this can lead to extra downloads and revenue.

When the localization of a game is completed and ready to be launched, the publisher needs to communicate with app stores such as Google Play Store or Apple App Store. As each app store has its own requirements for games to be uploaded, the publisher should have knowledge of those requirements. One of the requirements is rating and censorship. In the case of rating, each app store has a different standard. For instance, the age rating of *Brawl Stars* by Supercell is 7+ in the Google Play Store while it is 9+ in the Apple App Store. In addition, as each country has different censorship, the publisher needs to meet the requirements of each target country's censorship. This is especially true when a game is planned for launching in China, where various factors should be considered to pass censorship. For instance, there

should be no English words in Chinese games according to the Chinese censorship bureau. Although simple English words such as “home” or “go” are used in the Korean version as a UI, their use is not allowed in the Chinese mobile games. This kind of issue could lead to the rejection of the service in the target country. Hence publishers try to address these issues carefully.

5.2.2 Project Manager (PM)

Project Manager (PM) generally refers to a person who is responsible for a project. Both in translation studies and in the translation industry, the PMs are generally in-house workers who manage translation work in a translation agency. In the game industry there is another type of PM in the field of game localization who is in charge of the game itself from the planning to the launching stage. In this case, the game PMs mostly cooperate and communicate with developers in order to ensure the game succeeds in the local area. In small sized game publishing companies, the game PMs often are responsible for the translation and the localization as well. As PMs in the translation industry take an important role in mobile game localization, PM in this study only refers to those in the translation industry. Prior to examining the project manager role in detail, it is worth clarifying the scope of a project. According to Pérez (2002), project management is about coordination, teamwork, planning, and control techniques. In the translation industry, project refers to a translation task that the translation agency gets from clients. There has not been enough research on the project manager role in translation studies.

As Rodríguez-Castro (2013) describes, PM has become an inevitable component of translation work flow. The main role of a PM is to serve as the mediator between the translator(s), the language service provider (LSP), and the end client (Rodríguez-Castro 2013, Pym). As mediators, PMs communicate with both clients and translators. An important role of a PM is assigning an appropriate translator for the project. Generally, each translator has translation projects based on their previous works or interests. Although it is obvious that game translators have knowledge of games and mostly translate games, each translator has special text types for which they are able to provide good quality. For example, one translator may be good at dialogue text while another other is good at marketing text. In order to assign a suitable translator based on the text type, the PM needs to know each translator's translation style.

Sometimes, project managers are asked to remove the game's identifying information when they give the project to freelance translators, or certain publishers or localization agencies erase contextual information such as the title, character names, game genre, and other information. However, this is only in a case where the game is not yet launched in any country and for conducting the sim-ship translation. In the case of games that are already launched, the game itself is a good reference for the translator to understand the game and ensure a higher quality of translation. As seen in this section, the PMs are involved in most localization stages from the beginning. This is to say, PMs are actors in many stages and included in many networks in mobile game localization.

5.2.3 Translator

The translator is the person who takes the most responsibility for linguistic transfer in any translation project. Not surprisingly, translation is the essential stage in the mobile game localization and the translation cannot be completed without translators. Despite the importance of the translator in the translation and localization field, the early translation studies mostly focus on issues in the translation itself, such as mistranslation, translation strategies, or the difference between the source and the target, but not on translators themselves. Recently, with the growing interest in translators themselves, many translation studies scholars have carried out research on translators' competence (Schäffner and Adab 2000; Neubert 2000; Kelly 2005; PACTE 2003; Pym 2003; Kiraly 2000; Bell 1991; Campbell 1998; Newmark 1969; Nord 1992; Shreve 2006; Gouadec 2007). From the ANT perspective, translators are connected to many other actors in the mobile game localization process which indicates that translators interact with others a lot. As this study seeks to explore the roles of translators and their relationship with other actors in the mobile game localization process, this section will focus on game translators' roles and competences in order to identify who the translator is as a key actor in the mobile game localization.

A translator's competence is related to essential elements that translators have to obtain in order to provide proper translation. Gouadec (2007, p. 91) points out that:

> Knowledge of languages is by no means sufficient and the translator must be

> familiar with the subject area of the material for translation or, if practical, with the product or process referred to in the document, but also with the thought processes and value systems shared by those who will be reading or using the translation

He also notes that (ibid) translators should be proficient in all the communication techniques involved and be familiar with different computer environments and platforms. His claim indicates that a translator should have not only the linguistic ability but also knowledge of other aspects related to translation. In other words, the translator is not just involved in text translation, but communicates with other human and non-human actors as well.

In addition to studies of the general translator's competence, the game translator's competence has been studied by various scholars and industry people. Mangiron (2006) categorizes the translator's competence for successful game localization into seven sub categories: 1) familiarity with general software terminology and specific games platform terminology, 2) familiarity with the specific features of screen translation, 3) mastering of natural and idiomatic language, 4) creativity, 5) cultural awareness, 6) familiarity with games culture, 7) familiarity with global pop culture. It is important to note that these competences indicate that there are other competences apart from language proficiency involved in the game localization. Mangiron (2018) also points out that game translators have to deal with many different game genres and text types which requires different skills such as documentation and terminological search, knowledge of the main features and

constraints of dubbing and subtitling, and creativity, in order to provide attractive names for items in their target language. As Mangiron mentions, in her work on translators' competence, language plays a crucial role in games, and using natural, fluid and idiomatic language is important to the gameplay experience and to help players enjoy the game. As game texts include fashionable slang and internet jargon, translators need to get the right style in the localised version as well.

Similar to Mangiron's categorization, Dietz (2007, pp. 2-4) notes five competences needed for game localization including knowledge of hardware and software terminologies (game literacy), ability to play games, ability to solve hardware and software problems, computer skills (such as internet research), knowledge of game genre and contents, communication skills and teamwork. Comparing the game translator's competence as delineated by Mangiron with Dietz's characterization, Mangiron focuses more on the perspective of translation while Dietz highlights skills other than translation skills. For example, terminology related competence, creativity, or familiarity with the specific features of screen translation by Mangiron are all translation related competences, while all the competences that Dietz highlights are not directly related to text translation. In particular, highlighting communication skills and teamwork shows there is more than text translation involved in the localization process, and the translators are related to and interplay with other actors both human and non-human actors in the localization process.

People in the gaming industry have similar opinions about translators' competence.

According to a technology journalist Simon Hill (2018)[22], game translators should be experts in the field the game is set in, and they should be prepared to research, investigate, study and probe for the best possible wording. He also points out that game translators should be gamers, expert linguists, and they must seek confirmation of the purpose and intention of any ambiguous phrase.

In addition to the above mentioned game translators' competence, a few further competences are required in mobile game translators. Regarding game terminology, having knowledge of abbreviations that are often used in mobile games is important. With regards to abbreviation, Pablo Sanchez and Rafael Sanchez point out that it is necessary to have video game knowledge to know, for example, that "BGM" and "SE" are referencing "BackGround Music" and "Sound Effects" respectively. In the case of mobile games, the abbreviation is frequently used due to the small size of the device. Hence, mobile game translators need to know the abbreviations related to games.

Knowledge of the mobile device is also an importance competence that mobile game translators should have. Since the games are played on different kinds of mobile phone devices and tablets, they should know how to use different types of those

[22] See https://www.gamasutra.com/blogs/SimonHill/20150319/239285/What_is_localization_and_why_should_I_care.php

devices. Although translators translate the text on computer, they still need to check games in order to understand the game. In addition, as mobile game text includes app store marketing text, translators need to know how to use app stores for each mobile phone operation system. Usage of CAT tools becomes not an option but a pre-requisite in the translation field. Especially in game translation, it is mandatory to use CAT tools for maintaining consistency and efficiency. Regardless of the volume of the text, using CAT tools has become a basic competence in the game translation and localization field.

In addition, research on the translator has changed from viewing the translator's role as a passive one which simply transfers text into other languages, to seeing the role as an active one, responsible for ideology. (Diaz Cintas, 2012, p. 283). This view of the translator is also found in game localization. Zhang (2015) claims, based on ANT, that the translator is a key actor in game localization, and identifies the translator's relationship with technology, player, government and client. Odacıoğlu et al. (2016) also consider the translator as an active actor in game localization. According to them, translators are the factor that makes the game localization different from the software localization. They argue that throughout the localization project, "translators are responsible for doing a creative and original-like translation in order to entertain the gamer as the source game does." They also claim, "game localization as rewriting highlights the translator's active role in finding innovative ways to transmit the essence of game play experience from one culture to another" (2016, p. 241). This indicates that the translator is not someone who only translates the text,

but who also has relationships with others. O'Hagan and Mangiron (2013) use the term localizer in the same way as translator. Translators in the game localization could be considered as localizers, as games are localized rather than simply translated for global service. However, the terminology localizer could include both translator and tester, while translator specifically means a person who is in charge of translating. In this sense, the terminology localizer should be distinguished from translator or tester.

As discussed in this section, mobile game translation and localization is not a simple task, and various competences are required. As a result, most novice game translators face challenges when they do not have enough knowledge of game translation. In Finegan's (2006, p. 61) words, the challenges for game translators are:

> being able to balance the different styles of writing and translation required in games. A typical game will contain succinct technical text in the descriptive strings in the user interface, the game manual and help system; and it will contain creative writing in the story and the audio script. Delivering quality translations in the various styles is a special skill.

Despite the importance of the translators themselves, so far there is a different perspective on the translators in translation studies. Jones (2009, p. 21) argues that in poetry translation, translators are not necessarily important actors in their production team, and their power tends to be subservient to that of the editor and the source poet respectively. The mobile game localization has some similarity with this argument. It

is obvious that translators lead the translation and take most responsibility for translation, except for title translation. In Francis R. Jones's research, editors are the most powerful actors in multi-poet projects and translators are playing a subsidiary role. As discussed earlier, the title of the game is decided by the publisher with the help of translators. Furthermore, translators are not involved in the testing task either. In this sense, the power of the translators is limited to the translation stage. It is true that it is ideal for game translators to have all the above abilities, however, it is necessary to note that it is not always easy to find those ideal translators. Hence, LQA is a way to make up for the lack of a translator's ability. As explored in this section, the game translator is involved in almost all the localization process from glossary to update.

5.2.4 LQA Tester

Since the importance of the LQA has arisen recently, it is not surprising that there has been a lack of research with regard to the tester. As with other actors such as the publisher and the project manager, the tester has not been the focus, not only in translation studies but in research on game localization as well. However, considering the fact that the tester in mobile game localization has an important role in ensuring the high quality of the localization, it is worth identifying the tester in mobile game localization: therefore this study sees the tester as one of the key actors. The terminology "LQA tester" has not been defined clearly in either the existing game localization studies or the industry, and tends to refer to a person who reviews the localized game in relation to translation, images or cultural references.

The main reason for this unclear definition is similar to the definition of LQA itself. The LQA stands for both localization quality assurance and linguistic quality assurance in both the industry and the academic literature. Accordingly, the LQA tester has also been used interchangeably between localization tester and linguistic tester. An LQA manager Nahuel Gomez Aprile[23] points out in his article[24] that LQA testers are "native speaking linguists with expertise in gaming and local culture play and review games, making sure that there are no errors or problems both linguistically and visually". According to this statement, a tester is a linguist who can review not only the linguistic factors but also other visual factors as well. However, given the fact that linguists do not review or edit factors that are not related to the translation, the definition of the LQA tester needs to be more clearly defined.

On the other hand, game localization scholars tend to distinguish the linguistic tester from the localization tester. Bernal-Merino (2013, p. 297) points out that game testing companies employ teams of functionality and linguistic testers, and that the "linguistic testers have to explore every in-game narrative, option, pop-up caption, system dialogue, and help menu of the game meticulously". Chandler (2014, p. 294) also uses the terminology "linguistic tester" and points out that the linguistic tester should be a native speaker as they are best equipped to find errors in translation and

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[23] See https://www.gamedeveloper.com/audio/lqa-what-is-game-localization-testing-and-how-to-do-it-right

[24] See https://www.gamedeveloper.com/audio/lqa-what-is-game-localization-testing-and-how-to-do-it-right

context, and also that they need to familiarize themselves with the game before they start testing. A localization company SUMMA LINGUAE also highlights the linguistic part of the role and explains that one of the main tasks for the localization QA tester is to ensure the final translation quality, and this requires a solid knowledge of grammatical rules, and that the testers have to be native speakers and be up-to-date with their language. Despite these different opinions on the terminology, there has not been any argument for using the terminologies separately. Hence, this study suggests using “linguistic tester” for the tester who is responsible for the linguistic factors while using “localization tester” for the tester who reviews localization factors other than those directly involved in the translation, such as functional factors, improper images, or other cultural factors.

The linguistic tester and the localization tester could be distinguished depending on the type of the game. In the case of most mobile games, which are global one-build games, the testing is carried out by linguistic testers, while individual games need both linguistic and localization testers. When linguistic testing is required for a game, the testers are employed by a general translation agency. On the other hand, when a game needs complete localization testing including linguistic testing, then both linguistic and localization testers are required, and the localization testers are employed by the publisher.

The importance of the LQA tester can be seen in the job market as well. Recently, LQA tester became a new job title in gaming companies and translation agencies. According to a job description, LQA testers will play games in target languages and identify language or sometimes technical problems, and they are required to have native speaker quality in the target language as well as knowledge of games.

5.2.5 Player

The player in the mobile game localization is the final receiver of the localized product, and the purpose of the localization is "to provide a gameplay experience for the players of the target version that approximates the experience of players of the original version" (Mangiron, 2018, p. 278). Moreover, as explained in chapter 4, game localization highlights functionalism, as in skopos theory which focuses on the target language receivers and grants translators freedom to edit the translation in order to help the players understand and play the game without any issues. Nowadays, the players are not simply passive receivers who translators should consider when they translate the game text and play the localized games: they are more active participants who can influence localization in various ways including translation quality, the decision to localize and marketing. As the players have gained attention from both the gaming industry and game localization researchers, a few studies based on reception studies have been carried out. (O'Hagan 2009, 2016, Costales 2015, Mangiron 2017). While the reception studies in game localization focus on the player's opinion or experience of the game, Zhang (2015) focusses on the player's interplay in the localization process. She sees the player as a key actor

based on ANT, and examines how the player has a relationship with other actors such as the public authority, the translator, the technology, the game and the game industry respectively. She also argues that (2015, p. 168), from translation studies' perspective, players are of particular interest to translators, since the translators need to identify target users before translating, and those game players are a large group that has a diverse background in terms of age, gender, and profession.

The analysis of the game players provides insights into the current trends regarding mobile games. According to Stasita 2022, more than half of the mobile game players were female, and 45% were male players in 2021.

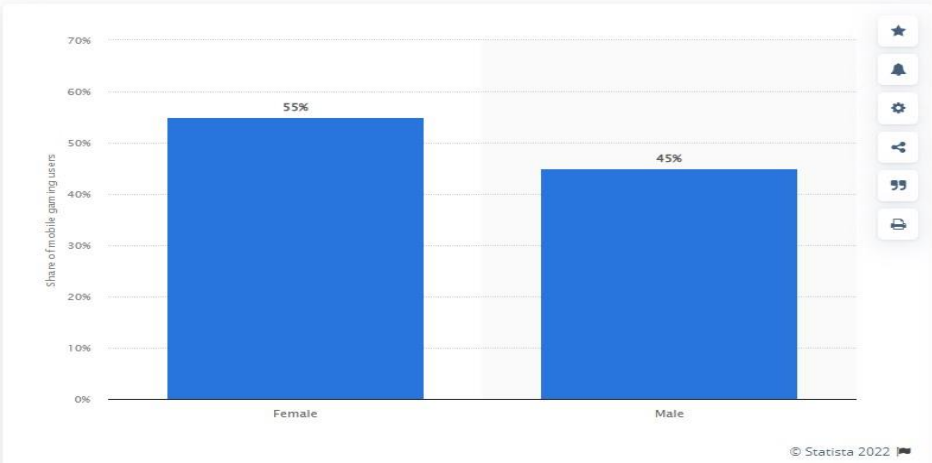

Figure 5-4. Distribution of mobile gaming app users in the United States as of January 2021, by gender (source: Statista 2022)

In terms of ages, in 2018 it was found that the age group between 21-35 years old

played most mobile games with 39% and the age between 18-20 years old played the least with 9% in the US.

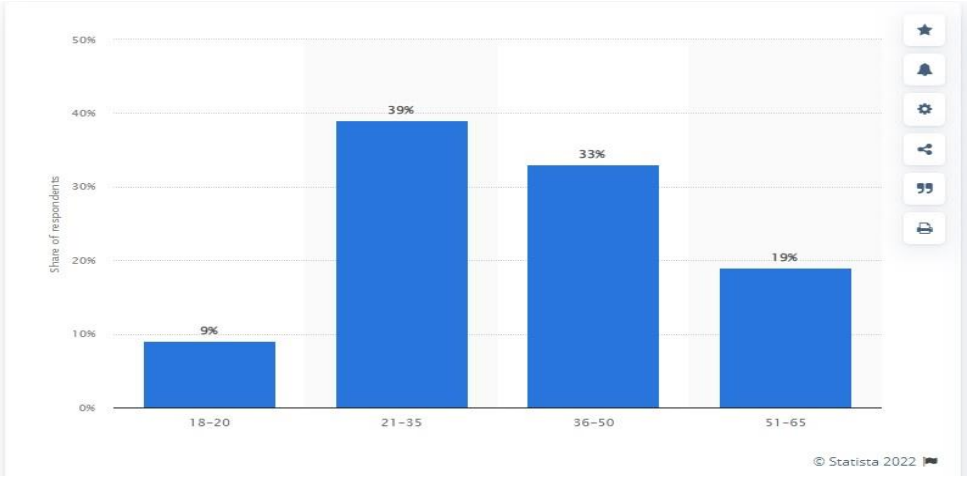

Figure 5-5. Share of mobile gamers world as of December 2018, by age (source: Statista 2022)

The above statistics concerning the players could be different in each country. However, as the numbers are world-wide statistics, it might be useful for both publisher and translator when they decide how to localize games.

5.2.6 Translation Brief

Translation brief, which refers to reference, is generally considered as periphery and not important because the role of the translation brief is to assist translation. Nevertheless, in translation studies, the importance of the translation brief has been recognized, and there have been a few studies on the translation brief based on skopos theory (Nord 1997, Chesterman 2007, Fraser 2009, 2000, Calvo 2018). It is important to note that translation brief includes style guides, instructions for CAT

tools, technical configurations relating to format, or glossaries (Adab, 2000, pp. 21-22). In the mobile game localization, the translation brief takes important role and has relationship with other actors closely. Therefore, this thesis includes the translation brief such as glossary, style guide and the list of forbidden words as a non-human actor.

Translation brief refers to basic information and instructions for translator. According to Nord (1997, p. 48), translation brief should include the target-text addressee(s), the prospective time and place of text reception, the medium over which the text will be transmitted, and the motive for the production or reception of the text. The importance of the translation brief is revealed by Fraser (1993, 1994, cited from 2000). According to Fraser's research, the translation brief was considerable importance in determining the approach the translators took to the job in terms of style, register, amplification and terminology. Adab (2000, p. 54) also points out that a detailed translation brief enables translators to feel that they are doing a better job. However, some clients seem unwilling or unable to provide the translation briefs as they do not understand or are unaware of the complexity of the translation process. As such, the translation brief also influence on localization of mobile games.

In mobile game localization, glossary and style guide are the main parts of the translation brief. Chandler (2005, p. 136) notes that a glossary defines common words used in a game, defines words that may be unfamiliar to the translator, and

indicates which words should be localized. In general, terms from the game such as character names, items, and maps are included in the glossary. For games that require more than two translators, the glossary is an effective way to maintain the consistency of the translation. For example, proper nouns such as a character name or place name can be spelled in different ways by the different translators if the name is not specified before translation. This could cause inconsistency problems through the translation process and affect the function of the game. In the case of small volume of text games, such as casual games, it is unnecessary to make a separate glossary as the total amount of words to translate is generally too low. Instead, these games can benefit from using translation memory (TM) which includes previous translation. In contrast, for the large volume of text games, it is essential to make a glossary in order to maintain consistency. In general, there are two ways to prepare the glossary. One way is that the publisher prepares the complete glossary for translators. In this case, publishers have terminologies to use in their translation managing systems, so they designate the translation for the terminology. This indicates that there is no translator as an actor to be involved in this preparation. The other way to prepare the glossary is for the publisher to sort out the source terminologies and translators to translate the terminologies. In this case, the publisher and the translators communicate for the glossary and make the final decision together. However, the second method is generally done during the translation stage, hence, the translator is not included in the preparation stage as a key actor.

The glossary is generally created in the preparation stage, but it is constantly updated

until the game service is terminated. When the text volume is high, new terminologies are added while the translation is in process, since the first version of the glossary may miss some of the terminologies and these may be found during translation. The glossary is also changed while testing the translated games according to images or game playing. This happens often in a language like Korean which has many homonyms. In this case, the terminologies and the actual images may not match, or may give a very different feeling. Where this is the case, the glossary needs to be changed in order to provide a more suitable translation, and may need to be constantly updated for future translation. Furthermore, the glossary can be changed when there are updates for the game. As explained in 2.2.3, once a mobile game is launched there are constant updates until the service is terminated. In the case of large games, the updates include new characters, items or maps that need to be included in the glossary.

Along with the glossary, a style guide is prepared and provided by the publisher. A style guide provides instructions or guidelines for the translation, such as translation style, length limitation, font related issues, or reference images. First of all, translation style in the style guide refers to writing style, for instance formal or informal and scientific or non-scientific. When the source text from the original game conveys a “cute” or humorous feeling, then the translation also needs to convey the same feeling. Similarly, if a game is about real history or war, then the translation style is likely to be formal than informal. Explanations about speakers’ gender, age or job title are also explained in style guide. In the case of a language

like Korean (language from South Korea), which is well known for “possessing one of the most developed systems of honorifics” (Brown, 2018, p. 303), these characteristics of the speaker have tremendous influence on translation. For example, when a young person and an older person meet, in English, it can simply be “hello” for both speakers. However, if this text is translated in the same way in Korean as “안녕” and “안녕”, the young person suddenly appears very impolite and rude for not using the appropriate honorific. As such, failure to follow the norms of honorifics could cause confusion for players when translating English into Korean. A speaker’s gender also often affects the translation. As the Korean language does not distinguish male and female with pronouns such as he or she, sometimes translators have no idea if the speaker is male or female. When translating Korean into English, this might cause a grammatical error, or the character’s gender could be changed unintentionally. Hence, the speaker’s information is provided through the style guide in order to prevent these translation issues.

Secondly, the style guide provides guidelines for length limitation. The game text generally appears on the screen as a form of small text box which has a length limitation. In order to make the translation text fit in the text box, the publisher specifies a length limit for each segment. Third, as the mobile game is software, font related issues often cause an invalid process. For example, the comma (,) or quotation mark (’) looks the same in any language font in a normal document and it does not affect the final product. However, the software does not recognize it as the same, which causes error. For instance, when translating a game from Chinese or

Japanese into Korean, the Chinese comma or Japanese quotation mark often does not work in the Korean game, although it looks fine on the translation file. In this case, Korean font of the comma or quotation mark is required. Similarly, Chinese characters often appear incorrectly in Japanese text due to the invalid font. In this case, changing to Noto font solves the problem in most cases. This font issue is applicable in other languages, such as Chinese (Simplified and Traditional), Hindi, Thai, Turkish, and Vietnamese, which can all be resolved by using the Noto font family. As can be seen from these examples, a style guide is useful for translators in understanding the client's expectations for the translation and results in fewer translation issues. At the same time, the publisher can also benefit from the style guide. When the translation is completed based on the style guide, the translation quality is likely to be higher, and it can also save time spent on Linguistic Quality Assurance.

Together with the glossary and style guide, some publishers provide a list of forbidden words. In the gaming industry, each country has specific slang and words that may be prohibited in games. Even though a word or specific game content is not a problem in one country, it may cause a problem in other countries. When creating a nickname for a mobile game, players are free to use whatever nickname they like. However, when a forbidden word is included, that nickname is not allowed to be used for the game. For example, the current President's name is not allowed to be used in China, and specific names that are related to international crimes are prohibited in other countries. Depending on the game age rating, slang and swear-

words are also prohibited in most languages. Hence, it is important that translators realize these are forbidden words and do not try to use them in translation. Although it is ideal to provide a glossary, style guide, and the list of forbidden words together at the same time to translators, it is noticeable that they are not always provided together in the translation industry due to the tight schedule or the text volume. In this case publishers provide only a brief message regarding some of the important factors that translators must follow.

5.2.7 Device

In mobile game localization, the device is a non-human actor that interplays with testers in the LQA stage as well as with players. Device itself is part of technology as it is created based on the development of the technology. However, device is specifically related with tester in the mobile game localization, this thesis identifies the device as a separate non-human actor. Depending on the game category, such as mobile games, PC games, or console games (see chapter 2.1), games are played on different devices. For example, PC games are played on computers, console games are played on console devices such as Playstation, Xbox or Nintendo, and mobile games are played on mobile phones and tablets. In general, the device in the mobile game localization refers to mobile phones only. As discussed in the definition of mobile games, tablets such as Samsung tablets or Apple iPads are included with mobile phones in the mobile game industry, since mobile phones and tablets have the same platform. Hence, most mobile games are able to be played on a tablet device as well. The only difference between the mobile phone and the tablet is the size of the

devices; tablets have a bigger screen than mobile phones. However, this does not indicate that all mobile games can be played on tablets. A few mobile games are not able to be played on tablet devices when the publisher of the game does not allow this. In addition to the mobile phone, there is another device, the emulator, which enables a mobile application to be played on a computer. In general, mobile game developers use emulators to test games before launching, and some gamers use the emulator to play the game on their PC. However, as the above mentioned cases are very rare, this study only considers the mobile phone as the device, and focuses on mobile phones since the linguistic testing and actual playing are conducted on the mobile phone device.

The mobile phone device affects the mobile game localization in three ways. First of all, it directly affects the translation due to the small screen of the mobile phone device. The original text for a mobile game is adjusted for the small screen of mobile phones. However, when the text is translated, the length of the text can be different depending on the target languages, hence length issues are very often found during LQA. In the case of computer games, it makes sense to use the scroll bar as Mangiron (2006) notes, while it is difficult to use the scroll bar on mobile phones. Instead, the long texts are adjusted to shorter texts by changing or deleting the sentences in the text, or separated into a few text boxes.

Secondly, the device could have an influence on the selection of languages to

localize. When publishers decide which countries or languages to localize, they consider the average specification of the mobile device in that country. Since the mobile phone has a comparably small capacity such as 32GB, 64GB or 128GB compared with other devices such as computer or console, there is a limitation when localizing larger sized games. For example in Korea, as shown in the chart below, the smart phone penetration was 76.5% in 2020 (Statista 2022) which means that a heavy mobile game with high quality graphics and large content can be played without any problem with speed. However, when a heavy game is localized for countries where the penetration of smart phone devices is low and generally the capacity of mobile devices is small, then the game cannot be localized or needs to be localized in many ways in order to be serviced in those countries. In addition, the capacity of the device is related to the form of text in the game such as subtitle or dubbing as dubbing takes a lot more capacity than subtitle. For example, *Hearthstone* from Blizzard Entertainment takes 3.5GB capacity to include audio dialogue, while the general capacity of mobile RPG games which are supposed to take the largest capacity due to graphics and game resources is between 1GB and 2GB. Hence, most mobile games include only the written form of dialogues due to the capacity of the hardware.

A new trend in the mobile game industry is transferring online games to mobile games. A successful online game has already been played by many players, and many publishers have found that the online game players are also interested in mobile games. Hence, many online games now have a mobile game version. For

example, when *Lineage* and *Tera* were made in a mobile version, they were very much welcomed by players. At the same time, there were various mobile versions of the game launching events saying “now play the famous online game in mobile version”. However, playing the online game on the mobile phone is not simply a matter of changing the device. In order to play the online games on the mobile phone, the publishers have to develop the mobile version of the game while trying to keep the original game characters, stories, or systems as far as possible.

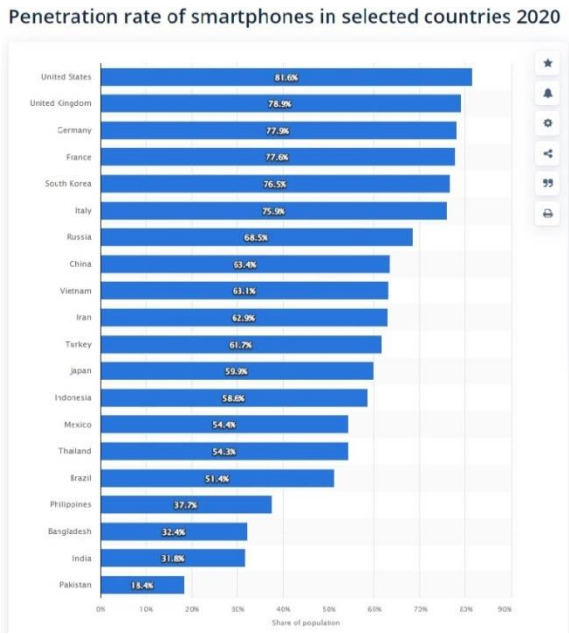

Figure 5-6. Penetration rate of smartphones in selected countries 2020 (Statista 2022)

Finally, in relation to the linguistic testing, the mobile phone itself is the testing object. When a publisher obtains the translated text, the translation is integrated to the actual game for testing. In the mobile game industry, this version of the game is called APK. When testers receive the APK file, they download the file to the device

and run the game in order to check whether there is any linguistic error or functional problem. The mobile phone is the device that players will actually use to play, thus there should be no problem with what the players see or how it plays on the device. For instance, when players find broken or untranslated text while they are playing, this certainly interrupts their immersion in the game. In order for the players to have no problem with the translation as far as possible, testers play the game and fix any problems found prior to publishing. For the testing, the LQA testers use different kinds of mobile phones that are currently released and widely used in the target countries.

5.2.8 App Stores (Application Markets)

An app store is a market where users can download applications. The market for mobile apps has boomed since the introduction of the first smartphone in 2007, and the applications provide phones with specific functionalities for every imaginable purpose. An app store is not only a unique actor in mobile game localization, but is also a new actor which has not been studied in translation studies. Considering that the app stores are governed by algorithms and functioned in a platformized environment, the app stores can be included in the technology as an actor. However, as the app stores have tremendous roles in the mobile game localization, this study identifies them as a separate non-human actor. As the mobile game is a new field in translation studies, the app store is also one of the unexplored actors, and not surprisingly, the existing studies on app stores are mostly conducted in software studies. According to Jansen S & Bloemendal E (2013), an app store is a

“marketplace for applications that are available for instant download”. An online technology media company TechTarget defines an app store as “an online portal through which software programs are made available for procurement and download”.[25] Similar to this, the IT education site Techopedia defines an app store as “an online shop where customers can purchase and download various software applications. The apps sold through app stores are intended for mobile devices”[26].

All these definitions explain that the main role of the app store is a place for downloading and purchasing applications. This role as a place is similar to a book store in literature translation, or a cinema in audio-visual translation. The book stores or cinemas are all places where clients sell their original, translated or localized product, and where the users buy the product. In addition, these places have power to influence revenue. In the case of the book store, the placement of the book directly influences the number sold, and more playing at the movie theatre creates higher revenue. The decision on the placement of books and the frequency of playing movies is made by the book store and the theatre respectively. Similarly, games that are exposed in the “games of the week” or at the first page of the app store get more downloads.

Google Play Store is one of the most well-known app stores among smartphone

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[25] See https://www.techtarget.com/searchmobilecomputing/definition/app-store-application-store

[26] See https://www.techopedia.com/definition/27519/app-store#:~:text=An%20app%20store%20refers%20to,are%20intended%20for%20mobile%20devices.

users. According to Android Authority, Google made the Google Play Store in 2012 to merge all the separated stores such as Android Market (launched in 2008) for apps, games or movies, Google eBookstore (launched in 2010) for electronic books, and Google Music (launched in 2011) for music. Since then, the Play Store has added more features including some additional information on each app listing, and has been redesigned with separate divisions such as Apps & Games and Entertainment. Android Authority claims that even though there are some third-party app stores for Android, Play Store is the mostly used store for Android, and in 2017 over 2.77 million apps and games were available to download from Google Play. From the history of the Google Play Store, it is noticeable that games take up a big part of app stores. Games have their own category, and the number of the games is incomparable to other contents. When a game is uploaded to Google Play Store, the content should follow the age rating from Google. According to Google Play Console Help, by using Google's rating system, the game company can communicate familiar and locally relevant content ratings to users, and help improve app engagement by targeting the right users for the content. In other words, it is important to know the requirements and regulations of Google when localizing a game, otherwise it is not possible to upload the game to the platform even though all the translation is done.

Apple App store is also a very well-known app store among Apple smartphone users. Similar to the Google Play Store, Apple provides localization guidelines through their website. In the guidelines, the App Store explicitly notes that "a localization that reflects an understanding of local customs and trends will increase the likelihood

that your app is well received. Incorporate culture-specific content and reginal seasons or holidays", and "localize your app name and update your App Store metadata such as app description, keywords, and screenshots for each of the countries or regions in which you offer your app. Beyond directly translating your app description, research what users from different markets value in an app in your category".[27] Regarding the testing, Apple asks for testing the application after localization by previewing localizations, running the app with options that detect non-localized text, running the app using all supported languages and regions, and asking native-language speakers to test the application.

From the ANT point of view, the app store is not just a place as explained above, but it is an actor that directly affects the mobile game localization. First of all, in order to get exposure on the first page of the app store, a game needs to be selected or "featured". According to a data analysis provider Sensor Tower, this featuring is called "Editors' Choice" for Google Play Store, and the Editor's Choice is "a curated collection of apps that highlights some of the very best apps available on Android". The figure below shows how the featuring influences the number of application downloads. As seen from the graph, the number of weekly downloads was increased tremendously after the app received the Editor's badge in Google Play Store. The importance of getting featured is well known in the mobile application industry,

[27] See https://developer.apple.com/localization/

including mobile games. Hence, the publishers always try to get their games featured in the app store.

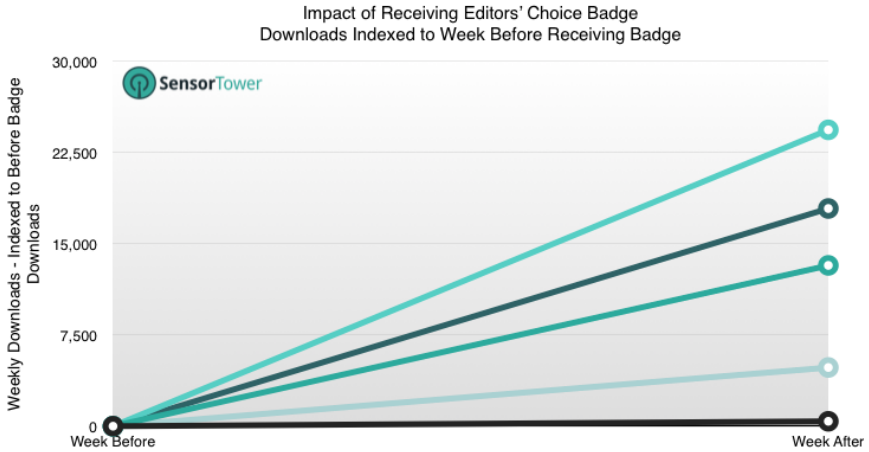


Figure 5-7. Impact of receiving Editor's Choice Badge downloads indexed to week before receiving badge (Source: Sensor Tower)

Second, the difference between the app stores and the other sales places is that the others do not involve the translation of the books, or films while the app stores directly involve both translation and localization of the game. For instance, book stores and cinemas do not get involved in translation. They only receive the final translated product in their countries and provide the product to users. In contrast, the app stores directly contact the publisher prior to uploading the application if there are any translation or localization issues.

The self-censorship of app stores is another unique relationship found in mobile

game localization. To receive the required age rating takes considerable time and money for PC or console games in Korea. In addition, even if the game is the same, it needs to get separate approval if the platform is different. In contrast, in North America, an independent authority Entertainment Software Rating Board (ESRB) is in charge of the game age rating, and in European countries, Pan European Game Information (PEGI) is responsible for the age rating. However, in the case of mobile games, app stores make decision about the game age rating which makes publishers easy to work.

As examined in this section, app stores have both human and non-human characteristics. As a place for a market where people can download the games, the app stores are non-human actor. In addition, the search result and rankings of games controlled by algorithm and the data used to train the algorithms eventually influence on the ultimate goal of the mobile game localization. On the other hand, authorising games to be serviced in the app store is made by human, which indicates that the app store has a factor that can be considered as a human actor as well. In a nut shell, the app store as an actor revealss that the boundary between human actors and non-human actors in the mobile game localization may not be clear black-and white dichotomy.

5.2.9 Technology

Mobile game localization has evolved in parallel with advances in technology. In

mobile game localization, technology plays an important role in relation to the game itself and the localization. Zhang (2015, pp. 152-153) points out that the advancement of technology in games requires constant progress in game localization. She notes that positioning subtitles in 3D games, and the size and length of the subtitles in games have to be decided by localization service providers, who may change the translation process and practice. As the mobile game itself is software, technology as a non-human actor appears in all the stages. As discussed in chapter 1, the development of mobile phones and broadband leads the fast growth of mobile games. In addition, the game related technology has changed the quality of the mobile games tremendously in many ways. The early versions of the mobile games had low quality graphics and the contents were very simple. However, since the introduction of the smart phone and app stores, the game related technology has significantly altered the mobile game industry. Similarly to the video games which are "technologically sophisticated, multimedia, multimodal, audio-visual products resembling interactive movies" (Mangiron, 2018, p. 278), recent mobile games are also technologically advanced products. For example, graphics are comparable to online or console games as well as animation movies, and the quality of the voiceover for the mobile game is also very high level. As shown in the images below, the mobile game graphic technology has evolved significantly.

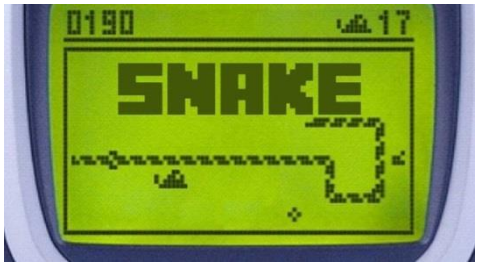


Figure 5-8. Snake, 1997

Figure 5-9. Angry Bird, 2009

Figure 5-10. Warhammer 40k: Freeblade, 2015

At the same time, it has also established a criterion for publishers when they decide on the target countries. As the high quality graphic, embedded voiceover, and more contents generally refer to a large sized game which requires more capacity on the device as well as a faster internet network, the network access has become one of the essential technologies to consider. In order to play a mobile game, players need to download the game from app stores. In other words, players are required to access the internet, and an unstable internet connection could cause download issues with large sized games. Furthermore, the network connection affects the playability. For games that do not require a network connection to play, such as simple casual games,

network access is not generally a big issue. In this case, the internet connection is required when downloading the game, but players are then able to play the game without an internet connection. On the other hand, large sized mobile games such as RPG or strategy games require a stable network connection for both downloading and playing. When the internet connection is not persistent, the players could be interrupted by lagging or disconnection, and it would be difficult for players to immerse themselves in the game. Therefore, it is important for the publisher to identify the current and future network access situation by regions when deciding the target countries.

The technology also impacts on the mobile game translation. In the digital world, the text or contents become dynamic, and generate constant updates. The game text is prepared by the publisher and can be divided into various text types based on the game assets. It seems that the format of the text does not matter anymore due to the development of technology and the characteristics of mobile games. Since CAT tools were introduced, this translatable text preparation task has become easy. Most of the document format could be worked on the CAT tools and translators do not need to challenge the text format any more. Nowadays, the text does not just refer to text on a specific form of file, but any form of text such as text messaging, email or SNS message also becomes translatable text. Due to the frequent updates, sometimes the translation text is provided via email content, mobile text message or SNS text. In this case, the text is generally short with only one or two new sentences, or just a few words that need to be changed. This kind of characteristic clearly shows that mobile

game localization is not the same as other translation fields, and reflects the current trend. The advancement of the technology brings the creation of app stores that enable global service of the mobile games, which requires translation of multiple languages. For this multiple language translation, the game translators benefit from the translation technology. In terms of influence of technology on translation, research on CAT tools has been conducted by various scholars, especially in the translation training field. Bowker (2002) claims that technology is an inescapable reality, as well as an absolute necessity in the translation industry, and focuses on CAT tools in the study. O'Hagan and Ashworth (2002) also note the importance of the improvements in translation technology. According to them, the impacts of technology on translation are providing new tools to support the translation process, and this forms the basis for the birth of new literacies. Pym (2011) argues that the technologies of transport and communication are the major technical impact on the translation professions. He also notes that "all processes are 'computer-aided' to some extent" (2010, p. 123). O'Hagan and Ashworth (2002, p. 37) point out that new tools refer to "tools that make translation more efficient and respond to the needs that emerge from new literacies".

The existing studies on CAT tools are mostly focussed on how to use the CAT tools and explaining the functions of the tools. In this study, translation technology such as CAT tools or machine translation is not a simple tool that assists translating, but is considered and examined as an actor that interplay with other actors. First of all, translators benefit from using the CAT tools in terms of consistency. The consistency

in games is very important since inconsistency can cause functional issues in the game. As discussed in the glossary section, the inconsistency issue is often found in the translation of proper nouns including character names, items or places. In order to prevent inconsistency issues, game translators use translation tools and are thus able to consistently use the same translation for the same name. In addition, due to the fast development of CAT tool technology, it is now possible for translators to work together at the same web-based translation space. Previously, the translation text was provided and received mostly via email. However, with the new translation technology such as web-based CAT tools, there is no need to attach the translation text to email. The publisher sends a translation link to translators, and translators can translate the text directly on the web. Furthermore, with the CAT tools, several translators can work together at the same time.

A global language service market research company, CSA Research, has written a logical, yet enlightening fact about successful and non-successful LSPs in its 2021 CSA Research Report. It details how technological advancement has significantly impacted the industry. According to the report "Successful LSPs Evolve into KPOs or Global Content Strategists", the successful LSPs have continuously embraced innovation in their way of doing business and have evolved from conventional translation companies to become Knowledge Processing Outsourcers (KPO) and Global Content Strategists (GCS). While failing companies continue to rely on conventional translation methods, such as transferring files via email, and relying on general word processor software for translation and spell checker for QA, innovative

LSPs have embraced the latest technology in CAT Tools as well as the AI learning process. Such innovation in both technology and system provides the LSPs with consistency in quality, systematic management, and scalability to handling contents with millions of words in multiple languages.

In addition, the advance of internet and broadband connections has resulted in the ability to easily experience the localized games from other countries. Publishers can upload their localized games to app stores and just select the countries they want to launch their games in. With this development, global servicing becomes a lot easier than in the early era of mobile game history.

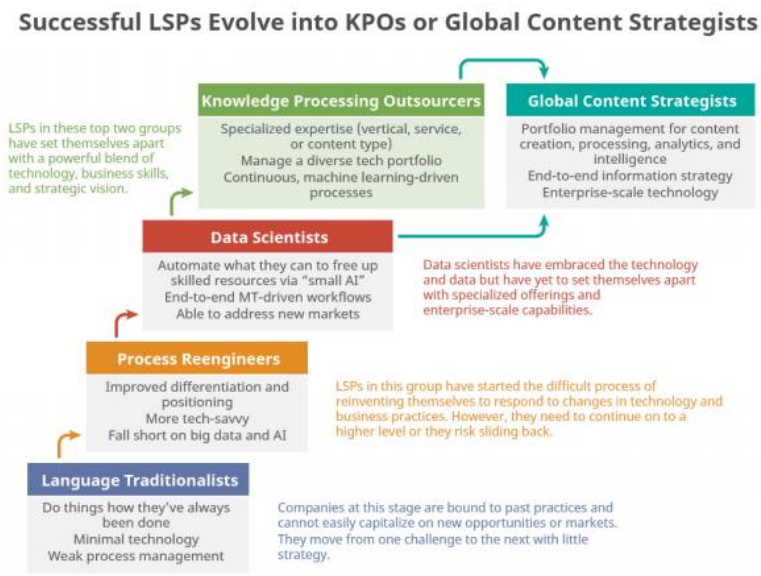


Figure 5-11. Successful LSPs Evolve into KPOs or Global Content Strategies (source: 2020 CSA Research Report)

This is important for the game industry since most MMORPG games, as well as story and quest based games, have contents that go well beyond hundreds of thousands of words, and many even exceed a million words. Because a high volume of text needs to be translated quickly, and consistency is essential, CAT Tool and Machine Translation is no longer optional in game translation.

The importance of the CAT tool has been highlighted in translation studies as well. Academic studies on CAT tools in translation studies show that CAT tools become important not only for translators but also for scholars as well. Renée Desjardins (2017) notes that translation today cannot occur without technology, while Bowker (2002) explains in detail how to use CAT tools in "Computer-Aided Translation Technology". Despite the fact that the importance of CAT tools has spread throughout the localization industry, there are also opposing opinions on the use of CAT tools for game localization. Seljan and Katalinić (2017) argue that video game texts are mostly creative texts, and due to this characteristic the video game texts are not easily translated using CAT tools or machine translation. This argument is true in terms of the creativity of the game text. Most games have their base story line, and the story or dialogue in the game is not repetitive. For this type of text, CAT tools might not be so essential. However, as explained earlier, proper nouns are one of the most frequently found consistency issues in game translation, and proper nouns are also included in the story. In addition, there are other game assets such as UI, system messages, items, or mission in the game text (see chapter 7). CAT tools are very useful when translating these assets as they appear in the game repetitively.

In summary, there are actors in each stage of the mobile game localization, and each actor influences the localization. The actors are both human and non-human actors, and play their own roles in the localization process. In the meantime, they create networks and interplay with each other. These relationships between the actors will be studied in the next chapter. In this chapter, the mobile game localization process and the detail of the involved actors have been examined. Based on this, the network of the mobile game will be studied in the next chapter.

6. The Relationship between Key Actors in Mobile Game Localization

As observed in chapter 5, there are various actors in mobile game localization. Each actor has their own role and works independently in the localization process while at the same time they interplay and influence one another. Regarding the interplay between the actors, Jimenez-Crespo (2013, p. 28) notes that most localization processes share some characteristics in order to produce the final target product. According to him, this includes the digital nature of the text, the presentation on screen, the interactive nature of texts and the necessary collaboration between translator-localizers, localization engineers and developers. Similarly, the mobile game localization process is also a large network with actors. Based on research about each actor in the previous chapter, this chapter will illustrate the relationship between actors at each stage of the mobile game localization with the help of ANT. Considering the ANT emphasis on the explanation of interplay or affect between the actors, this chapter will describe how the actors influence others and their relationship in the context of Korean mobile game industry.

In the existing research on translation the concern has mostly been the relationship between the text and translator which is present at the translation stage. However, this study will also illustrate other relationships and interplays far removed from the translation stage. It is found that the network of each stage is composed of two or more actors, and the sub network of each stage configures the whole localization process. Based on the game localization process as examined in 5.1, the key

relationships in the mobile game localization include the relationship of 1) publisher, translation brief, technology, 2) publisher, project manager, translator, 3) translation brief, translator, 4) translator, technology, 5) publisher, app stores, 6) tester, technology, device 7) player, app stores, translator, 8) technology, player. In addition to these networks, this chapter also examines one further network which consists of translator, tester and player. This chapter will explore the details of each network in order to reveal networks that have not been studied in translation studies. As Buzelin (2005, p. 197) argues that the goals of a project are negotiated within the network, it can be seen that each actor in the mobile game localization has their own purpose to achieve the goal. The figure 6-1 illustrates the complex actor-network of mobile game localization including the 9 main actors identified in the chapter 5. The different types of the lines in the figure indicate the different stage of the mobile game localization. As shown in the figure, the actors in this network are all related, and some actors have more relationship then others. For instance, the technology in this network interplays with all the other actors while the tester only interplays with the technology and the device. Considering that the network from ANT could be developed, it could be bigger or smaller depending on how the actors negotiate when they face any frictions while they are making the network. For instance, translation brief and tester could be excluded in the case of a small volume of game such as casual or game due to the inefficiency. On the other hand, this network could be extended in the case of a large volume of games. The terminologies included in the translation brief would be changed frequently according to the communication between translator and publisher, or some of the game context could be changed or

deleted depending on the app store's decision. In a nutshell, both human and non-human actors in the mobile game localization interact and collaborate in the localization. The next sections examine how the main actors make relationship and interact with other actors.

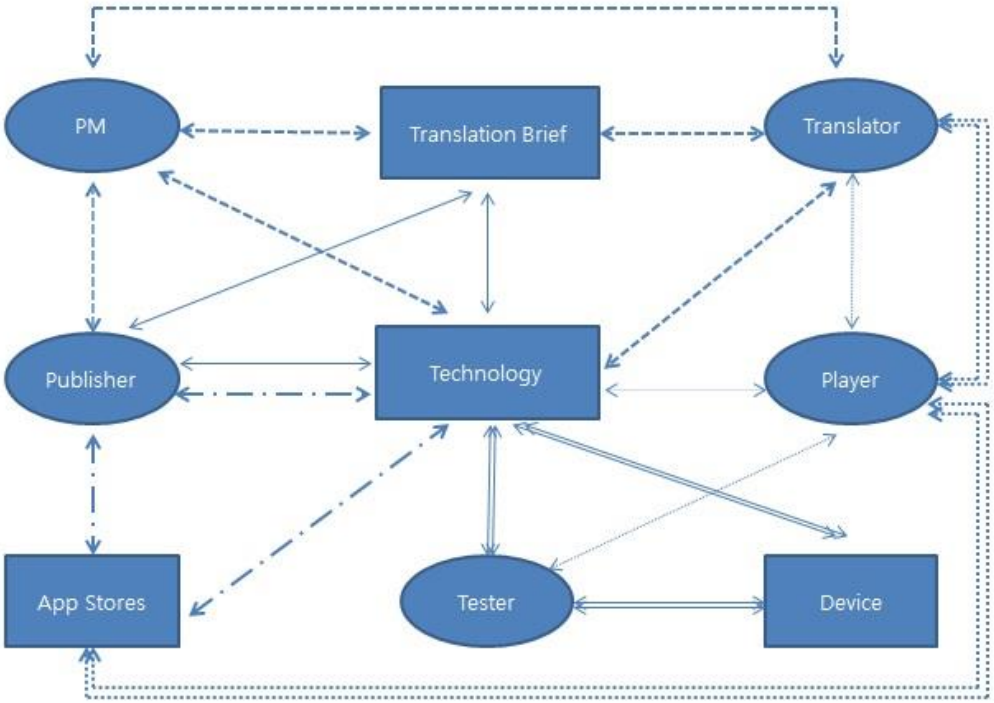


Figure 6-1. Actor-Network in Mobile Game Localization

Unlike other lines in the network, is not a specific stage, but it is one of the main relationship found in the mobile game localization.

6.1 Publisher – Translation Brief - Technology

In the preparation stage, the actors of publisher, translation brief and technology are found. Until now, the preparation stage has been considered as a peripheral task for translation: this stage has not attracted attention in translation research. Not surprisingly, the actors found in this stage have not been considered as key actors in translation studies and there has been a lack of studies on these actors and their relationship. However, in mobile game localization, the preparation stage and the involved actors take crucial roles in order to move on to the next stages. As explained in 5.1.1, the preparation stage generates translatable text, and a translation brief which includes glossary, style guide, and/or the list of forbidden words. This task is mostly conducted by the publisher with the help of technology. First, in the preparation stage, the publisher benefits from technology by extracting text from the game using mobile game extract programmes, and makes a translatable file. Without the development of these programmes for mobile game text extraction, both publisher and translators would have difficulties in translating and inserting the text as the raw text includes so many software codes. However, thanks to the technology, the publisher can make an appropriate file which includes the fewest tags and variables for translators so that they can conduct translation without any problem. Translation Memory (TM) is another technology that takes an important role in the preparation stage. As O'Hagan and Mangiron (2013) address, when TMs are to be used in the project, engineers pre-process the translation files and check them against existing TMs. By doing this, publishers can guarantee consistency with the previous translation even though the translation was completed with different translators, and can save both translation time and cost.

Secondly, the translation brief, also a non-human actor in mobile game localization, is created by the publisher with the help of technology. The publisher can use a Translation Management System (TMS) to make the glossary and translation brief. TMS is similar to CAT tools but includes broader functions which can help manage the translation process. Not only translation agencies, but also publishers now use TMS in order to manage their localization projects effectively. In terms of the translation brief, the publisher can use the Term Base function in TMS to make new or use existing terms to make a glossary. TMS also manages the schedule of the whole translation and sends an alarm when the deadline is approaching so both the publisher and the translator can control their working hours.

6.2 Publisher – Project Manager – Translator

The key actors in the translation stage are publisher, project manager and translators. Once a publisher sends the translation file to PM, the PM starts managing the translation project from scheduling, assigning translators, handling the translation files, and finally delivering the final translation files to the publisher. As discussed in 5.2.3, a PM is a mediator between publisher and translator. In other words, there is no direct interplay between the publisher and the translators, and PM is the key actor in order to complete a project successfully. As a mediator, a PM cooperates, communicates, and solves issues between publisher and translator. When a PM receives a translation project from a client, the PM analyses the project first. This includes understanding the game, the volume of the file, and scheduling the project. In general, the translation schedule is decided according to the launching date of the

game. Once the deadline is set, the PM assigns the job to translator(s) based on the volume of the work and the translator's translation experience. Once this analysis is done, the PM sends the file to the translators, and on receiving the translation file from the translators, sends the file either to an editor or to the client directly, depending on the translation agency's work process. As mobile games generally have constant and frequent updates (see chapter 2.3.3), this work process is repetitive in mobile game localization. In addition to receiving and sending the translation, PMs are the ones who can answer questions about localization. When translators have questions about the game or publishers have questions about the translation, the PM is the one who can answer or who will ask either the translator or the publisher. It is common in game localization that the translator and the publisher are not in direct contact. During a project, PMs keep contacting translators to ensure they deliver the translation in time. This is to prevent translators from stopping communication when they are late for the due date. When this issue happens, PMs contact both publisher and translator, and reschedule the delivery date. Project rescheduling involves extra costs for both publisher and translation agency. For publishers, if the translation is late, the global launching is also pushed back. This means more employees are required to work and there is a risk of losing possible players.

In mobile game localization, the relationship between the publisher, project manager and the translator is more likely one of cooperation, rather than vertical as in other fields such as audio-visual translation or literature translation. In other translation fields such as audio-visual translation, literature, or even video games, the publisher

or client generally has more power than the PM and the translator. It is still true that the publisher is the one who allocates translation work, in other words is the payer, and the PM and the translator are the one who take the work, the payees. However, from the localization perspective, the relationship between these actors cannot be defined as payer and payee, it is rather seen as one of co-workers. In the case of audio-visual and literature translation, translators have to follow the writing style that clients request, while this tendency is less so in the mobile game industry. Even though publishers provide translation guidelines including writing style or glossary, this does not mean that the publisher has more power than the translator.

This relationship can be explained by the characteristics of the product. As argued by Jimenez-Crespo (2009), in localization the target texts are presented as original productions, and the receivers do not need to be aware that they are interacting with translated texts. Especially in the case of mobile games, players are not aware that the games are translated and localized by translators into their languages unless games are already well-known and popular among players, or when the text is too poor to understand, so that the players realize that the text is badly translated. Hence, the players do not compare the source text to the target text or try to find who translated the game as long as they do not find serious errors in playing. This gives more power to translators than in other translation fields. For example, an audio-visual product is a one way communication product, and the audiences receive the product as the client provides it. In the case of an audio-visual product such as a film or drama the audiences already know that the product that they are watching is

translated via subtitles or dubbing. In other words, the audiences expect a good quality of translation, and will leave comments on the translation comparing it to the source text. Sometimes this becomes a big issue, and the translator's ability is judged by the audience. Hence, in the audio-visual industry, the publisher follows the trend and listens to the audiences' voice to select the translator.

The relationship can also be explained by the concept of 'carte blanche'. As discussed in chapter 4, game translators are given 'carte blanche' so they can translate or change the text to ensure that the translation is suitable to the actual game. Chandler (2016, p. 313) notes that the development team trusts the work the translator is doing on the assumption that the translator is providing the best translation for the material. There should also be an open dialogue between the translators and development team to achieve the highest quality of translation. This reflects that the game industry is a young industry, in other words, that the work atmosphere is more conducive to translators communicating with the translation agency or publisher. In the case of mobile game localization, it is obvious that translators are responsible for most of the text translation.

6.3 Translation Brief - Translator

Despite the translation brief not being the main text to translate, it affects the way translators think about their task, and the way they make decisions during the translation process (Chesterman 2017, p. 39). When the translation brief is provided,

the results of translation can be different. First, as discussed in the style guide section, the publisher determines the writing style of the translation that is suitable for the game and the target age. Since translators do not in general have enough time to play the game prior to translation, it is not easy for translators to fully understand the game and make decisions about the writing style. This often leads to an unsuitable tone of translation. Hence, when a translation brief is provided, both publisher and translator can benefit from it. For example, for the speech of appealing characters and images, the translation also needs to be appealing. When there are puns in the text, translation needs to match the pun as well, or at least needs to provide a similar feeling. This can make the translation efficient and is directly related to the quality of the translation. Second, as Fraser's research shows (2009, p. 90), translators use the translation brief actively when they receive it. As translators do not have the challenge of translating appropriate pronouns such as names of characters, locations or items if they receive glossary, there is less possibility for inconsistency and translation time can also be reduced. The translation brief also helps prevent cultural issues in translation. Although the translators have knowledge of the target culture and understand games, there are always cultural issues that translators are not able to figure out. However, when the list of forbidden words is provided, a translator can reference the list and be able to prevent possible issues in the target countries. In addition, when the translation brief includes technical related information, this helps save an enormous amount of time. For instance, when a text box has a limit on the number of characters and translators know this information while they are translating, they can adjust the translation according to the information.

In addition, the translation brief facilitates close connection with translators. For example, the terminologies in the glossary are the ones that translators should follow and use in their translation. At the same time, the translation of the terminologies could be changed when translators find the need to be changed and come to an agreement with publisher.

6.4 Translator – Technology

In mobile game localization, the translator and the technology are bound together and it is hard to imagine the translator and the technology separately nowadays. In mobile game localization, the technology interplays with all other human and non-human actors, and the translator is no exception. Regarding the relationship between the translator and the technology, Zhang (2015, p. 127) points out that in the game localization process, the interactions between the two key actors in the network play a crucial role and it can impact on the outcome of the game products. The interplay between the translator and the technology creates fast growth of the mobile game translation industry as well as various changes in the stages of mobile game translation.

One of the noticeable technologies related to mobile game localization is CAT tools. Despite the importance of CAT tools being highlighted in other localization fields such as software or manuals, it is relatively new in game localization. Although the existing studies (Bernal-Merino 2015, Mangiron & O'Hagan (2013), Zhang (2015)

all agree that CAT tools are more suitable for more homogenized text than game texts, the game industry has started to see CAT tools as technology solutions for game localization. Hence, widely used CAT tools such as Trados and MemoQ were introduced in the game localization industry, and special CAT tools for specific game companies were also developed. This point of view regarding CAT tools in game localization has developed further in recent times.

Firstly, as discussed in 5.2.2, the ability to use CAT tools becomes an essential ability that game translators need to acquire. It is obvious that the quality of the game translation, especially consistency of terminologies, has been secured with help from the development of CAT tools. In the mobile game localization process, the relation of translator and technology is highlighted in the translation and update stage. The development of CAT tools allows game translators to maintain consistency as well as efficiency. This is due to the characteristic of repetitiveness in game texts. In addition to the separate glossary, most of the CAT tools include a TM function in order to find terminologies or look up previous translations. Svoboda (2019, p. 193) notes that a benefit of the TM is that a string of text needs translating just once, and translating updates of a document or using content management systems to recycle text for new product documentation is easier. Especially for game text that has numerous updates, the TM is essential. It also helps the productivity of the translator. According to Quah (2006, pp. 93-128), computer-aided translation resources and tools are extremely helpful for professional translators in order to enhance their productivity and the quality of translation. Quah (ibid.) also argues that professional translators need to

discover which tool would suit them and their work best and what type of resources would enable them to work faster and produce work of a higher quality. However, in the localization industry, translators generally do not have the right to choose which CAT tool they use, but need to use the CAT tool which the publisher or translation agency uses. For instance, if a localization team of a publisher or a translation agency use MemoQ for their translation, translators have no choice but to use MemoQ for their translation, otherwise, the translators cannot get the job although they may find other CAT tools are more suitable for themselves.

In addition, translators can benefit from these CAT tools through various functions. First, it is useful in meeting the length requirement as it shows the maximum number of characters that target text can include. Since the mobile phone has a small screen, the text included in the mobile game often has length limitation. When translators work on a provided format which is in general an Excel file, it is difficult to check the number of characters while translating. However, when working with CAT tools, translators can check the number of characters in a cell instantly, since the CAT tool shows each number of characters for each cell. If the translated text exceeds the proposed number of characters, a warning sign appears and shows the exact number of characters that the translator needs to use. Secondly, there is a preview function which shows the original file format. In the dialogue text, there are usually columns that explain who the speaker is. However, this is just for reference so the column is not for translation. With CAT tools, translators only need to translate text in the translation section while they can also check the information given for the speaker at

the same time. This affects the time needed for translation as well as the quality of the translation. Third, translators can check the work process in real time. With the function that shows how much work has been completed and how much work is left, translators can manage the work schedule. In the case of web-based CAT tools, not only translators but also project managers can check the work process at the same time. This is useful to manage the whole translation. Due to the above mentioned benefits of translation technology, most publishers or LSPs ask translators to use CAT tools.

Third, in relation to the CAT tools, the competences of translators have changed. Previously, translators were required to have the ability to use Microsoft programs such as Word or Excel. However, since CAT tools were introduced, translators need to know how to use those CAT tools. Svoboda (2019, p. 184) also claims that for translators and localizers, the use of computers and similar devices becomes a precondition of conducting translation and localization. In addition to acquiring the ability to use CAT tools, understanding machine translation and post editing becomes another game translators' competence. The development of machine translation has become a new field of translation studies, especially in game translation. As Mangiron (2018, p. 132) explains it is also obvious in mobile game localization that the translation of certain text assets such as system messages, weapons' names or abilities can benefit from using translation memories and terminology management tools as they tend to be repeated in different games.

There is an opposite opinion on the use of CAT tools in game localization. Zhang (2015, pp. 152-153) argues that translation technology such as machine translation and translation memory tools has not been widely used in game localization due to the fact that game products are of a great variety of genres, and general file types in games such as XLSX, XML and HTML are required to be customized as compatible with TM software which is not cost and time effective. However, it seems that this argument is different for mobile game localization. As CAT tools have functions that import almost all the file formats including the above mentioned formats, it is a lot easier to translate the game text by using CAT tools. In addition, as both the translators and the publisher realize the benefit of using CAT tools, the ability to use CAT tools becomes one of the game translator's competences.

Fourth, the development of machine translation (MT) creates a new job, which is post-editing for game translators. Despite the argument about the quality and efficiency of machine translation, there has been growing research and discussion on machine translation in translation studies as well as in the game industry. It is noticeable that research on MT has developed as machine translation has improved. In the early stages of machine translation, research on MT was about translation itself and using translation memory. For example, O'Hagan and Ashworth (2002, p. 43) note that a small group of translators use MT for producing a rough draft of a text and then edit it. Through this stage, MT has become settled as a means of translation, and post-editing has become a topic for MT.

Folaron (2014) highlight post-editing. According to them (2014, p. 26), the term post-editing refers to the act of correcting a translation, from a single word or character to a complete document in translation. They argue that as technology becomes more complex and exponentially more content has to be translated not only much more quickly but also much more cheaply than ever, the role of MT and post-editing MT have taken on new importance. O'Hagan and Chandler (2016, p. 327) highlight the increasing use of MT combined with post-editing to reduce the time taken and the cost of translation. They argue that given the high-tech nature of the game industry in exploiting technology to the maximum, parts of localization could be subjected to automatic translation in future. Mangiron (ibid) also says that in regard to technology related topics, the application of MT to game localization has been attracting game industry attention. Recent study of MT even shows that the integration of TM, MT, human integration changes the MT output based on the post-edits made by users (Giuseppe Palumbo, 2019: 228). As she argues, MT could work with the more technical text types present in games such as system messages or game genres that rely more heavily on terminology than on creativity, such as sport games or flight simulator games. Specific conferences such as Conference on Machine Translation, and Machine Translation Summit show that interest in machine translation has been growing in both academia and industry. Furthermore, some of the major game or localization companies reveal their interest in machine translation of games through a session in game conferences.

Fifth, the translators' work environment has been changed. Previously, translators

had to sit down in front of a computer or laptop in order to translate using CAT tools, as CAT tools are installed on the computer or laptop. However, since web based CAT tools were introduced, translators can work anywhere if there is an internet connection. The web based CAT tools provide text online and translators could provide translation with mobile phones or tablets without any installed CAT tools. This is efficient for both publisher and translator as there is less possibility of wasting time in preparation and sending as well as losing the file. When publisher and translator send the file via email, there is a possibility to forget to attach the file. In this case, the publisher or translator needs to send or call in order to ask for the file again. This wastes time for both publisher and translator. However, web based CAT tools could prevent this mistake.

Finally, the fast development of technology introduces a new game localization process. As discussed in the publisher's role, publishers prepare a translatable file by exporting the text from the game in order to start the game localization process. The prepared file is sent to the translator for translation via email, and the translator carries out the task with CAT tools. When the translation is finished, the translator sends the file to the publisher via email again. Finally, when the publisher receives the translation, the file undergoes the integration stage for the final LQA. However, the new technology makes this process shorter. For example, a network of game localization companies Native Prime introduced "Loclink" which can simplify existing localization workflow. Through this technology, mobile game publishers do not need to export game text for translation or send the translation file to the

translator. Instead, they can install a plug-in in the Unity so it allows sending the text directly from the game to a specified translator. Then when the translator finishes the translation, the text can be automatically integrated into the game. Such development of game localization tools can change the general process of mobile game localization.

Figure 6-2. Game translation process (general)

Figure 6-3. Game translation process (with technology)

As shown in the above figures, the translation process becomes much simpler with the help of advanced technology. From ANT point of view, the network becomes smaller via the development of technology. In the general process, publisher (translation file preparation), technology (internet), translator, technology (internet) and publisher (integrating translation to the game) are included while there are only publisher (translatable text sending) and translator in the new process. This shortened process could lead to less time required for game localization. For publishers, it is important to complete the localization as fast as possible since it is directly related to their revenue. Furthermore, a publisher can benefit from this network in regard to the

priority of the translation. In the case of large volume games, there is a priority for translation. In general, UIs are the priority in the game translation as they are usually in the form of a menu button, and the publishers need to check how they look. If the translation is too long, then the translation needs to be changed, and when the UI is in image format, then a design process is required.

6.5 Tester - Technology - Device

The tester, technology, and device are the key actors found in the LQA stage where the tester relies on the screen of the game. This relationship is closely related to playability, and noticeable with regard to highlighting the non-human actors in game localization. Existing studies on game translation and localization tend to ignore the device as a non-human actor, and most of the studies focus on the translation or translator. However, in mobile game localization, the device is not just a simple machine or platform to play but can influence the localization directly or interplay with testers who affect the quality of the game localization with help of technology. In the localization process, the device as an actor appears after integration of translation to the game. After a publisher obtains translated text, the translation is integrated to the actual game for testing. The testing is generally conducted on many different types of devices such as different mobile phones or tablets (Samsung and Apple for instance) or different versions of the mobile phones (iPhone x, or xi, and Galaxy 9 or 10 for instance). This is due to the different functions or specifications that each mobile phone includes. As a device is what players will actually use to play the game, and as there are many kinds of device that players can choose, it is

important to make sure that different kinds of device provide the same quality of the localized game.

In order to achieve this, publishers select a few kinds of devices that are widely used in the target country when the testers conduct the LQA. Most of the functional QA is already done in most of the devices prior to the linguistic testing, however the testers still need to test on different devices depending on the platform. In other words, testers need to be able to operate different devices. In some cases, even though the device is the same, different issues could be found in different target countries. For instance, a Japanese word can be shown as a Chinese character in Korea when Korean is translated into Japanese. In this case, the publisher identifies it as a translation error. However, when testing in Japan, there is no problem. Another example often found in mobile game localization is Arabic translation. Although there is no problem in the translation file, a directional language issue is often found when the game is played on the device. For example, the direction of the Arabic script is from right to left whereas most languages use left to right.

In addition, the development of technology leads to efficient testing for mobile game localization. Previously, mobile game testing was conducted on the PC. In this case the testers were not able to achieve the same feel as when using mobile phones. Now testers can download the testing file through a link provided by the publisher. When testers download and install the testing file to their mobile phones, they can test the

actual localized game. This also saves a lot of time since testers can test the game anywhere anytime. In addition, the 'cheat code' also known as 'cheat key' which is used to level up quickly or get special power or benefits allows the testers to play the game easily. According to a definition of cheat code from Techopedia[28], which provides definitions for technology terms, the cheat codes are a general series of alpha-numeric codes or keyboard combinations that can give the gamers an added advantage over other gamers, though the cheat codes are not explicitly made known to the public. When testers receive the testing file, they download the file to the device and run the game in order to check if there is any linguistic error or functional problem. The mobile phone is the one that players will actually play with, thus there should be no problem with what the players see and play. For instance, when players find broken or untranslated text while they are playing, this must interrupt the immersion in the game. In order to prevent this kind of device related problem, testers play the game and fix any problems found prior to publishing.

The importance of the device in mobile game localization is the result of the screen size of the device, the game size, and testing. First of all, most mobile phones have small screens, so there are always length problems when translation is conducted. In the case of computer games, it makes sense to use the scroll bar as Mangiron notes (2006), while it is difficult to use the scroll bar on mobile phones. Hence, the screen size directly affects the final translation. The details of mobile phone device and

[28] See https://www.techopedia.com/definition/1909/cheat-code

tester will be explored in chapter 8. The game size is also relevant to the device as well. It is obvious that the larger size of game requires more capacity of the mobile phone. Hence, when the specification of the mobile phone does not meet the requirements to play a large sized game, localizing the game is pointless.

6.6 Publisher – App Stores

The relationship and the interplay between app stores and publishers are found in the publishing stage, which is similar to the production stage in the case of video games or literature translation. Broadly, the relationship between publisher and app store is co-operative. For the publishers, the actual game publishing is one of their main roles, and in order to publish a game they need a platform that their games can be serviced from, which is the app store. Meanwhile the app stores need contents, in this case games, which they can provide to users. This indicates that from the business perspective, both publisher and app stores seek to make revenue from players since they share the profit generated by the game.

In general, the revenue sharing of a mobile game is 30% for app stores and 70% for publishers. Even this 70% for publishers is shared with developers at a certain ratio based on the contract between the publisher and the developer. Hence, it has been said in the game industry that the sharing ratio is rather high for app stores. For small sized game companies, the loss of 30% of the revenue is a burden and leads to giving up the games in many cases. In order to make this situation better for game

companies, the new trend in the mobile game industry is introducing new mobile game platforms that can reduce the commission for the app stores. According to a journalist Brian Fung from The Washington Post, a growing number of software companies are finding a way to sell their services directly to consumers. For example, Epic games introduced a new app store called Epic Store, which will trim the revenue for the platform to 12%. This figure is much less than for other app stores, and is expected to bring many good games to Epic stores. Since the publishers and app stores realize that localization is the best way to maximize the content at lower cost rather than making new content in order to attract more players' attention, publishers localize their games into many countries and app stores allow publishers to launch the games in as many countries as possible.

In order to achieve the game's success, the contents need to be of a good quality that meets the requirements of the app stores, including the quality of the localization. As discussed in 5.2.6, the app stores control the quality of the content in order to provide high quality content to users. In other words, from the quality checking perspective, the app stores have more power than the publishers. For example, Apple App Store provides publishers and developers with guidelines for the app review process, such as approvals and rejections in order to provide good quality content. It says "we want to provide a safe experience for users to get apps and a great opportunity for all developers to be successful."[29] In order to do this, the guideline

[29] See https://developer.apple.com/app-store/review/guidelines/

specifically says that every app is reviewed by experts. In addition, the App Store can reject or remove apps for any content or behaviour that they think crosses the line or cheats the system.

Consequently, not only are the app stores the platform of mobile games, they also affect the localization process. When a publisher uploads a game to the app stores, the app stores review the game to ascertain whether it is appropriate to be serviced to players. With regard to localization, the app stores check if the translation quality is good enough. If the app stores find that the translation quality is poor, then the game cannot be launched. For example, if the app stores detect that there is a Chinese character in the Japanese version, then the game cannot be uploaded until it is revised. In this case, the app stores return the game to the publishers and ask them to revise the translation. This specifically shows the importance of translation of mobile games. In the case of mobile games specifically, "featuring" is one of the key factors to increase exposure and obtain more downloads as explained in 5.2.6. Several industry articles (from Appsamurai, Onesky, Softwarebrothers, Cluthch, and Instabug) point out that localization is one of the essential things to be featured in app stores. These articles all agree that localization is a must-have feature for app owners who want their app to be featured in the application market. According to an article from Onesky, Steven Zhao, CEO and founder of Blue Tea Games says of the huge success of Apple's feature Best New Games across 120 countries, "(l)ocalization is an important step for any game looking to grow beyond its national borders, and reach a global audience".

There is no official reference for localization languages to select, however, it is well known in the industry that a game needs to be localized in more than seven languages including the original language to be featured on app stores. When a publisher decides which countries or languages to localize, various factors are considered. The cost of localizing big games such as RPG or simulation games is especially high, so it is not easy to translate more than seven languages for every game. In this case, the game is first serviced in countries where there is a high possibility of success, then the game is localized to other countries. However, recently most mobile games have tended to be localized in more than seven languages. Rarely, each app store requires a different quality of translation for the same game. For example, a publisher wants to service their game to Google Play Store in many languages, and the translation is ready. If the translation quality meets the requirement of the Play Store, that game can be serviced in many countries in the Google Play Store. However, this does not mean that the same game can be uploaded in Apple App Store. Due to the different platforms, such as Android for Play Store, Apple for App Store, the game itself needs to be configured differently. As the global one-build game has the same contents, the translation is in general the same.

The ASO is another factor that can explain the interplay between the publisher and the app stores. As discussed in 3.2.2, ASO is the marketing strategy for more exposure of the game. According to a survey, almost half of the users find an app through searching in the app stores. This indicates that ASO has an important role for both publisher and app stores.

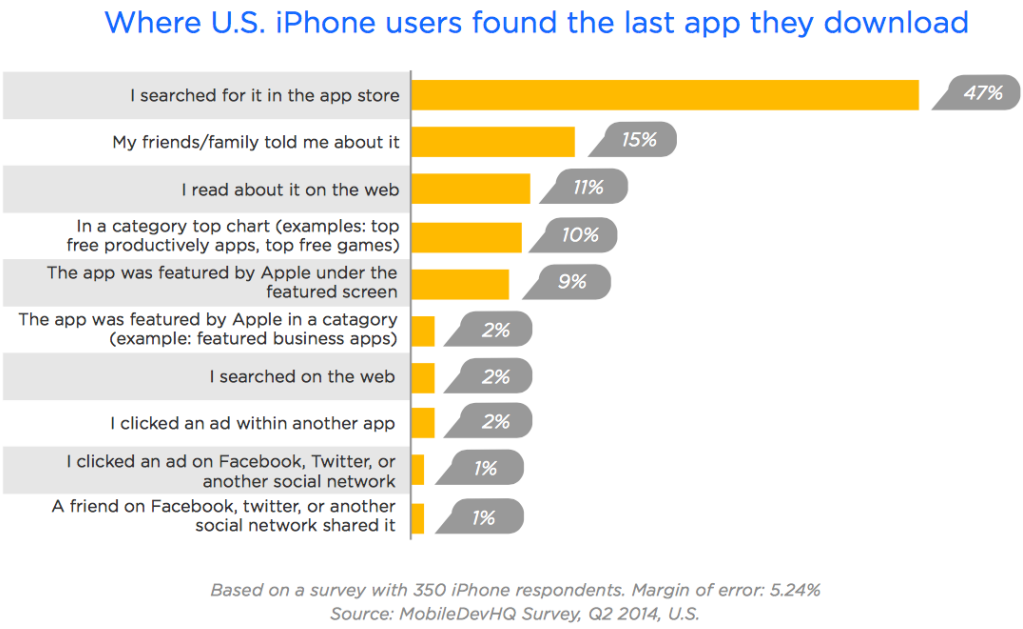


Figure 6-4. Where U.S iPhone users found the last app they download (Source: MobileDevHQ)

When a game is ready for service, the publisher writes a description of the game which will be shown on the app stores. In the case of Google Play Store, the publisher can write up to 80 characters for a short description, and up to 4,000 characters for a long description field. According to an industry specialist Marcus from Meatti[30], in Google Play Store, it is encouraged to repeat keywords up to five times throughout the title and description, although repetition of the key words is generally considered a waste of precious keyword space. The description is not only introducing the game but also has the function of obtaining exposure for the game.

[30] See https://medium.com/@marcuskay/app-store-optimization-30728bfe2e23

Hence publishers use ASO to include the best keywords in the description so that the game is easily found in searches. This differentiates mobile game localization from other fields of translation.

Using ASO is generally conducted by the publisher not by the translator, and this shows that the publisher is actively involved in title translation and marketing text translation. Regarding this, the app stores do not directly provide guidelines about the ASO, however, many specialists in ASO have provided guidelines for each app store. Moriz Dann, the author of the *Advanced ASO Book* points out that localization of ASO helps with increasing visibility by providing metadata localization, as locally relevant search terms can be added. For example, “football” for UK and “soccer” for US need to be used for ASO in each target country. Moriz Dann also notes that Apple and Google logically use review and rating metrics as better signals of the quality of the app, and the metrics are used for sorting search results.

6.7 Player - App Stores - Translator

In mobile game localization, player, app store, and translator interplay in terms of translation issues. Once a localized mobile game is published on the app stores, players download the game and start playing. While players are playing, sometimes they find translation issues that interrupt their immersion in the game or provide wrong information so that they cannot continue the gameplay. In this case, mobile game players can raise the issues easily compared to other digital games through app

stores. In the early years of mobile games, players were just receivers of the game products as they could not choose games they wanted to play, instead they could only play the games installed in mobile phones. In addition, even though the players may have found translation issues, there was no contact to raise the issue. However, since app stores appeared, players have become the ones who choose which games to play, give ratings for the games, and leave comments.

In recent days, players' reviews about a game as well as search rankings influence the number of downloads, which directly affect the revenue of the game. Industry statistics show that the review or rating for the apps actually impact on downloads. For instance, an app analysing company Meatti points out that in general, 4 Stars is the average rating of the top 100 free iPhone apps, and users are more willing to consider downloading an app with better ratings. Therefore, publishers constantly check the reviews from app stores and game communities. In regard to player's comments, the app stores and the game communities have the same role, as players can write comments about the game on both. However, there is a difference between the app stores and the game community. The reviews and ratings of app stores influence whether players download the game or not, while reviews on game communities are made after playing the games. Hence, publishers consider reviews and ratings from app stores more seriously. One of the frequently found reviews is about translation. Generally, players do not realize that they are playing a localized game unless there are translation issues. When players find it difficult to understand the text, they can give lower ratings for the game and leave comments about

translation. Depending on the severity of the issue, the translation can be edited and updated. Some mobile games, for instance *Final Fantasy,* include a separate section where players can send opinions about translation, such as mistranslation, typos, or better translation. This process shows that the player and the translator do not interplay directly. Instead, the app stores take the role of delivering players' feedback to the translator.

Nevertheless, the players' comments do not affect the translators' situation as seriously as in other translation fields. For example, the final users of the translated text in the audio-visual translation or literature translation appear to have power over the translator. The final users of audio-visual translation and literature translation know who translated the products, while mobile game players do not have any information about the translator. Hence, in the case of the audio-visual translation industry, once there are translation issues, the translator gets judged by audiences, and the audiences may even ask the distribute to change the translator . This happens with literature translation as well. When a book is translated, there is information about the translator including previous translation works. Hence, when readers find translation issues such as mistranslation, they bring the issue to the attention of the publishing company.

However, mobile game localization is similar to many localized products such as software, appliances, or mechanical products. When a game is launched in both

original language and translated versions, players do not know who translated the game. They can only check the game developer and publisher, but not the translator. In the end, even though the translator provides the players with translation, and the players can communicate with the translators by leaving comments about the translation on the review section or in the game community, the relationship between the players and the translators is not as strong as in other translation fields. This also shows that the relationship between the player and the translator is different from that of video games. In the case of the video game, which refers to the console game, either the name of the LSP or translator is provided as a credit. According to Zhang (2015, p. 149), the relationship between the translator and player in the video game is a business relationship between service provider and the customer, and game translators can be well liked by the game players and gain prestige that brings them more work. She also argues that in the video game industry, the evaluation of the translation by game players may have a direct influence on the sales of the localized game (ibid., p. 151). In mobile game localization, the relationship is not the same as argued by Zhang. It is obvious, as she claims, that the translator provides translation for the games to facilitate game play for the players, and game players can experience the same enjoyment by playing games in their own language as intended by the original. However, as seen from this study, although the translator is the key actor responsible for the text translation, the service provider in the mobile game localization is the publisher. Also, a player's opinion about the translation affects the number of game downloads, but it would not directly affect a translator's future work status.

6.8 Technology-Player

The advancement of the technology brings many advantages for mobile game players. First, players are able to choose the languages they prefer through the language selection. The very early mobile games did not have a language settings option, and the players had to play games in the provided language. However, with the new technology which allows for language setting in the game, players can choose their preferred language in order to enjoy the game the way they want. In addition, machine translation is used effectively in the mobile game chatting section. There are many mobile games that include a chatting section for players. When players from all around the world play together in the same game, it is difficult to communicate unless everyone in the game speaks the same language. However, thanks to the embedded machine translation function, players can communicate with each other by giving information about the game and can socialize.

In addition to the translation technology, the advancement of the game related technology allows players to play more genres of games with higher quality of the graphics. As explained in 5.2.9, the graphic quality of the mobile game is now similar to the video games. Hence, when players play the mobile games which were originally online games or console games, they do not feel too much difference in graphic quality. Furthermore, players can enjoy mobile games with sound effects and dubbing as well. Due to the capacity, mobile games do not include dubbing in general, but there are still sound effects which give enjoyment and excitement to players. The background sound is generally optional, so players can choose to turn it

on and off.

It is obvious that modern technology helps mobile game players to play and enjoy games more, as it includes various features that players can control. However, it seems that the mobile game does not have the same accessibility options as video games. For example, Mangiron and O'Hagan note six features that video games include to appeal to a wider spectrum of users, using the example of *Dragon Age: Origins*. The game includes "viewing intralingua subtitles that include sound effect; playing with mouse or the keyboard (physical or on-screen); easy to read, good sized font and icons; different difficulty levels; pausing the game to process the information if more time is needed, even during battles" (2013, p. 296). In terms of these features, the mobile game has the limitation of operating fewer functions because they are played on a small device. For example, players only can play mobile games by touching the screen, and there is no option to choose font or icon size.

6.9 Translator – Tester – Player

The final network to examine in this study is the relationship between translator, tester and player. These actors reveal two unique relationships in the mobile game localization process. First, the relationship between these three actors is not interactive but is one way from translator to tester and then to player. In this relationship, the translator and the tester are two different people: in other words,

they have less opportunity to meet or communicate with each other about the translation. Generally, the translation from translators is edited by testers during LQA based on the actual game. Even though there may be no translation issue based on the source text, the translation could be edited according to the tester's decision. If the tester decides to change words or whole sentences in order to make them more suitable for the game image or the game situation, it is solely the tester's decision, and the translator has no power to refuse the decision. This relationship seems to be unique to mobile game localization. The role of testers in the mobile game localization can be compared to proof-readers in other translation fields. According to Gouadec (2007, p. 225), proof-readers correct whatever is blatantly wrong in a translation while identifying and pointing out anything they find strange or unusual or ambiguous, and correcting the translation proper is not their job. However, in mobile game localization, testers edit all the unusual or ambiguous translation, as well as poor readability. Since the actual game is more important than the text, the tester has a highly important role in mobile game localization. In this sense, it seems that testers have more power over translated text than the translator. To make it clear, this does not mean that the testers are the assessors of the translation quality. The translation quality is assessed by reviewers prior to linguistic testing, and the testers edit the reviewed translation, rather than assessing the translation quality. In this regard, players' enjoyment is the last point to achieve. As the ultimate goal of the game localization is to enable players to enjoy the game without any language problem, players are the ones who ultimately consume the edited translation and final localized game. For the translators and testers, players are the ones they need to

consider when translating and editing. It is certain that understanding the background of the player helps the translation. For example, for a children's game, the vocabularies in the translated text are not only simpler than general text but also child friendly, while a game for adults could include more difficult words or slang.

The second relationship found among these actors shows the actual industry situation. Each actor is a separate actor, and the role of each actor is also different. However, it is interesting that those three actors could be the same person in the real mobile game localization industry. Ideally, translator and tester are two different people. The translator is the one who understands both source and target languages, and the tester is a target language native speaker. However, similar to other localization products, the translator and the tester are the same person in many cases in the game and localization industry. According to Testronic, a QA company, regarding linguistic matters, testers are responsible for entering any linguistic related bugs, proofreading to ensure all text is accurately translated, and translating when required. In other words, the roles of translator and tester overlap and could be considered to be the same actor. Several scholars also note that the translator and the tester or localizer could be the same person. Gouadec (2007, p. 46) notes that a translator can be a tester in the case of software and videogame localization. He points out that in video game localization, translators translate all of the material accompanying the video game and in-games, and also do the testing, which is critical with video games. Furthermore, he argues that linguistic localizers (translators) are people who translate the linguistic component of the product to be localized, and all the 'tools'

and documentary material that go with that product. O'Hagan and Mangiron (2013) use the terminology "translator" and "localizer" as having the same meaning.

Both translator and tester can be players too. In general, game translators are game players. It is not mandatory, but it is obvious that game translators should have knowledge of games. Hence, when a company hires a game translator, one of the requirements is familiarity with games, or playing games regularly. The testers are also generally game players. They are the ones who actually play the game and find any issues, and edit the text appropriately for the game. Meanwhile, in the case of video game translation, some players also act as translators in the form of fan translation. Fan translation is common in the video game industry and there are arguments about the advantages and disadvantages of fan translation. The primary reason for fan translation is players' demand for the game, which is not translated in their languages. In some cases, players even modify graphics or settings when they dislike the original version (Zhang, 2015, p. 167). Although it is admittedly illegal, fan translation has now become one of the research areas in translation studies. Unlike video game localization, it is really difficult to find mobile games that have fan translation patches. It seems that the reason that there is no fan translation for the mobile game is, as explained in chapter 3, that most mobile games are already internationalized and translated into many languages compared to video games.

To sum up, this section identifies the actors and their relationships in mobile game

localization, based on each stage. As examined in this chapter, different actors are found to be key actors for each stage. In addition, depending on the volume of the game text, the actors involved could be different. For example, the localization process of a high volume of text genre such as RPG or strategy games includes all the actors in this research, while a low volume of text genre such as hyper casual games include fewer actors as the localization process is simpler than in the high volume text games. Based on this actor-network in mobile game localization, it is important to examine how the mobile game text is translated, and how the text is modified in LQA. In the next chapter, the mobile game text translation strategies will be examined.

7. Translation of Mobile Game Assets

The translation of mobile game text is the main process of mobile game localization. Hence it is important to examine how the mobile game text is translated. Unlike existing text translation analysis which focuses only on translation, such as translation strategies or mistranslation, this thesis considers text as one of the main actors in the translation stage together with the translator and publisher, and categorizes the game assets based on the mobile game translation skopos. By doing this, how the actors interplay in the translation stage is also identified. In order to categorize the mobile game assets, existing game assets and text types are explored first, then the skopos of mobile game translation will be examined. Finally, some examples of actual translation will be looked at in detail based on four skopos of game translation: playability, entertainment, marketing and pivot language.

7.1 Mobile Game Assets

There have been a few studies that describe the game text types (Chandler 2011, O'Hagan and Mangiron 2013, Bernal-Merino 2014). This section examines the previous studies on game text types while identifying their application similarities and differences with mobile games. Additionally, I will distinguish each text type (in-game, settings, voiceover texts, game titles, and advertisement/marketing) and examine the Korean source and English translated texts in detail.

Mobile game assets that need to be translated have similarities and differences compared with video games. Several scholars have conducted research on game assets that need to be translated, as in Table 7-1 below. Bernal-Merino (2014) includes and distinguishes between in-game text, voiceover and cinematics, art, glossaries and TMs and packing and promotion in game assets. O'Hagan and Mangiron (2013) include in-game text, art assets, audio and cinematic assets and printed materials as game assets that require localization. Chandler (2011) categorises game assets as in-game text, pop-up tool tips, system messages, error messages, computer game installers, help files, voiceover files, cinematics, game logo art, in-game art assets and electronic manuals. They all agree that game translation assets consist of in-game text, audio and cinematics, art, and external assets that are related to games such as separate manuals, websites and packaging. The differences between the scholars are in the details of each category. Bernal-Merino only includes UI, system messages and game installers in the in-game text, while other texts for subtitles are considered as cinematics. He also contends that glossaries and TMs should be included in the game assets. On the other hand, O'Hagan and Mangiron include all kinds of game texts as in-game text while cinematics focus on voiceover. Chandler divides every asset as a separate category.

Bernal-Merino (2015)	O'Hagan and Mangiron (2013)	Chandler (2011)	Mobile games
In-game text: UI, system messages, game installers	In-game text: UI (menus, help messages, tutorials and system messages), narrative and descriptive passages, all dialogues in written form	In-game text Pop-Up Tool Tip System Messages Error Messages Computer Game Installers Help Files	In-game text: UI, system message, tutorial, quest, skill, item, character, help message, dialogue
Voiceover & Cinematics: Audio and video scripts	Audio & Cinematics: All elements with audio and voiceover (songs and scripts)	Voiceover files Cinematics	Voiceover text
Art: Game logo, in-game texture embedded words	Art: Graphics and images (maps, signs and notices that include text in the original version)	Game Logo Art In-Game Art Assets	Art: Images (maps, signs and notices that include text in the original version)
Glossaries and TMs			Game title
Packing and promotion: Box, manual, EULA, guarantee, 'ReadMe', help files, official website	Printed materials: All elements in print that accompany a game (Instruction manual and packaging)	Electronic Manuals	Marketing: App stores (Google Play Store, Apple App Store)

Table 7-1. Game assets that need to be translated

The category suggested in table 7-1 is generally used in the mobile game industry. Generally the mobile game text is indexed and grouped in text types by the developer before being sent to translation agencies. As shown in table 7-1 compared to video games, mobile game assets tend to be categorized more specifically. For instance, quest, skill, item is a separate asset of in-game text in mobile games while video games do not distinguish the assets. It could be questioned why mobile games include more sub contents when the general text volume is less than for video games. According to my own experience as a business person in both the mobile game and translation industries, and of numerous translatable game texts, this is due to engineering matters when the developer applies the translated text to the game. Figures 7-1 and 7-2 show when the game texts are extracted by the game developer as a single file with multiple tabs or sections for each category, or rarely, as multiple files per text category. One noticeable asset in mobile game assets is the game title and marketing text. In mobile game localization, game title translation has an important role, since it is directly related to the revenues the game generates (see Chapter 3.2.2). This chapter covers each of the translation assets in detail, and describes key translation strategies for each asset.

Figure 7-1. Text categories in a single file with multiple tabs

1	게임소개	스토어 상세페이지	[게임 특징] - 가난한 노숙자에서 우주여행을 가는 어마어마한 부자가 되어보자 - 탭!탭! 단순한 조작법과 짱!짱! 터지는 돈으로 일상의 스트레스를 날리세요! - 럭키 복권, 부업, 친구들의 도움 등 다양한 콘텐츠를 제공합니다. - 감성충만 픽셀 그래픽이 주는 레트로 감성으로 화려함이 지친 눈을 쉬게 해주세요! - 클라우드 저장기능 지원 - 16개 국가 언어 지원 - 태블릿 기기 지원	[Features] - Reverse the fate from being a homeless to planning a vacation out of space! - Tap! Tap! Simple controls and Jack Pot! Blow your daily stress away with the huge lotto jackpots you can win! - Scratch tickets, side job, friend's help, and many fun contents! - Rest your eyes from elaborate and flashy game designs by going retro with pixel graphics! - Cloud storage supported. - 16 languages supported. - Tablet device format supported.		
2	게임명	MAINTITLE	인생역전	Rags to Riches		
		SUBTITLE	리치킹 키우기	Rich King Maker		
3	스탯	STATS_LUK	당첨 확률이 증가합니다.	Jackpot chance is increased.		
		STATS_INT	세금이 감소합니다.	Tax is decreased.		
		STATS_POP	미녀들이 당신을 좋아합니다.	Beautiful ladies like you!		
		STATS_MOOD	친구들의 부스터 확률이 증가합니다.	Friend's Booster chance is increased.		
		STATS_WILL	부스터 게이지를 빨리 채울 수 있어요~	You can quickly fill up the Booster Gauge.		
		BUYSPOON	새로운 집으로 이사합니다.	You're moving to a new house!		
4	티켓명	LOTTERY_0	행운의 주사위 100 : (200, 400)	Lucky Dice 100: (200, 400)		
		LOTTERY_3	캐쉬 캐쉬 2000 : (6000, 20000, 50000)	Cash! Cash! 2000: (6000, 20000, 50000)		
		LOTTERY_7	철 광산 (구리, 은, 금, 다이아몬드)	Mine (Copper, Silver, Gold, Diamond)		
		LOTTERY_12	럭키 스트라이크 7	Lucky Strike 7		
		LOTTERY_17	밀리어네어 티켓 (빌리어네어, 트릴리어네어, 쿼드릴리어네어, 퀵틸리어네어)	Millionaire Ticket (Billionaire, Trillionaire, Quadrillionaire, Quintillionaire)		
		LOTTERY_22	인생역전 [Dirt] ()	Rags to Riches [Dirt] ()		
		LOTTERY_28	달 티켓 [그믐달] (초승달, 반달, 보름달, 블루문, 레드문)	Moon Ticket [Dark Moon] (Crescent Moon, Half Moon, Full Moon, Blue Moon, Red Moon)		
		LOTTERY_34	화성 I, II, III, IV, V, VI	Mars I, II, III, IV, V, VI		

Figure 7-2. Text categories in a single file with multiple sections

Depending on the game asset, different translation strategies are required. Bernal-Merino (2014) highlights each game asset with relevant text types as below.

Text type		Narrative	Oral/dialogic	Technical	Functional	Didactic	Promotional	Legal
Game asset	**In-game text:** UI, system messages, game installers	Y	Y	Y	Y	Y	Y	Y
	Voice-over and Cinematics: audio and video scripts	Y	Y	-	Y	Y	-	-
	Art: game logo, in-game texture embedded words	-	-	-	Y	-	Y	-
	Glossaries and TMs	-	-	Y	-	-	-	Y
	Packaging and promotion: box, manual, EULA, guarantee, 'Readme', official website	-	-	Y	-	-	Y	Y

Table 7-2. Game assets related to their text type (Bernal-Merino, 2014, p. 110)

(1) Narrative: heard or displayed, it carries the information about the game world and its characters;

(2) Oral/dialogic: heard or displayed, it represents the transcription of characters speaking to others in the game world;

(3) Technical: displayed or printed, containing detailed information about the

software and hardware required to enjoy the game;

(4) Functional: displayed as part of the menus and enabling players to choose between different game options;

(5) Didactic: displayed, printed or heard, to train players to use the game application;

(6) Promotional: printed or displayed to encourage users to buy more products; and

(7) Legal: advising buyers of their rights and duties as owners of the game product.

Based on this table, mobile game assets and text types can be grouped as below.

Text type		Narrative	Oral/dial	Technica	Function	Didactic	Promotio	Legal
Game asset	In-game text: UI, System Message, Tutorial, Item, Character, Help, Quest, Skill, Dialogue, Event	Y	Y	Y	Y	Y	Y	
	Settings			Y	Y			Y
	Voiceover	Y	Y			Y	Y	
	Game Titles						Y	
	Advertisement/Marketing	Y					Y	
	Customer Service (CS)		Y	Y	Y			

Table 7-3. Mobile game assets and text types

(1) In-game text: the in-game text category includes the majority of the game texts: in-game assets include almost all the text types except legal text type.

(2) Settings: the settings are one of the big differences between mobile games and video games. In video games, in-game text falls into legal text type due to the system

messages and game installer, while only settings have legal text type in mobile games.

(3) Voiceover: voiceover text includes narrative, oral/dialogue, didactic, and promotional text types.

(4) Game titles: game title text is promotional text. Titles are generally short but impressive, and it needs to grab the player's attention to make them download the games.

(5) Advertisement/Marketing is related to narrative and promotional text type. This is similar to "box and docs" or additional material such as game packaging, websites, strategy guides, banners, and commercial descriptions in video games (Laura Mejias-Climent, 2021, p. 23). In mobile games, advertisement images or short movies, and description texts for application markets are the main advertisement and marketing texts. The purpose of these texts is to promote the game.

(6) Customer Service (CS): In recent times, global market entry for a game has become a simple process thanks to global platforms such as Apple App Store, Google Play Store, and STEAM. Among various aspects of global game launching, a game company must also consider customer service. There are various reasons why a player may request a customer service. One of the main reasons is the payment issue. It may be related to subscription cancellation, having purchased an item but not received it, or making an incorrect purchase. Another reason why a player may request customer service is to report an abusive user. There may be a player that uses vulgar language, a high level player that bullies a lower level player, or a player who

engages in actions that spoil the normal course of game play. Another instance will be when a player cannot login to the game. It may be due to forgotten ID or password, network error, device error, or various other reasons.

As mentioned above, the necessity of customer service is essential when servicing a game. If a game is launched in multiple languages, the game company must also be prepared to respond to the customers' needs in the language of the target market. For example, if a Korean game company launched a game in France, and there is a customer service related issue by a player in France, then the company must be prepared to receive the complaint in French, and respond in French.

Accordingly, translation is required in this aspect of the game service cycle. As briefly described above, there are numerous possibilities why a player may request customer service. Because the need is so vast, it is difficult even for large companies to have in-house linguists to handle customer service for all the languages in which the game is serviced. Since customer service is a time-sensitive issue, a request cannot go through a normal translation cycle of being sent to a translation company, then being assigned to a PM, and then to a translator, then reviewed, and sent back to the game company. Rather, a customer service request must be acted upon usually within the same day, no matter what language the request is in. Logically, a machine translation such as Google Translate plays a major role in handling customer service. However, even with ever improving quality of machine translation, there's still a

limitation in handling an issue when a game company needs to respond to each customer service inquiry from all the countries where the game is published. Accordingly, the majority of game companies use forecasted frequently asked questions, or FAQ, to resolve many of the issues.

Game companies create a large data base of potential customer issues and translate this data into all the languages in which the game is serviced. When a player needs to contact customer service to submit a complaint, the player is in most cases presented with a menu of major categories to select the reason for complaint. Once the major category is selected, the player is then presented with sub-category choices. Here the player selects the applicable issue. As this narrows down the reason for the complaint, the game company now only needs to resolve the issue without the need to correspond with the customer, or can give a simple reply to verify the complaint. While full localization is not involved for handling customer service, language translation, mostly machine translation, plays an essential role in providing customer service for a globally published game. Regarding these game assets and text types, O'Hagan and Mangiron (2013, p. 154) suggest three main functions: informative, expressive, and persuasive. These functions will be considered for the above mentioned text type analysis. They consider translation priorities and strategies drawing on Nord's refreshment of Reiss's work (ibid). However, O'Hagan and Mangiron's three functions still do not explain all the functions of the game translation, nor do they relate to actors and their relationship. Hence, this study re-organizes the above mentioned game assets based on the function of mobile game

translation and the relationship between actors.

7.2 Actors and Skopos of Mobile Game Translation

As examined in chapter 4.4, game translation generally follows the skopos theory. As O'Hagan and Mangiron (2013, p. 150) argue, game translation is "primarily driven by its purpose (skopos) which is to entertain the end user of the translated product". In addition to the entertainment as a skopos, this study considers three other skopos namely playability, marketability and pivot language. It is found that the four skopos matches the actors' interplay. Figure 7-3 shows the four skopos and the related actors. First, playability and entertainment are the main purpose of the game translation. In order to keep these two skopos, translators translate the text based on the text types, testers play the translated game on various devices, and publishers try to ensure that there is no translation issue to disturb playability. In addition, the related actors all try to make the high quality translation in order to provide the game for entertainment. Second, unlike other translation fields, not only the translator but also the publisher is involved in text translation in order to improve marketing in the app stores. Lastly, the text that translators translate Korean into English becomes the pivot language for other language translations, which is the PM's role. In this process, the terminologies included translation brief often change for the target languages. These relationships indicate that game translation is influenced by these actors and their skopos. Hence the relationship between the actors and their skopos could influence the translation.

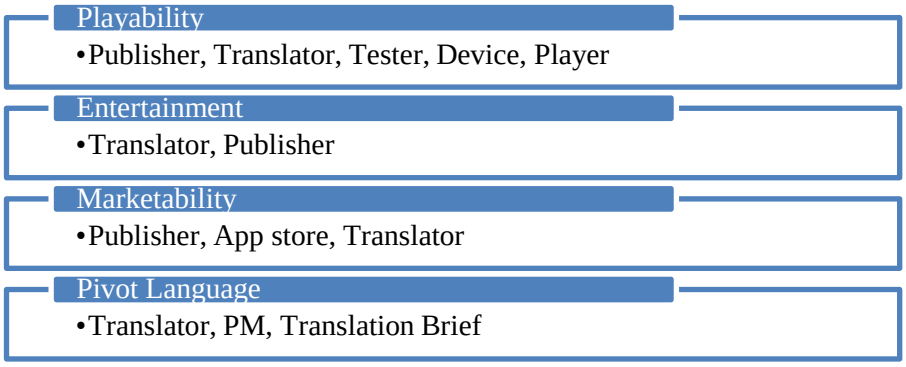


Figure 7-3. Actors and skopos of translation stage (source: author)

The three sub functions (informative, expressive, and persuasive) suggested by O'Hagan and Mangiron (2013) can be integrated with the four main skopos and the mobile game assets can be categorized according to these text types. Figure 7.4 illustrates the skopos and game assets in detail. According to these main skopos and sub functions of game translation, the translation of each game asset will be addressed in the next section.

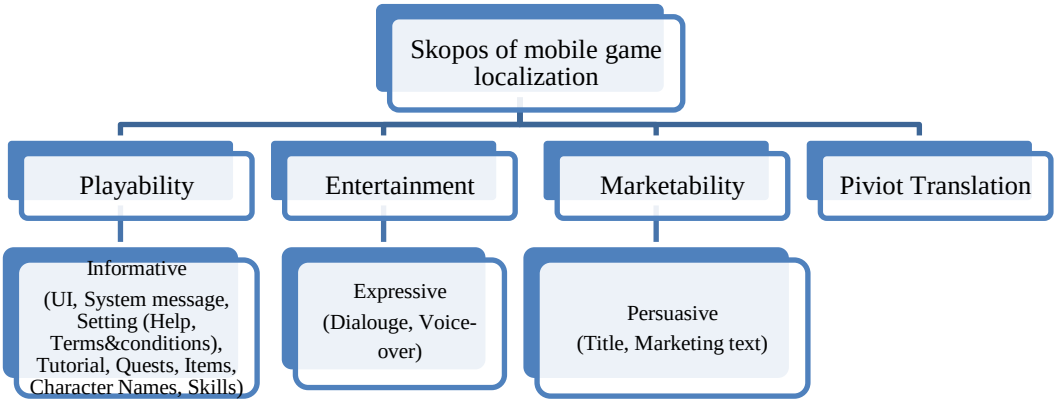


Figure 7-4. Function of mobile game localization and game assets (source: author)

7.2.1 Playability

Since the main priority of game localization is to preserve the look and feel of the original game play experience (Mangiron and O'Hagan, 2006) for the target language players, playability should be considered an important skopos. In other words, the ultimate goal of game translation is to arouse the players' interest and make them play the game continuously, and most game assets convey playability when they are translated. Mangiron (2018, p. 128-129) notes that developers and publishers expect translators to produce target versions that are as good as the originals in order to lead players to believe that the game has been designed specifically for them. Mangiron's argument shows that the role of translation is highly important in relation to playability. In the case of mobile game assets, informative functions of assets are related to playability. According to O'Hagan and Mangiron's category (2013, pp. 154-158), operating instructions are informative. In this sense, UI, system messages, settings (help, terms & conditions), tutorial, quests, items, character names, and skills are included in the informative text function.

7.2.1.1 User Interface (UI)

A game columnist, Back (2018)[31] says that UI is the key factor that makes players play the game for longer, and the UI should be easy to find, and should be modern so that even the new players can find game functions easily. There are several definitions for UI in the game industry. Bernal-Merino (2014) claims that UI is often

[31] See http://gamefocus.co.kr/detail.php?number=87143

referred to as the menu, and the UI is used to control hardware preferences as well as many aspects of game play. O'Hagan and Mangiron (2013) have a broader view of UI, as in addition to the menu, they include help messages, tutorials and system messages. Another view is expressed on a well-known tutorial website called Envato Tuts+. Here, Desi Quintans (2013)[32] defines UI as both methods (keyboard control, mouse control) and interfaces (inventory screen, map screen) through which a user interacts with the game.

In general, the UI in a game establishes the interaction between player and game, and "allows users to interact with the different elements" (Munoz Sanchez and Lopez Sanchez, 2016). In mobile games, players touch the screen to interact with the game, and the texts that players touch are considered as UIs. For example, "OK", "cancel", "close", or "skip" are some of the most commonly found UIs in games. When players touch the "OK" button, they accept the previous message, while touching "cancel" means they dismiss the message. Figure 7-5 and 7-6 show the source and target UIs of mobile games. As shown in the figure, UIs are mostly short and clear enough to show what actions will be implemented when players touch the UIs. In this game, touching the "상점 (shop)" button makes players move to the shop to buy items. The "모험하기 (adventure)" button takes players to the map to start the quests, and when they touch the "뽑기" (lucky draw) button, they move to a

[32] See https://gamedevelopment.tutsplus.com/tutorials/game-ui-by-example-a-crash-course-in-the-good-and-the-bad--gamedev-3943

different screen to pick a lucky draw item.

Figure 7-5. UI translation. *Guardian Soul* Korean

Figure 7-6. UI translation. *Guardian Soul* English

Through my research on the above example mobile games, as well as from my personal experience as a game translator, it is found that for UI translation, common and familiar terms are often used in most games rather than using new and unfamiliar words that players feel uncomfortable with. This is maybe not surprising, given that several game industry people have noted the importance of familiar UI. A game columnist, Kim (2018)[33] says that if the way of controlling UI is unfamiliar to players, it could adversely affect their experience. In other words, players prefer familiar UIs. According to a game developer Moaigames in Korea[34], they are trying to make simple and intuitive UIs so players can understand information without any tutorials for the UIs. This means the translated UI needs to be familiar to players as well. For example, a UI "사용 해제" in Korean is used in a situation when a player removes an item, so as not to use it anymore. In this case, words such as "remove",

[33] See http://www.newsworker.co.kr/news/articleView.html?idxno=14337

[34] See http://gamefocus.co.kr/detail.php?number=60034

“cancel”, or “release” could be an option; however, in a game situation “disable” is the most commonly used command. A similar example is “착용중”, which is used when a player wears costumes or holds weapons or items. In this case, “equipped” is used in the game text, instead of “wearing”.

7.2.1.2 System Messages

As the game is software, various system messages appear while playing the game. System messages generally refer to messages generated by a computer system when a certain predefined condition is met, to inform the operator of the current system status. According to Bernal-Merino (2014, p. 112), system messages contain technical information in the form of official error reporting messages. Mobile game text also contains many system messages. The purpose of the system messages are notifying technical issues or providing game related information. Thus the majority of games use almost the same form of system messages. Generally these system messages contain more technical text than other assets, and the translation also follows this writing style. Interestingly, system messages from mobile games and video games differ in terms of approval from platform manufacturers. Mobile game system messages are written by each game developer and there is no official version for each system message; however, system messages are approved by platform manufacturers such as Microsoft or Nintendo, and the contents of the system messages should follow style, formatting and terminology guidelines within each language and across all localised versions in video games (Bernal-Merino, 2014, p. 113). Some common system messages may be “failed to connect to server” and

“purchase complete”. In the case of console game platform manufacturers such as Microsoft, Nintendo, and Sony Computer Entertainment, translated system messages must be approved by these platform manufacturers in what is often referred to as a compliance agreement for terminology. This requirement does not apply to Google Play Store and the Apple App Store. In other words, publishers can publish the same texts in Google Play Store and in the Apple App Store. Here, the translator has greater flexibility in translating the texts. This is why even simple texts such as the above mentioned system messages vary from game to game in the case of mobile games. The same Korean source of “서버에 접속할 수 없습니다” can be translated as “failed to connect to server” as shown above or “cannot connect to server”, and either one or other variation can be used for both Google Play Store and the Apple App Store.

One of the translation strategies of game system messages from Korean into English is that there are no subjects in the sentence. The above example sentences explain this translation strategy. In the normal sentence, it would be “you cannot connect to the server”. However, system messages generally delete the subject because it is always the user who receives the messages, and start instead with the verb to provide a straight-forward feeling. This translation strategy helps solve the length problem as well. If this source was not a system message but normal dialogue, this sentence would be translated as “you cannot connect to the server”, even though there is no subject in the Korean sentence.

7.2.1.3 Settings

Players often want to change some of the game settings to their own preference. In mobile games, players can change the setting in a settings section. The components of settings are similar to software settings, and generally include various submenus such as help, FAQs, terms and conditions, privacy, language setting, audio setting, and music. Once a player touches each component, it directs the player to a new screen and shows the detailed information. Texts in the settings section are more informative than in-game texts and different translation strategies are applied.

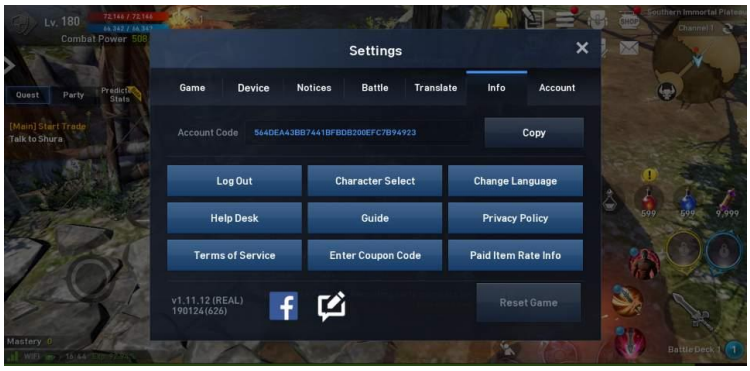


Figure 7-7. Example of settings (from *Lineage Revolution*)

Help, or “help and support” in some games, refers to general information that players can use as a guide to the game. Help in mobile games is not a part of the dialogue or story text that appears on screen while users are playing. In mobile games, help is placed in the settings section. Depending on the games, there are different categories in help. Some games have help as a separate category, while others list help under FAQs. The most common contents in help are information about game accounts, troubleshooting and FAQs in general. Players search help contents when they have issues with the game and wish to find solutions. Help contents generally provide the

most recent, reliable, and precise information. In this sense, the translation of help contents tends to be accurate and informative, and stay true to the source text.

The user agreement, terms and conditions, and privacy policy in mobile games are legal documents that need to be translated. In the case of video games, Bernal-Merino (2014) explores EULA and guarantee files as legal documents. He rightly notes that players need to accept these legal documents when they install or start the game for the first time, and the syntax and the terminologies are formal. These legal contents are found in most mobile games in similar form, although sometimes the writing style is not formal. Even though the content itself is legal content and formal, it can be expressed in an informal way in Korean mobile games, since those documents are made by the publishers, not the platform manufacturers as is the case with video games. However, the outcome of these documents' translation is generally formal.

7.2.1.4 Tutorial

Another informative asset that relates to playability is the tutorial. In video games, tutorials are provided as electronic manuals or they are merged with the game world (O'Hagan and Mangiron, 2013, p. 160). When a tutorial is provided as a separate manual, players tend not to read it. In the case of mobile games, the tutorial is the first game text that players read when they start the game. But it is said in the industry that not many players fully read the tutorials. When producer Katsuhiro

Harada of a very successful Japanese game titled *Tekken* was asked why mainstream titles have only short tutorials, he answered,

> We have that data in our company. You hear a lot of people say this game is great because it has a tutorial but when we look at the data, not many people play these tutorial modes. This is the same when you buy something new, you take it home and you don't read the manual. It's a positive for your product if you can say you have a tutorial but when you take a closer look you notice that people aren't really playing it.[35]

However, sometimes it is too difficult to play without tutorials, and for new gamers tutorials might be essential. Tutorials teach players manoeuvering techniques by offering visual non-verbal demonstrations as well as explanations in written text (O'Hagan and Mangiron, 2013, p. 160). Visual non-verbal demonstrations show the actual movements of the game. As shown in below figure 7-8, the game screen explains how to use a skill through a demonstration. Even though there is no written text, players can understand what to do in the game situation. Explanations in written text include how to use items such as weapons, how to evolve materials, how to level up, as well as providing additional information about the game. Figure 7-9 is an example of a tutorial through written text. In this figure, a game character explains how to upgrade a skill. As the purpose of tutorials is to provide information and guidelines about the game, the translation is generally precise and easy to understand, as well as interesting enough to gain players' attention. One way to get players'

[35] See http://www.inven.co.kr/webzine/news/?news=137677

attention is by using a character from the game. Although simple games such as puzzle games have simple text tutorials, usually in mobile games one or some of the main characters of the game become the narrators of the tutorial, and the tutorial text style follows the character's speech pattern. In other words, the tutorial may be technical but it is normally written as part of the story, combined with the basic functionality of how to interact with the game.

Figure 7-8. Tutorial through demonstration, *Guardiansoul*

Figure 7-9. Tutorial through written text, *Guardiansoul*

7.2.1.5 Quests

Quests in game texts have a unique writing style. Quests or missions in a game are usually a series of challenges a player needs to complete to gain certain rewards or to move on to the next stage in the game. More importantly, quests are the strategic way to immerse the players into the game. Quests are generally categorised into kill quests, gather quests, delivery quests, and escort quests. In kill quests, players are usually instructed to kill a specific monster or other players. In gather quests, players need to collect a number of specific items. These items may be found while roaming around the game map or players may need to kill certain monsters to gain the required items. In delivery quests, players are required to get certain items from non-player characters (NPC) or to bring certain items to NPC. Finally, in escort quests, players are required to protect a certain NPC while moving from one location to another. Depending on the game genre, there may be a few or many of these quests. Although quests are present in almost all games, they are not required to be completed. Rather, they run like a mini game within the main game. But nearly all quests reward the player with various items that enhance the game playing experience.

As explained for each quest type above, quest texts are ordering texts, in other words, the texts are clear so players do not get confused about what they have to do. For this reason, quest texts are generally short and straightforward. For example, "가디언의 탑 %d회 초기화하기" from *Guardian Soul* is "reset guardian tower %d times" in

English, and “부업을 1회 수행하세요” from *Rich King* is “complete side job 1 time” in English. In quest translation, consistency and accuracy are important. A player’s game flow will be interrupted if the player is instructed to go to a certain location on the map to kill a specific monster, but that monster is nowhere to be found because of an incorrect or inconsistent translation of the monster’s name.

7.2.1.6 Items

Items are elements in the game that enhance the playing experience. Some items allow a player to have extra lives, some make players stronger, and others are costumes that change characters’ appearance. Some are permanent while others are consumable. In general, items help the player to achieve higher scores or gain an advantage in the game. Items are objects that can be picked up and collected, crafted, or purchased by the player. In most cases, items appear as an icon image with limited space for text.

Weapons are one of the main items in games. Weapons in recent games tend to be realistic, and developers use the images and names of real weapons. According to O’Hagan and Mangiron (2013), when translating terms like weapons, it is important to find a translation that respects the overt functional meaning of the original. In translation, the real names of these weapons are used as well. A clear example can be found in shooting games:

Korean	English	Game Image
에이브람스	Abrams	
M551 셰리든 II	M551 Sheridan II	
페럿	Ferret	
아파치 I	Apache I	

Table 7-4. Example of Various Weapons in *Commander Battle*

Similar to UI translation, items translation also tends to use generally accepted terms for items in order to maintain playability. A word can have several synonyms, and translators try to find the best equivalent word among these. In general documents, using the same words repeatedly makes the text boring and the use of synonyms is preferred. Unlike in general documents, mobile game texts use familiar words instead of new words. For example the Korean word “옷” meaning “clothes” has also many synonyms including “의복” and “의상”. In English “clothes” can be replaced by “garment”, “costume” or “dress”. Any of these English words is correct to use. However, in mobile game text “costume” is commonly used. In most cases “costume” is one of the items that characters can choose and change. Similar examples are found in fishing games. Fishing games include varieties of fish as

items. An issue for translating fish names is that fish have two kinds of names in English; one is the scientific name and the other is the commonly used name, while there is only one name for each fish in Korean. For instance, "메기" from bass tournament is "catfish" in English, and its scientific name is "silurus asotus". If players found a scientific fish name during a game, it would disturb playability. The most important things to remember when translating items in mobile games are brevity and consistency. Consistency is maintained by the creation and constant updating of glossaries in Excel and by fully leveraging translation memory tools.

7.2.1.7 Character Names

Localizing character names and idiosyncrasies is both a challenge and important since they significantly influence the playability of the game. Characters in games are largely divided into player characters (PC), which are directly controlled by players, and non-player characters (NPC) that are controlled by the game engine and are assigned certain roles in the game. Characters come in all types of forms such as humans, elves, dwarves, animals, mythical monsters, and anything else imaginable. When these names are well localized, players can focus on the game and have no problem with completing missions when the mission is related to characters. On the other hand, if players are not able to understand the character name or if the same character name is translated differently in the same game, then players become confused and the playability of the game becomes a problem. Despite the importance of character name localization, as with proper name translation in other texts, game character name translation has not yet been seriously considered as an important

process and thus only a few industry studies exist. Vermes (2003: 89-90) points out that:

> The translation of proper names has often been considered as a simple automatic process of transference from one language into another, due to the view that proper names are mere labels used to identify a person or a thing. [...] the translation of proper names is not a trivial issue but, on the contrary, may involve a rather delicate decision-making process, requiring on the part of the translator careful consideration of the meanings the name has before deciding how best to render it in the target language.

As argued by Vermes above, proper nouns which could be character names in games are considered not to be important translatable assets; however, it is important to realise that some of the names could affect playability. When character names are internationalised or universally known, generally simple transcription/transliteration is needed. In contrast, culturally specific names are generally complicated to translate and a different translation approach is needed. Fernandes (2006) proposes ten procedures in the translation of names including rendition, copy, transcription, substitution, recreation, deletion, addition, transposition, phonological replacement, and conventionality. The character name translation from Korean into English can fall into four categories from Fernandes' ten, which are transcription, substitution, addition and conventionality.

1) Transcription/Transliteration

Transcription or transliteration is an effective way to translate a game character name. According to Fernandes (2006), transcription could be a synonym for "transliteration" and is "a procedure in which an attempt is made to transcribe a name in the closest corresponding letters of a different target alphabet or language". When a character name is internationalised or is a universal name, as with generally western names, the names are phonetically translated. Recent mobile games tend to make character names universal rather than culturally specific. For example, in *Lineage Revolution* there are various NPC names such as "윈드라이더 [wind raidʌ]", "소드 뮤즈 [sod mjuz]", or "고스트 헌터 [gost hʌntʌ]" which are "Wind Rider", "Sword Muse" or "Ghost Hunter" in English respectively. Since these names are already internationalised names, only transliteration is needed.

2) Substitution

Substitution is another procedure that can be used in the translation of proper names. Fernandes (2006) notes that:

> 'In this type of procedure, a formally and/or semantically unrelated name is a substitute in the target text for any existent name in the source text. In other words, the TL name and the SL name exist in their respective referential worlds, but are not related to each other in terms of form and/or semantic significances.'

In the early mobile games, Korean names are often found in Korean games, such as

“Sueyeon” or “Yuyeon Na” from *Champion*. In the case of Korean names, the name itself is culturally specific, thus when English speaking people see the name, they have to think about the meaning of the word. Practically, for people who do not know Korean culture it could be any proper noun such as a character name, a place name or a map name. In this case, localising the character name would be more appropriate than phonetic translation. These common names could be substituted with common English names unless the characters are representing their nationalities.

3) Addition

Fernandes (2006) points out that addition is a procedure that adds extra information to the original name, making it more comprehensible or more appealing to its target audience. This is useful when a character name is historical, which often means it is culturally specific. As Sanaty Pour (2009) argues, every language has particular personal names, and they are deeply related to the culture of the speakers of that language. In other words, translation of proper names can cause translation difficulties when there is a lack of cultural knowledge. When a character is historical or culturally specific, it can be a challenge. When the character’s name is well-known worldwide, for instance “Joan of Arc” or “Florence Nightingale”, there is no need to add extra information. However, when the character is only known in the source text country, then extra information helps with understanding the character. For example, one character from the *Civilization War* is “허준”, “Huh June” in English. He is the most famous doctor in Korean history. But even though he is a

well-known person in Korea, when non-Korean players see the name “Huh June”, they have no idea who he is. Hence, in the English version, “Dr.” is added in front of his name to make his character more understandable. A similar example is the name of the Korean King. When Korean players see the name “세종”, which is “Sejong” in English, they can easily recognize that this character is the Korean king. However, when this is translated into English as “Sejong”, there is little possibility that players will see the character as a king, even though there is an image of the character. As illustrated in figure 7-10, the outfit of both the king and the doctor look similar, and it is not easy to explain their status without extra information. In this case, even though there is no word king in the source text, information “King” is added.

Figure 7-10. King Sejong (left) and Dr. Huh June (right) from *Civilization War*

4) Conventionality

Fernandes’ views on conventionality can explain the character name translation of IP games. He notes that conventionality is the procedure that occurs “when a TL name is conventionally accepted as the translation of a particular SL name” and it is used with historical or literary figures. In the case of IP games, character name translation

is a challenge. Players expect the same characters and stories from IP games, thus translators use the same names in target languages. Games with famous intellectual property (IP) use the same character as well as the same name. Using a famous IP is a new trend in the mobile game industry. Game companies have found that IP mobile games have more possibility of success than totally new games, because those games have already got a proven story and characters, as well as the user's loyalty. Thus many game companies have tried to obtain IPs from previously successful online games, movies, or comics.

Another way to use an IP is that when a company already owns one, it is possible to make another game with that IP. For instance, *Clash of Clan* from Supercell has had great success in the mobile game industry. The company developed other games including *Clash Royal,* using the same characters. For the loyal users who play both games, the character names should be the same, both in the source and target texts, especially when the name is already conventionally used in the target languages. As seen from figure 7-11 below, the same images of the characters have the same name in both source and target languages. The English name for both the images below is "balloon". When *Clash of Clan* was translated, the Korean version of the "balloon" was "해골 비행선", which literally means "skeleton balloon". When the next Clash Royal game came out, the same characters had to be translated just the same as Clash of Clan, for the loyal players' benefit.

Figure 7-11. Balloon from *Clash of Clan* Balloon from *Clash Roy*al

In the case of superhero games, as observed by Fernandez-Costales (2014), in order to conform to a user's expectations, the games have to be in tune with the player's previous knowledge of the story and characters. Thus, translators are required to search for the corresponding character names in the target country. For instance, *Marvel Future Fight,* published by Netmarble Korea, is a mobile game that was developed based on Marvel Comics' IP. The story is based on the Marvel Cinematic Universe with variations, but the characters are almost identical to characters from the Marvel Cinematic Universe movies, and the names of characters are translated as they are known in the target countries. When the character name is originally in English but written in Korean, such as "캡틴 아메리카" which is "Captain America", it is not challenging. However, when the name of the character is written in Korean, such as "모르도 남작 (literally "Mordo Baron"), not the "Mordo Baron" but the "Baron Mordo" which is the English character name from Marvel is used.

7.2.1.8 Skill

Skill in a game is a feature that adds a special ability to a character. Skills are usually obtained by learning or training throughout the course of a game as the character level increases. Some skills are active, which means the skill is activated by the player, while some are passive, which means that it just adds certain abilities to the player's character automatically. In RPG, a skill is usually unique to a character type. For example, the healing skill will be unique to characters that use magic and sorcery. Sword skills are unique to swordsmen, and archery unique to archers, etc. O'Hagan and Mangiron (2013) claim that many games contain newly created concepts for fighting techniques, which are the same as skills in this study, and these words are often an "edgy, quirky or even poetic selection of words" (2013: 159). Due to this, some skill names are difficult to translate. For example, a Korean skill name "질긴 생명" from *Guardian Soul* is normally used in a situation when someone should be dead, but the person holds on to his/her life longer than expected. The function of this skill in the game is to restore Health Point (HP) to a certain percent for a certain amount of time. As O'Hagan and Mangiron (2013) explain, the meaning of these words has to be balanced against the need for a functional translation, and in this game it is translated as "hard to kill".

Usually, a detailed description of a skill is shown in the skill menu or when a player taps on the skill icon. Each skill has its own effect, and players can decide which skills they will use based on the description. Skill names themselves are made to provide a general idea of the skill, and players can read the description for more

detailed information about the skill. When players see a skill called “소환술”, which is “summon spells”, they can recognise what this skill is used for. The description for this skill is “7번째공격시마다 Lv.%v2 해골병사를 소환합니다”, which means “summons Lv.%v2 skeleton soldiers on every seventh attack.”

7.2.2 Entertainment

One of the factors that could affect players’ immersion in the game is the game text, which provides extra entertainment while playing. When the text is easy to read and fun, players can enjoy the game more. Among game texts, dialogue and voice over texts can be categorized as expressive text with entertainment skopos. Generally the expressive texts are literary style, so players can understand the text easily. According to O’Hagan and Mangirons’s category (2013), natural flowing writing style and speech expressed in written text with colloquial style are often asked for in the expressive text. Another characteristic found in the text for entertainment purposes is informal translation. This is especially the case with speaking text such as dialogue, and audio/cinematic texts are usually translated as spoken language, without strictly adhering to formal grammar. Although the game is for entertainment, other text types do not usually allow ungrammatical sentences in translation. However, it seems that the speaking text seeks to provide the look and feel of the original more than in the case of other text types.

7.2.2.1 Dialogue

Dialogue text in mobile games generally refers to written dialogue script. The written dialogue scripts in game texts are often used for, but not limited to, the conversation between characters, or characters' speech. Therefore, the text is generally informal, and sometimes the translator's creativeness is required. When translating dialogue text from Korean into English, there are two parts to consider. One is the translated text length as subtitle, and the other is the "style markers" in the dialogue text. Regarding the text length, there are several existing research papers in line with game subtitle translation, although it is difficult to find research on style markers in game text. Style marker is a concept that Enkvist (1964, p. 34) suggested as below:

> We may now define style markers as those linguistic items that only appear, or are most or least frequent in, one group of contexts. In other words, style markers are contextually bound linguistic elements.

In this regard, Korean game dialogue text includes various style markers such as onomatopoeia, laughing/sigh/exclamation sound and punctuation marks. Since dialogue text is characters' speech, the source language's own speech or writing style is noticeable. Moreover, when the source text is Korean and the target text is English, as in this study, there are many differences in writing style in both languages, and they need different translation strategies.

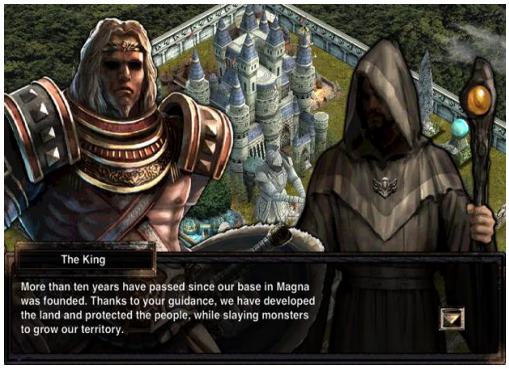
1) Text as subtitles

Dialogue in mobile games appears in subtitle format. It appears at the bottom or top as well as in the middle of the screen, as long as it does not interfere with playability. Since the screen on the mobile phone is a lot smaller than with other game platforms, the dialogue text appears differently in mobile games compared with other digital games. Several scholars comment on dialogues or subtitles in game translation (Bernal-Merino 2015, O'Hagan and Mangiron 2006, 2013, Fernandez Costales 2012). Bernal-Merino (2014, p. 72) explains dialogue as follows:

> Video games display dialogic text onscreen in a variety of ways that are similar to those seen in films, but instead of following a standardised system, each game seems to reserve the right to use text onscreen in whatever way they see fit, i.e. if and when they serve the specific game and user interface design. In a similar way to comics and cartoons, they tend to make use of the whole screen as if it were a digital page to present the information rather than following the standard practice of placing the subtitles on the bottom of the screen.

Figure 7-12 shows the location of game dialogues. As seen from the figure, dialogue text can appear anywhere on the screen. This figure also illustrates the number of lines of dialogue text. Previous research on game subtitle length (O'Hagan and Mangiron 2013, Bernal-Merino 2014) argues that in game translation, there is no specific restriction on the subtitle length. In most cases it is true, as the left text

includes four lines with 33 words while the right text includes five lines with 24 words. The number of characters and lines in mobile games depends on the size of the text box, not on any conventional rules as in general audio-visual translation. However, some clients require a specific number of characters or lines for a given text box. If the translated text is longer than stipulated, translators need to edit the text and make it shorter whilst retaining the meaning of the text.



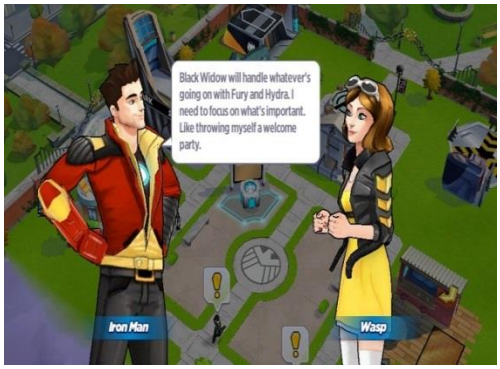


Figure 7-12. Location of game dialogue:

bottom (from *Kingdom Conquest II*) top (from *Marvel Avengers Academy*)

O'Hagan and Mangiron (2006) rightly point out that video game subtitling is different from film subtitling: rather it shares some features with DVD subtitling. The common feature is that both video game and DVD dialogue can be paused and restarted by users. However, as O'Hagan and Mangiron note, game subtitles usually appear faster to keep pace with game actions. In this regard, mobile games have two types of subtitles, one is a controllable subtitle the same as for other video games, and the other is uncontrollable by players. In the left figure in 7-12, there is a down

arrow () at the right corner of the dialogue text box. This arrow in the text box indicates that the screen or the text moves to the next one when the player touches the arrow. Thus players have enough time to read the text and decide whether to continue or skip the text. In contrast, as seen from the figure 7-12 on the right, a subtitle without arrow does not give the player control, the screen changes automatically to the next page. Although there is no official timing rule in mobile games such as the 6 seconds rule for film translation, most mobile games give an average 2 to 3 seconds to players to read dialogue before they are moved on to the next screen.

2) Onomatopoeia

Dialogue is the asset that gives translators the most significant challenge. As the dialogue text is mostly speech text, there are various onomatopoeia and informal speech included in the text. As Munoz Sanchez and Lopez Sanchez (2016) explain, “translators must be prepared to tackle the plays on words as well as dialogs with different tones, depending on the character”. In particular, when translating Korean into English, different style markers or speech styles are difficult to translate. One of the challenges is onomatopoeia. Each language has different onomatopoeia and some do not have exact equivalent words. The Korean language is very rich in onomatopoeic expressions, whereas the phonetic imitation of a sound is

comparatively limited in English. Kim (2014)[36] claims that there are three ways to translate onomatopoeia from Korean into English: using exclamation, using verbs and using description in English. In this case translators have to decide what to use in the target language. Kim (2014) argues that using an exclamation is the best way to translate onomatopoeia when a similar sound or movement is used in target language. For example, depending on the context, "아포! 아포!" could be an expression when someone is sick, or a sound that comes out when hurt. Literally, it is "It hurts! It hurts!" However, in *Guardian Soul*, the exclamation "Ouch! Ouch!" is used since the next sentence is "Stop hitting me!" In this context, "Ouch" shows the situation clearly.

In game text, using verbs seems to be an effective strategy to translate onomatopoeia. The Korean sentence "안내를 따라 몬스터를 마구마구 때려보세요" from *Guardian Soul*, literally means "follow the guide and hit the monster strongly or continuously". In this sentence, "마구마구" is an onomatopoeia which is used to express strong and continuous movement. When this onomatopoeia is used in a sentence, it implicates stronger movement than without the onomatopoeia. However, in the English sentence, it is translated as "follow the guide and attack the monsters". Even though there is no exact onomatopoeia in English, this sentence uses the stronger verb "attack" rather than "hit strongly or continuously" to provide a similar feeling. Another example of using a verb is a skill name from *Knight Nine* "빠직

[36] See http://www.newsworker.co.kr/news/articleView.html?idxno=14337

슬라임", which is translated as "squishing slime". In this case the Korean onomatopoeia "빠직" is translated into the verb form "squishing" in English. The Korean "빠직" is a sound expression when something stiff is broken or cracked. In fact, this is the sound expression when people actually squish slime. A similar example is "화륵 슬라임". "화륵", which is onomatopoeia to express sound or movement when something is strongly burnt or when a group of birds suddenly takes off. In the *Knight Nine*, this is translated as "blazing slime". Since the verb blaze means to burn strongly and brightly, the Korean onomatopoeia is transferred into English with the same meaning.

In the game text, using description is not a commonly used strategy because it could make the sentence length longer, which the translators try to avoid in game text translation. Instead, a similar concept that can provide a similar feeling can be used. For instance, in a sentence "탭! 탭! 단순한 조작법과 팡! 팡! 터지는 돈으로 일상의 스트레스를 날리세요!" which is translated as "Tap! Tap! Simple controls and Jack Pot! Blow your daily stress away with the huge lotto jackpots you can win!" In this sentence, "팡! 팡! [Pang! Pang!]" is the sound people can hear from fireworks. In the above sentence, it is used to express that the player can win a lot of money, thus it is translated as "Jack Pot!"

3) Laughing/Sigh/Exclamation Sound

In game texts, laughing/sigh/exclamation sounds are shown frequently. Especially common are some 'sighing' expressions such as "휴" or "하아", and some laughing sounds such as "하하하" or "하핫", which are frequently found in game texts. The Korean, "휴" is a word to express a sigh that could indicate disappointment or relief. Depending on the situation, this needs to be translated differently. For example, "휴~ 일단 루비드릭을 물리치는데 성공했습니다" from *Guardian Soul* is translated as "Wow! You've successfully defeated Lubidrick". Since this sentence shows success, here the sigh expression "휴" means relief. Thus the translation uses "Wow!" instead of "Phew~". The laughing sound is also a challenge in Korean into English translations. There are many laughing expressions in Korean, but it is not easy to find an equivalent laughing sound in English. For example, in the sentence "우하하 깨달음을 얻었다" from an ogre's speech, "우하하" is a laughing sound. Phonetically, it is "Uhaha"; however, there is a laughing sound "Muahaha" in English that shows the laugh of evil beings or monsters. As the speaker of the sentence is an ogre, the English version becomes "Muahaha I am enlightened." These Korean onomatopoeias are generally either omitted or unified into a single common expression in English when translated. For example, when the sentence "이야! 월척이구나"! from *Bass Tournament* is translated into English, the exclamation expression "이야!" is omitted, but the English exclamation sentence structure "What a Whopper!" is used instead.

4) Punctuation marks/Symbols

Unlike many other texts, game texts use many kinds of symbols. Especially in dialogue, punctuation marks or symbols can help express the speaker's feeling. Even though special characters do not include linguistic meanings, they affect localization quality and need to be changed to appropriate ones for target countries. For example, the combination of "!?" is frequently found in game text. "!?" is grammatically incorrect usage, however, in game texts it is frequently used to express surprise and questioning together.

Ellipsis is one of the punctuation marks often found in game texts. Game texts should provide all players with the same experience and feelings, whether they are in the original or translated. Ellipsis is one of the factors that can differentiate the feeling of the source and the target text. According to the National Institute of Korean Language, ellipsis in Korean is used in four situations; when a sentence is not finished, when there is no speech, when there are elided sentences, and when there is hesitation. According to Grammarbook.com, "ellipses can express hesitation, changes of mood, suspense, or thoughts trailing off. Writers also use ellipses to indicate a pause or wavering in an otherwise straightforward sentence"[37]. The usage of English ellipsis is similar to Korean and so generally the ellipsis is applied in an English text at the same place. In game text, ellipsis takes another function other than a grammatical function, 'stutter'. According to the Cambridge dictionary, a stutter

[37] See https://www.grammarbook.com/punctuation/ellipses.asp

means “to speak or say something, especially the first part of a word, with difficulty, for example pausing before it or repeating it several times”, with the example of “c-c-can we go-go now?” In Korean speech text, a stutter is often used when a speaker is shocked or surprised, and is shown as “…” in writing. In this situation, a hyphen is used in English as in the above example from a dictionary.

Another different usage of punctuation marks is tilde, which is the “~” symbol. The National Institute of Korean Language defines the usage of tilde to explain duration, distance and range. However, the tilde symbol is used in many ways, even though it is not usually grammatically correct. Game texts are not official documents but just for fun in general, so internet writing style or speech styles are often found. The tilde symbol often represents strengthening the word or a long sound. For example, a dialogue sentence “저기~ 엄마가 이거 드리래요!” is “Excuse me, my mom asked me to give this to you!” in English. In this sentence, the tilde symbol in Korean is used to express hesitation; however, when translated into English, the symbol tends to be omitted, conforming with the English writing style. Another example of an informal usage of the tilde is when it is used to express duration. In English, a hyphen (-) is used to explain duration. For example, from 2pm to 4pm can be 2pm - 4pm. In a situation when “~” is used for its original purpose, “~” can be replaced by “-”. However, when “~” is used in speech text there is no equivalent symbol in English. Thus translators need a different strategy when they translate. In most cases deletion is used when there is a “~” in the source file.

Similarly, informal expressions are frequently found in game text as well. In these cases, as long as the expressions take account of the age rating, informal expressions

such as watcha, gonna or heck can be used in the target text.

7.2.2.2 Audio and Cinematic Texts

Audio and cinematic texts in games refer to texts with sound that players will hear while they are playing or when they watch videos in the game or promotional videos. These are extra assets to give excitement and entertainment for players. O'Hagan and Mangiron (2013, p. 124) note that the audio and cinematic assets include elements with audio and voiceover such as songs and script, and nowadays most AAA titles include cut-scenes or cinematics. Voiceover in games refers to all audio texts recorded for video games (Bernal-Merino, 2014). Bernal-Merino suggests three degrees of complexity for voiceover; lip-synchronisation, dubbing and voiceover (audio-only). In the case of the mobile game, voiceover text can be grouped into two categories; cinematic videos and in-game audio-only. Lip-synchronisation can be found rarely in some advertisement trailers, instead most of the cinematics use dubbing rather than lip-synchronisation. The last degree voiceover, which is audio-only files, are found as character speech and interjections in mobile games. The importance of voiceover in video games has increased markedly. Bernal-Merino (2015) points out that video games now tend to include more voiceover and lip-synch works, and game industry stakeholders note that, although dubbing requires a lot of money and the development process for dubbing is very complicated, it is clear that good quality dubbing can provide players with better entertainment, through a

higher quality game[38]. Voiceovers in mobile games play a smaller part compared to other digital games, but still have a large impact on gamers. The cinematic videos such as intro and trailer movies in mobile games have advanced significantly, and the quality is almost as high as that of animation films.

1) Cinematic Videos

For the story based games, the intro video or cut-scene video has an important role in providing general information about the game and attracting the player's attention from the beginning of the game play. According to Egenfeldt-Nielsen et al. cut-scenes are used in order to introduce characters, and to set the scene and mood at the beginning; control the narrative in a certain direction during the game; fill the passing of time within the game world; showcase sophisticated cinematic techniques, including dramatic sound and camera work; and provide the player with pertinent information (cited from O'Hagan and Mangiron, 2013, p. 151). Despite the volume of the cut-scene being less in mobile games compared to video games, the purpose and the effect of the cut-scene is the same for the players.

Mobile game cinematic videos refer to trailer and intro movies. Trailer movies of mobile games are usually made for television or other media advertisements, and provided as either subtitle or dubbing formats, or both. The intro movie is one of the

[38] See http://www.nspna.com/news/?mode=view&newsid=328994

characteristics of mobile RPG games. Since RPG games include a lot of content, it takes time to download all the game resources. While players wait for the downloading to be finished, the intro movie introduces the background of the game to get the players' attention. A difference between other video games' and mobile games' cinematic assets is that there are no in-game cut-scene videos in mobile games. Since the mobile device has a capacity limit, mobile games can not include as many videos as console games or online games.

As the purpose of cinematic videos is to promote the game, the translation tends to follow the target countries' preference. If a target country prefers subtitles in a trailer, then the text is translated for the subtitles, while for the countries that prefer dubbing, the text is translated as speech. According to Mangiron and O'Hagan (2006, p. 13) most game players from 'dubbing countries', based on cinema and television conventions, prefer the dubbing mode for games. Mangiron and O'Hagan also note that most Japanese games are dubbed into English and have subtitles in other European languages.

In the case of Korean mobile games, a few large games by major companies include voiceovers in games which are generally dubbed into English and Japanese. For example, the Japanese version of *Lineage 2 Revolution* (by Netmarble) used a famous Japanese actor's voice as one of the localization strategies and achieved huge success. However, not all voiceover is successful in mobile games. *Blade & Soul* is a

famous online game by NCSoft, and the mobile version is *Blade & Soul Revolution*. According to the official international forum[39] for *Blade and Soul*, players prefer Korean or Japanese voices with subtitles. The reason for this preference is the poor quality of dubbing, which disturbs the entertainment purpose. Based on this, it is assumed that voiceovers are not always a key factor in the success of a game. It can help the players enjoy the game more if a properly localized voiceover is provided. In the *Marvel Future Fight* trailer, both dubbing and subtitles are used. Interestingly, the trailer is an English voice with Korean subtitles for the Korean version, while there is only an English voice without subtitles in English version. This is in order to provide a cinema movie quality of trailer to players. In Korea, most cinema movies except children's movies use subtitles, and of course the Marvel cinema series with subtitles is familiar to Korean people.

2) In-game Audio-only Voiceover

In-game audio-only voiceover refers to a voice that players hear in the middle of a game. This can be skill names when a player fights, or any sound which is usually short words. The purpose of the audio-only voiceover is not to provide information about the game but to enhance players' excitement. Hence when players hear the voiceover while they are playing, they could feel more enjoyment and better immersion in the game. Therefore, these audio-only files can be easily substituted by the localised ones (Bernal-Merino, 2014), and the texts are sometimes not translated,

[39] See https://forums.bladeandsoul.com/topic/138505-sub-and-dub/

or simply add sounds. In other words, unlike other game assets, the lack of translation or substitution of the audio-only voiceover does not significantly affect playability. A card game *Clash Royal* is famous for the audio-only voiceover. There are even several Youtube clips specifically for the audio-only voiceover for this game. In the game, each card provides audio-only voiceover whenever players use cards. For example, when a player uses the hog rider card, there is voiceover saying "hog rider!", or for the Wizard card, with "show time". Although the audio-only voiceover is not translated and is used for all the languages in the game, it does not disturb players' game experience since the purpose of the audio-only voiceover is to provide more entertainment. A substitution example is found in the game *Guardian Soul*. In this game, players hear a skill name in the Korean version while they are doing battle, but in the English version there is only shouting. The skill name cannot be heard in English.

7.2.3 Marketing

Marketing is the third skopos of mobile game translation. In order to promote the game to players, mobile games include marketing texts and these texts are translated following its purpose. Unlike other digital games, the actors; publishers and app stores, directly impact the translation of the game title and marketing text by using App Store Optimization (ASO) (see chapter 3.2.2) in order to expose the game as much as possible in the app stores. This clearly shows that mobile game localization differs from other translation or localization processes. In most translation situations, the translator is the only actor and is responsible for translation. However, in the case

of mobile game localization, there are multiple actors depending on the skopos, and in the marketing purpose, the title and marketing translation is done by the translator first, then the publisher makes the final decision.

In the mobile game text, persuasive text is found in both in-game and app stores. The persuasive texts that players would read are game titles, game descriptions or advertisement on the app stores, and finally event text while they are playing. These texts are all marketing purpose text and the translation also follows this skopos. Persuasive text is advertising and publicity text (O'Hagan and Mangiron 2013, p. 154), and advertisement translation is "from complete transference of the source text into the target culture to the creation of a new advert for the target culture, based on the interpretation of the advertiser's creative brief" (Smith, 2002, p. 2). Regarding this definition, mobile game advertisement text translation is not exactly the same as general advertisement text translation, due to the characteristics of global one-build games. While translators for advertisement are required to have copywriting skills in order to rewrite the advertisements in the target languages, or must live in the country where the advertisement is to appear (Bovee and Arens, 1994), mobile game advertisement text translators do not have to meet these requirements. Instead, persuasive text in the game is free marketing style writing intended to appeal to users (O'Hagan and Mangiron 2013, p. 158). This section will examine the translation of three assets including the game title, game description, and event/promotion which have persuasive functions.

The game title is important as it is the first text that players are exposed to and their first impression of the game. Not only in games, but in any content, titles play an important role in attracting the attention of readers, audiences, users or players and the importance of title translation is very high. The game title also plays a very important role in attracting players to the game. Peter Main, a former Nintendo of America executive, stated "the name of the game *is* the game"[40], showing how important the title is, and why the title has to be impressive to make players choose the game. However, title translation has not received much attention in translation studies (Farghal and Bazzi, 2017, p. 117). Most existing studies on title translation are about film and literature titles. In relation to the translation strategies and skopos of the translation, mobile game title translation shares similarities with film and literature title translation. At the same time, it has also a different purpose due to its software nature. Newmark (1988, p. 57) argues that a translated title "should usually bear some relation to the original". Mei (2010) notes that translators adopt literal translation or transliteration which is the most common means of translation to achieve informative skopos. Viezzi (2013) also points out that literal translation is one of the common procedures for title translation.

It is true that a title is translated based on the original with different translation strategies. However, unlike general title translation, mobile game title translation has more marketing skopos than informative skopos. Mei (2010) suggests "commercial

[40] See https://grantland.com/features/the-rise-of-nintendo-video-games-history/

skopos" in the film title translation. According to Mei (ibid), the term "commercial" is used in the sense of calling upon the audiences to act, think and feel, and the commercial function of film title is to command high profit. Lodge (1994) also states that "novels have always been commodities as well as works of art, and commercial considerations can affect titles, or cause them to be changed" (cited in Viezzi, 2013, p. 378). The mobile game title translation also has this commercial (or marketing for this study) skopos. Especially in the case of mobile games, there is a greater possibility of a game being downloaded when the game is easily found in a search, and this is directly related to revenue for the publisher.

Game titles are translatable assets that can be totally localized. In the case of mobile games, titles are advertised to players through media (internet or TV) or app stores such as Play Store or the App Store. When a player searches for a game, numerous games with the same words in the title and of similar genres appear at the same time. Due to this, ASO has become an important strategy in title translation. As studied by Janner (2013), "it seems that including the exact match keyword in the app title significantly increases your chance of ranking for a particular term". Due to the high importance of selecting the right title with keywords, translators generally suggest possible translations, and publishers decide the final title translation. Therefore, the translation of game titles can sometimes become completely different from the original language title for marketing reasons. Regarding game title translation, Fernandez-Costales (2012) suggests three strategies including no translation, literal translation and adaptation. In mobile games, title translation also shows the

adaptation of these three translation strategies in general.

1) No translation

When the title is already in English but only written in Korean characters, the no translation strategy is generally applied. In this case, there is no translation attempted, but the language is changed into English script as it sounds in Korean. According to Fernandez-Costales (2012), non-translation strategies are often found in games that are developed in the US or UK, and the game title remains in English while film titles are usually translated into the target language. Many Korean mobile game titles use this non-translation strategy. Table 7-5 provides examples of Korean mobile games that use non-translation strategies. This shows that there is no translation but the title is changed into English, just as it sounds.

Source	Target
리니지	Lineage
서머너즈워	Summoners War
마블퓨처파이트	Marvel Future Fight
던전앤파이터	Dungeon & Fighter
로열블러드	Royal Blood
드레곤블레이즈	Dragon Blaze

Table 7-5. Example of non-translation game titles

2) Literal translation

Many Korean sports mobile game titles are literally translated. Fernandez-Costales (2012) points out that literal translation is particularly effective in the case of sports titles, racing games or simulators, where there are a large number of technical words and specific terminology. The most famous Korean mobile sports games are baseball, football, and fishing. In Korean, baseball is "야구", football is "축구", and fishing is "낚시". A game called "프로야구" is literally translated as "Pro Baseball" in English. Not only sports or racing games, but also game titles that have clear meanings tend to use literal translations. For example, a game title "영웅의군단" is translated as "Legion of Heroes". From the title, players can expect that there are heroes and that the legion of heroes will fight together. Another example is "다섯왕국이야기". This title is translated as "The Tale of Five Kingdoms" in English, showing that this game consists of stories of five kingdoms.

3) Adaptation / Transcreation

Adaptation or transcreation is also a commonly used strategy in title translation. Transcreation is a concept discussed by Mangiron & O'Hagan (2006). Transcreation is often found in mobile game title translation. Even though a game title can be literally translated, if different vocabulary can provide a stronger impression or if a specific word is easier to search for players, then the title can be translated totally differently. Fernandez-Costales (2012) points out that transcreation may be observed

in those genres that rely on narrative techniques and well-developed plots like RPG, action and adventure games. The table below shows examples of adaptation in game titles.

Source	Literal translation	Final title
피싱마스터	Fishing Master	Fishing Superstars
세상을먹어라	Devour the World	Dynasty Conquest
다크어벤저2	Dark Avenger 2	Darkness Reborn
크리티카: 천상의기사단	KRITIKA: Heavenly Knights	KRITIKA: The White Knights
낚시의신	God of Fishing	Ace Fishing

Table 7-6. Examples of adaptation in game titles

As Fernandez-Costales (2014) rightly notes, adapting a title to a different locale is not a straightforward process and all the various cultural elements need to be considered. Furthermore, when a game title is translated, the titles should be easily found in searches. One of the strategies is to use frequently searched vocabulary in the title. This strategy is often used, especially for the translation of titles to be app store optimised. For example, when a title includes a word such as Clash, Summon, Bird, Guardian, or Royal, the chances are greater that this game will be searched for in the application markets.

Game description text is usually what players read when they are deciding to download a game from app stores. In order to make players download the game, the game description text consists of exciting and attention grabbing words. Sometimes, there are game descriptions that include not only the texts, but also images. Christina Valdes (2008, p. 229) notes that music or images are essential in promotional discourse for the effects they trigger in receivers, and technical manuals and web pages performing a promotional function could benefit from the use of images. Though images actually affect the marketing of the games, only text translation is examined in this study.

When a game is developed, the publisher of the game puts it in a game category in either Google Play Store or the Apple App Store. When players choose a game, they read the information about the game. In this regard, it might be questionable that the game description text should be classified as informative because it provides information about the game. However, the ultimate purpose of the game description text is to attract players to the game, not simply to provide information. Hence, it has more of a marketing purpose and includes persuasive text rather than informative text. Together with the title translation, ASO is important in the App store description translation. According to Munoz Sanchez and Lopez Sanchez (2016), the text not only describes what to expect from the game, but the contents also work as key words when searching one of these app stores. Accordingly, the game description needs to be translated into local languages. Usually this text is less than 1,000 words, which means the text is condensed, but should include all the information necessary

to attract the players to download the game. Interestingly, the volume of the descriptive text tends to be different depending on the size of the game text. Simple casual games in which the total game text is relatively short have less descriptive text than RPG games, which have longer descriptions.

The final text that has a persuasive function among the game assets is event/promotion text. Publishers create various events to encourage engagement through excitement and anticipation. The purpose of an event is to appeal to new players and maintain existing players' loyalty. Therefore, to catch the players' eyes they use a "highly promotional text" (Bernal-Merino, 2014, p. 134); these tend to be short to attract players' attention. In general, the event text is a promotional text type, and the main aim of this is "to set the product clearly within a given genre and brand, as part of a strategy to attract potential buyers" (Bernal-Merino 2013, p. 187).

As argued by Ira Torresi (2013, p. 23), the main concern in promotional translation is whether the target text works, i.e. fulfils the purpose for which it is intended in the target language, culture, community and context. She also points out that in promotional text, loyalty only applies to its intended function, and if the function is maintained, then the translation is loyal to the original text even if this implies creating an entirely new text, with a new form and a new content. In the game promotional text, culturally specific reference is often found. When people see the familiar or interesting cultural reference, they would be more likely to access it.

However, when the cultural reference is translated into a different language, it might produce a different response. For example, a Korean mobile game promotional sentence "네이버 인기 웹툰 '연애혁명' 스타일돌을 만날 수 있어요!!" is literally "You can meet the style dolls from NAVER famous web-toon 'Romance revolution'". When Korean players see this sentence, they immediately understand what this game is about. The NAVER in this sentence is the largest internet portal in Korea, and if a web-toon is famous in this portal, it is recognized as a successful web-toon. However, when the sentence is translated as literal translation, the skopos of the text is not the same. The purpose of the advertising text is to promote the game. However, as seen from the literal translation of the above sentence, the famous NAVER web-toon does not produce the same response since the NAVER does not affect players from abroad although it provides a good image of the game for Korean players. Hence, the sentence is translated as "Meet the style idols of Korea's popular web-toon'. The difference between the promotional texts of mobile and video games is that mobile game texts focus on interesting and appealing text only, while video game texts include "essential technical jargon about the hardware requirements of the game, as well as legal copyright notices and age rating warnings" (Bernal-Merino 2013, p. 187). Like other content, event/promotion texts are not just translated, but are more likely to be re-written. For example, as Figure 7-13 shows, the English version includes the adverb "totally" at the beginning of the sentence to make it more interesting.

Figure 7-13. Game advertisement

The text below is another promotional text from *Zombie Hunter King*. As illustrated above, texts for event promotion are short, and interestingly all the texts include exclamation marks to reinforce the expressions and the player's idea that playing the game will be fun.

보이는 것은 모두 파괴하라!	Destroy anything and everything that you see!
무기는 많을수록 좋다!	The more weapons you make, the better!
박진감 넘치는 보스전!	A thrilling Boss Battle!
PVP로 다른 생존자와의 대결!	Battle with another survivor on PvP!
다양한 카드로 능력치 강화!	Upgrade skills using a variety of cards!

Table 7-7. Example of marketing text from *Zombie Hunter King*

7.2.4 Pivot Language

The last skopos addressed in this study is pivot language. As the name explains, pivot language is a bridge language or “third language” (Wu and Wang 2009). Prior to discussing pivot language, it is important to note that if it has been decided that a game is to be localized into English, Chinese (both simplified and traditional) and Japanese from Korean only, this skopos is unnecessary. These language pairs do not require a pivot language and are translated directly from Korean. Nevertheless, as the recent trend of mobile game localization is the global launch, it is clear that creating a pivot language is one of the skopos that the publisher seeks to achieve in order to facilitate and improve the quality of translation globally. As explained in chapter 2.4, Korean mobile games are translated into many other languages including French, Spanish, Portuguese, German, Russian, Thai, Hindi, and Italian. In this case, English is used as a pivot language. When these languages are translated from Korean, translation from Korean into English is conducted first, then the other languages are translated from English. In the game localization industry, the pivot language is used in order to improve the quality of translation. Especially when the source text is Korean as is the case in this study, it is difficult to find translators for the above-mentioned languages. Hence, using English as a pivot language can be a benefit in both time and expenditure.

This chapter has examined the translation of each game asset based on skopos and actors in the translation stage. As seen from the findings, mobile game text translation is similar to that of video games, but it has its own characteristics and

needs a different translation approach. As discussed in the mobile game localization process, translation is not the final stage of localization. When the translation is finished, the text is applied to the actual game and undergoes linguistic tests which play an important role in mobile game localization. The linguistic testing process includes the same skopos as in the translation stage, which is playability, whilst the actors are different. The details will be explored in the next chapter.

8. Linguistic Quality Assurance (LQA) in Mobile Game Localization

The Linguistic Quality Assurance (LQA) is the final stage in mobile game localization in order to enhance the quality of game localization through various editing works. As discussed in previous chapters, the mobile game is multi-media software which includes not only text, but also other assets such as image and voice over. In addition, the text includes software related text such as strings, tags or variables which make translation more difficult than in other documents. These characteristics may cause various issues such as technical problems, poor readability, or cultural issues in the translation, and when these issues are not resolved, they can interrupt playability and cause fewer downloads of the game. Therefore game localization does not finish at the translation stage, but needs one more stage in which the game with translated text is tested in order to make sure that there is no such issue in the final product.

Despite the importance of LQA, it has not been focussed on in research on game localization. Though it has been mentioned as a part of quality assurance (QA) in game localization, it has not been considered as a key stage in game localization, even though the game localization industry has highlighted the importance and effectiveness of LQA recently. In the early period of mobile game localization, the publishers considered LQA as extra expenditure, and many mobile games were published without LQA. However, it seems that publishers realized the importance of LQA once players raised their voices about translation and localization of the

games they are playing through app stores. As players' comments in the game review section are exposed to everyone who tries to download the game, it is important for the publisher not to have bad reviews: any bad review could affect players' decision to download and play the game. This feedback from players fuelled change in the perspective on LQA, from extra expenditure to an essential stage for a better localized game.

Recently, specialists from the game localization industry have highlighted the importance of LQA. For example, according to Park[41] from Nexon mobile department, the company conducts LQA for the game to find translation issues and edit for a good quality of localization. A technology journalist Simon Hill[42] considers LQA as the way to elevate a game to the next level. He points out that linguistic game testing ensures that a game has the desired impact on players using different languages and negates the risk of releasing something that might spoil players' immersion. Hence, he recommends that the best way to conduct LQA is to bring in native professionals and have them review the localized strings in context.

As explained above, LQA is a growing field in the game localization industry, and it is worth studying in translation studies. In chapter 6, it was found that the tester,

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[41] See http://www.inven.co.kr/webzine/news/?news=137677

[42] See https://www.localizedirect.com/posts/learn-how-language-quality-assurance-can-elevate-your-game-to-the-next-level

technology and device are the key actors in LQA. Bearing that in mind, this chapter will illustrate the definition of LQA and general LQA process, and examine various factors that are modified during the LQA stage in detail based on the games translated from Korean into English examples.

8.1 Definition of LQA

Prior to exploring LQA in mobile game localization in detail, it is worthwhile to clarify LQA related terminology as the term is used differently in the academic field and in the game industry. First, LQA can stand for Linguistic Quality Assurance as used in this study as well as for Localization Quality Assurance which is used in the video game localization industry. Often the term LQA is used for both meanings interchangeably. However, this needs to be clear as Localization Quality Assurance includes a broader range of tasks while linguistic quality assurance limits its scope to language. In video games, LQA is considered as one of the QA processes. According to O'Hagan and Mangiron's localization process, LQA is one of the post-localization tasks that include all the tasks performed after translating and reviewing the target files (2013, pp. 136-137). They explain that post-localization includes two stages:

> Integration: An engineer or team of engineers integrate the translated files, the audio and art assets, and the image files into the game code and produce a functional and usable version of the localized product, knows as the "first playable alpha"
>
> Debugging and quality assurance (QA): Once the first playable alpha has been

integrated, the debugging and QA process begins in order to detect bugs, that is, errors in the game. The most commonly found errors are related to functionality, compliance, and linguistic errors, and the testing are conducted for these areas.

According to O'Hagan and Mangiron's classification, the debugging and QA is similar to localization quality assurance, and the linguistic quality assurance is simply a part of the QA. They define linguistic testing as testing for linguistic errors that are mainly related to text such as grammar mistakes, typos, truncation, and overlaps, and the linguistic testers focus on language, cosmetics, and compliance issues, although they also report any functionality bugs they detect (2013, p. 138).

Mobile game localization also undergoes this post-localization process after translating. However, as seen above, in video game localization linguistic quality assurance is considered as a part of the QA process while linguistic quality assurance is another separate process apart from QA in mobile game localization. As discussed earlier, since most current mobile games are global one-build games, the final editing process is solely for linguistic related issues. Although games that are not global one-build games require full localization testing including language, image, or even game system, still the linguistic testing is the most significant part in this case as well.

The game localization industry also uses the term LQA as both linguistic quality assurance and localization quality assurance. Simon Hill focuses on the linguistic

factors and defines LQA as the part that tests the integration of translations in the game and their adaptation for the market with a different language culture. On the other hand, a QA tester Hanna Golota[43] describes the localization QA testing as linguistic testing, cosmetic testing and functional testing. According to her, the linguistic testing includes accuracy of translation within context, consistency of terminology, missing content, and proper date/calendar format. In Korea, when LQA is searched for in the main portal site, it seems that the game industry use LQA as localization quality assurance and LSPs use LQA as linguistic quality assurance.

Secondly, there is another terminology used for LQA which is 'polishing'. It seems that the terminology 'polishing' is used for final editing in the translation industry for any translation work, while recently it has been used in academic literature when addressing machine translation. For example, in machine translation, the post-alignment task in machine translation is a procedure after completing revision, proofreading, and polishing of the translation, and because the text-improvement tasks of revision, checking, and polishing are typically performed without CAT tools (Bruce and Kirk, 2019). Fulford (2002, p. 119) uses the term polishing when explaining machine translation, saying that translators use web-based MT systems to get ideas for producing a translation, before polishing the output manually ready for presentation to a client.

[43] See https://summalinguae.com/localization/localization-qa-testers/

Guerra (2000, p. 115) also points out that post-editing and polishing are essential processes to be completed in order to regard the machine translation as a finished product. In addition, she notes that one of the four operations to improve the performance of the machine translation is checking for errors and polishing the style (ibid 118). It is true that both linguistic quality assurance and polishing or post-editing is the final process that makes for a better translation. However, LQA in mobile game localization is clearly different in the sense that actual playing testing is conducted. In other words, LQA in mobile game localization is the process that makes for a fluent translation through testing the actual game.

8.2 LQA Process

So far, the LQA process has not been highlighted in the academic field. However, it is important to examine the process in order to identify who are the actors in this stage and how they interplay with each other. Hence, this section will explain the LQA process in detail, and explore what kinds of tasks are conducted during LQA. As illustrated in the figure, below, when text translation is completed, the publisher merges the text to the game to check how the translation looks in the real game. In this process, target native speakers play the game to find out any language related issues. The most important thing to consider during LQA is 'playability'. It is important to note that the editing job during LQA is conducted only based on the translated text without comparing to the source text, so the translators are able to focus on the game and text.

When a tester receives a downloadable testing file, the tester can easily download the game to their mobile phone and start playing the game. This process is almost the same as downloading a game from app stores. While playing the game, the testers write up an LQA report which includes screen captured images that show any linguistic issues together with explanations, and they modify the issued translation in the original translation file. If the LSP uses its own report form, translators fill in the report form, but when there is no specific report form to use, the screen captures and comments are provided in separate files such as PPT or Excel in general. When the testing is finished, the report file and modified translation files are delivered to the publisher for the final application. Depending on the text volume, the same process can be conducted several times.

Figure 8-1. General LQA process

The LQA process is not the same in video game localization and mobile game localization. According to Bernal-Merino (2015, pp. 119-120), in the case of video game localization, the linguistic testers play the actual game in order to proofread all strings, but they do not change the text directly or they are never allowed to modify any text directly in the game code; instead they report the linguistic issues to the localization engineers, who change the text. On the other hand, mobile game

linguistic testers directly modify the linguistic errors in the translated text. Unlike video game localization, the translation text file of the mobile game is extracted very simply with minimal software code, which allows translators and testers to make changes and saves a lot of time in managing the translation.

The linguistic testing checks all the language assets in the game to make sure that the text is not overlapping, truncated, misspelled, or grammatically incorrect, and the localized voiceover files are played correctly (Chandler, 2014, p. 294). In the localization industry, each LSP uses a different LQA check list, but it is common to check translation accuracy, typographical errors, truncated or misallocated text, or politically sensitive content during LQA. The first verification of translation accuracy generally refers to the quality of translation which includes mistranslation and readability. Since the players read the target language text, the target text should be fluently readable so the players do not feel any awkwardness. The importance of the readability is obvious and it is often considered in good quality translation.

In the case of mobile game localization, translation accuracy is not only a matter of mistranslation or readability but also of matching translation between the image and the text. In the LQA stage, the testers only read the target text while playing the game, and edit the text if it is not fluent to read from the players point of view. The most interesting point in verification of translation accuracy of the game translation is that testers have the power to change the text based on the game screen. As

discussed in chapter 4, game translators and testers are given carte blanche in order to make the most suitable game text for players.

In the case of the typographical errors, these are mostly detected by machine QA in the review stage. However, when the translated words already existed in term-base or TM, then it is difficult to find them through machine QA. For example, when the translation is supposed to be ‘compete’, but the translation is ‘complete’, this is not detected as a typo since there is no issue with the word itself. Hence, it is important for the testers to read the text carefully to find any missing typographical errors. Truncated or misallocated text is one of the most frequently found errors in LQA. This issue is also one of the most frequently found in all kinds of game localization. It is generally related to the length constraint, or to misuse of tags in the mobile game localization, and the detail will be studied in the next section.

Depending on the game type, either global one-build or individual build, the assessment of cultural appropriateness and checking for politically sensitive content are done by different level. For example, in the case of the global one-build game, the cultural references or politically sensitive content are checked during linguistic quality assurance. Due to the characteristics of the internationalization prior to processing localization, there are not many cultural factors that the developers need to change. Instead, most cultural references or sensitive texts can be edited by the linguistic testers. In contrast, in the case of the individual build games, localization

quality assurance needs to be done as images or actions need to be changed. In the next section, the detail of LQA is examined with examples.

8.3 Findings

This section will explore general issues that are edited in the LQA from Korean mobile games in order to meet the skopos of the LQA. As explained earlier, the skopos of the LQA are playability and readability. It is found that issues related to length, homonyms, untranslated text, and tags & place holders are edited for playability, while the matching images issue is edited for both playability and readability.

8.3.1. Length

In game localization, length has been noted as a major challenge, and the length constraint is a difficult challenge to resolve. In the case of mobile game localization, length issues are found more often than in other video games due to the small screen of the device. According to Bernal Merino (2007), the actual size of the gaming device is very relevant to translation in video games. He explains that screen size and line length negatively affects those languages where words are naturally longer, and translators have to condense, rephrase, and even invent abbreviations to convey meaning. When translating Korean into English, it is said that generally English text volume is 1.5 times greater than the source text. In other words, when translating English into Korean, the length is generally not a problem, while it could be a

significant issue when translating Korean into English. It could also be a problem when the English text becomes the source text and is translated into other languages such as German.

As explained in 5.1.2, when a Korean game is localized into European languages, the Korean text is translated into English first, then the English text is translated into European languages. Considering that the English text is already longer than the Korean text, the German text is also longer than English text in general. In this case, the final German text is a lot longer than the original Korean text. In order to solve this issue, Mangiron (2007, p. 308) recommends using scrollable windows, which stretch horizontally or vertically in the user interface, menu, and battle screens in particular, to overcome the length limitation. However, in the case of mobile games, it is not easy to use scrolls due to the handy size of the mobile devices. In some mobile games, arrows are found in the text box, which allow users to move to the next text box. In this case, the source text box also has an arrow to move to the next text box. Chandler and Deming (2012, p. 6) suggest leaving 30% extra space for the translation over the source text to solve space constraints. If these solutions are not possible, the translators must cater to the length restrictions approved by the development team (Crosignani & Ravetto, 2011, p. 31). Bernal-Merino (2007c) argues that very often, the translators have to "condense, rephrase, and even invent abbreviations to convey meaning". However, in the case of mobile game localization, translators are often asked to edit the translation to meet the length requirement by using abbreviation or rephrasing the text.

Regarding the length issue, Zhang's argument (2015, p. 43) that translated string length should be compatible with the allocated space and that this limits the freedom of translation could be interpreted differently. As with Bernal-Merino's argument and in the case of mobile game localization discussed above, rephrasing or inventing the text does not limit freedom of translation. It could be seen rather to require creativeness of translators.

The mobile game industry also considers the length issue as one of the most difficult issues in mobile game localization. According to the CEOs of Korean game company Drughigh and Line Kong, one of the most difficult issues in global servicing is the length issue. According to them, translation is often too long to fit in the text box when translated into European languages from Korean, or it is sometimes difficult to understand the meaning when there is a line break for the languages that do not have this spacing such as Chinese and Japanese.[44] Until recently, translators were not often informed about the text length of the translation, so the length of the target text has not been a consideration at the translation stage. Hence, it was not possible to know how the translated text would appear in the actual game. In this case, the length issue needs to be fixed through LQA. With the help of technology in the translation industry, this issue has been easier to solve. Clients now provide guidelines for the length that translators should follow in order to solve the problem at the translation stage. In addition, publishers that manage the translation

[44] See http://gametoc.hankyung.com/news/articleView.html?idxno=48633

project in house use CAT tools to set up the target text length in the program, so when the translation length exceeds the set number of characters, a warning appears to translators to enable them to fix the issue. Despite this technology, there are always length issues that need to be fixed through LQA.

Figure 8-2 below shows a length issue from Korean into English. As seen in the red box, the English translation is too long to fit in the box. Originally the source is {0}명 / {1}명. In this case, { } is a variable, and there will be any number in the { }. The original "명" refers to the number of players. As seen from the figure, the translation for this source is correct. However, when the translation is applied to the game, it is too long to fit in the box. Hence it is edited as {0}/{1} players.

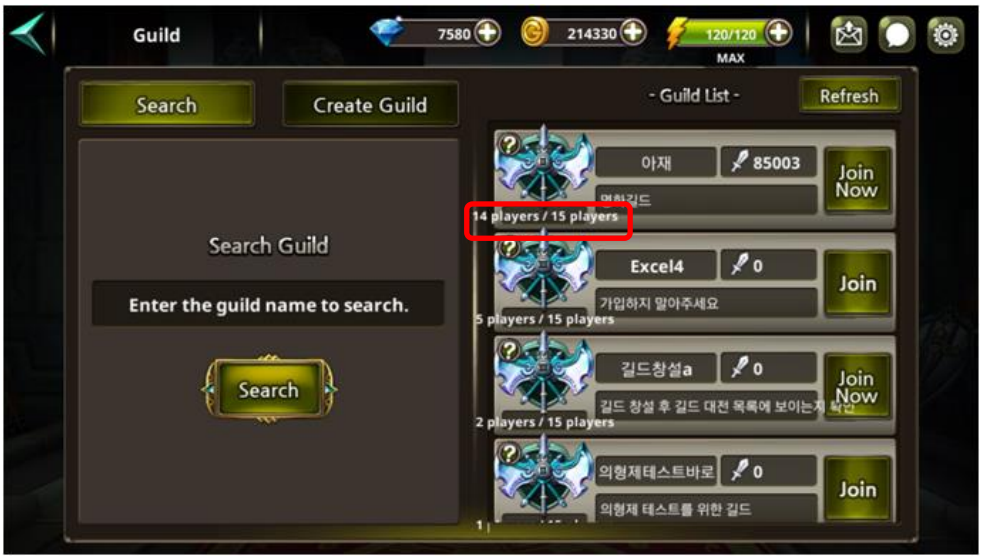


Figure 8-2. Example of length issue 1

Figure 8-3 below is another example of how the length issue is solved through LQA. The first source text is “캐릭터 5레벨 달성” which is translated as “reach character Lv. 5” as shown in the middle figure. The length is fine as we can see from the figure. However, from the number 10, the English is longer, and the text does not fit in one line. In this case, even though the word “character” is deleted, players can understand that it is about character level as there is an image of characters growing above the text as in the red box.

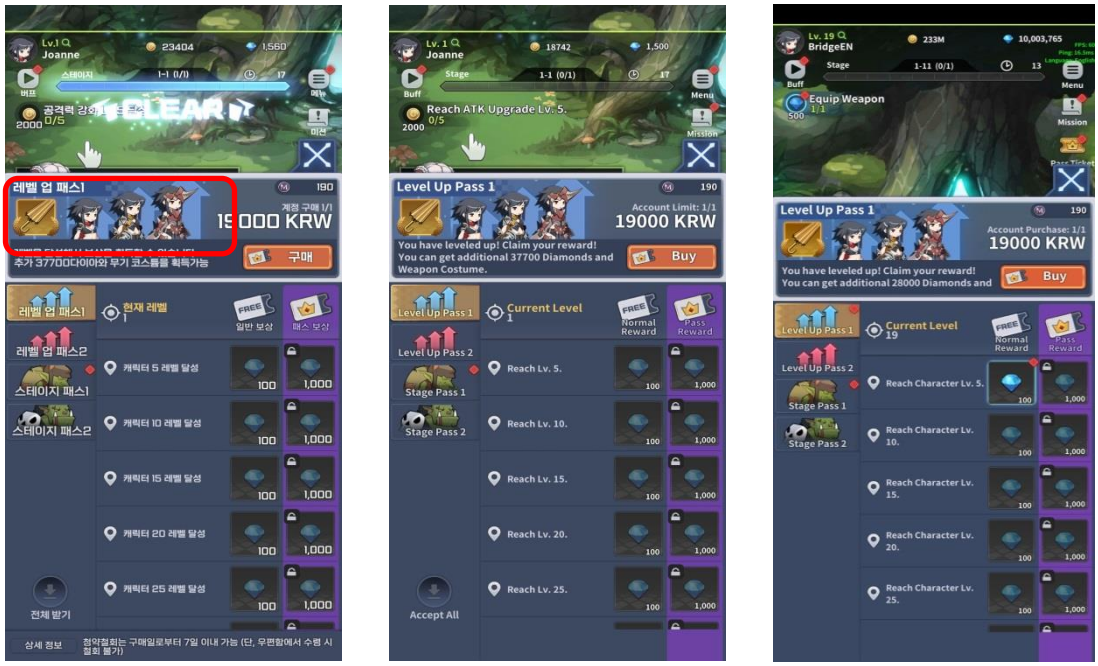


Figure 8-3. Example of length issue 2

In the case of UIs or frequently used terminologies in games, it is not easy to solve the length issue since most of them are short already. Hence, it is not easy to rewrite or omit a part of them to make it shorter. Hence, most length issues with these terms

are solved by using abbreviation. Table 8-1 and figure 8-4 are examples of commonly used abbreviations in the English version of mobile games. From the table, “공격력” and “방어력” literally mean “attack power” and “defence power” respectively, which is a player’s power when attacking opponents and is generally shown in numbers. In the case of attack power, the abbreviation “ATK” or “AP” is commonly used, and “DEF” is used for defence power. In the case of level, although it is only one word, the abbreviation “Lv.” is generally used to save space. “Lv.” is generally followed by numbers, such as Lv. 11. Korean “체력” or “생명력” refers to health point or hit point in games, which shows how much life a character or object has. As seen in this example, the Korean is 3 characters while English is 2 words and the length is longer than in Korean. Hence, in most games, the health point or hit point is given as the abbreviation “HP”. Finally, “Crit” stands for Critical in games, and generally this refers to critical hits. Critical hits are “attacks that cause extra damage in many games that use health, or some other numerical unit that represents victory and defeat”[45]. These abbreviations are used more often than full terminologies in games, hence it is necessary to consider the abbreviations when translating game texts.

[45] https://www.giantbomb.com/critical-hit/3015-97/

Source	Full terminology	Abbreviation
공격력	Attack Power	ATK / AP
방어력	Defense Power	DEF
레벨	Level	Lv.
체력	Health Point / Hit Point	HP
치명타	Critical	Crit

Table 8-1. Examples of generally used abbreviations in games

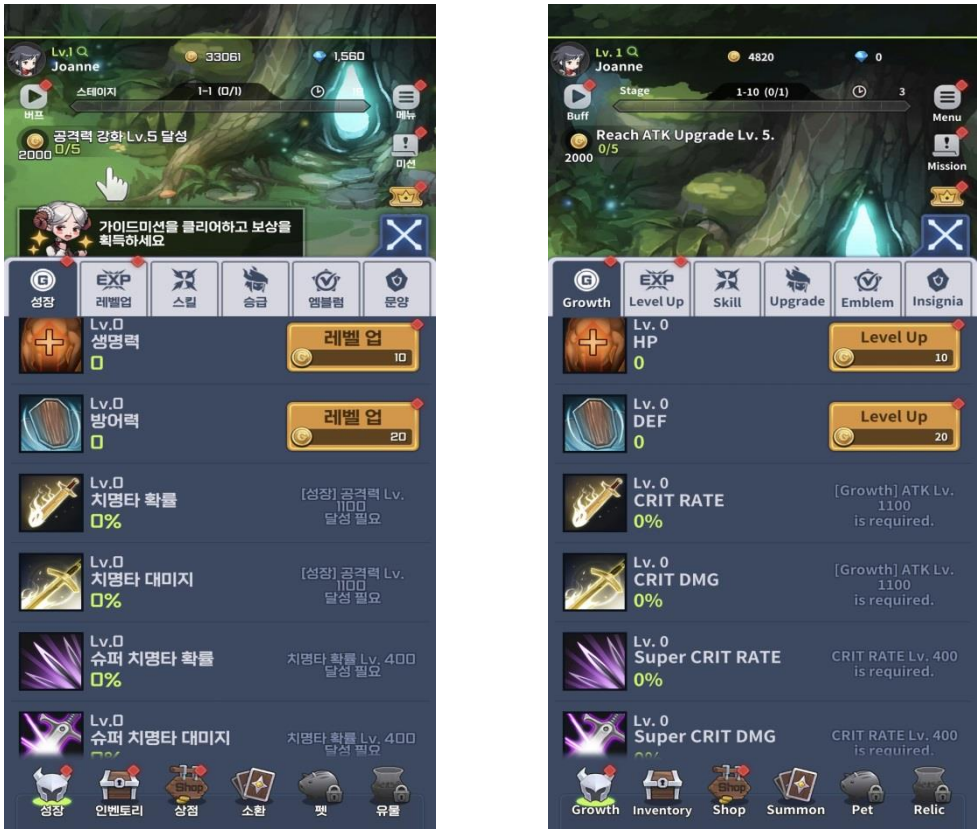


Figure 8-4 Example of using abbreviation

Length constraints are also a significant issue in system message translation. Most of the system messages are sentence structured while UIs are simple words or word combinations. Japanese, Chinese, and Korean are languages in which a single character (or word in the case of Korean) can represent a concept that may need to be expressed in more than one word in a Western language (O'Hagan and Mangiron, 2013). For example, a system message "사용하실 닉네임을 입력해주세요" is literally "please enter nickname you would like to use". In this sentence, "사용하실" is "you would like to use", "닉네임을" is "nickname", "입력해주세요" is "please enter". As shown in this example, these are cases where a single word needs more than two words to be translated. Therefore, when translating Korean into English, in general the amount of space required for an English text is 1.5 times more than for the Korean source text.

However, with the space constraint taken into consideration, the final translation for this sentence becomes "enter nickname". Compared to the literal translation, there are no subjects and no "please" in the English versions of these system messages. Most Korean system messages end with either "하세요" or "하십시오", which expresses politeness, and in normal dialogue or story would be translated as "please". However, when translating system messages, the word "please" is omitted in the English language.

An auto rotate function of the mobile phone can influence the translation. Unlike other digital game platforms, the mobile phone device has an auto rotate function. With this function, mobile phone users can rotate the device to either portrait or horizontal for their convenience. Depending on the game design, some mobile games such as puzzle games are developed for a vertical screen, and some other games such as RPG games are developed for a horizontal screen. This design factor affects the game text in terms of the length. In the case of a vertically designed game, text is generally short because the screen is narrow. In this case, longer text can fall outside of the screen so that the text is not shown properly. Therefore, text in the vertically designed games is often shown with more lines as in comic books, compared with horizontally designed games. This kind of game information is not generally provided for translators, and translators cannot know where to change the lines unless there is a specific guideline. This issue can be solved during LQA by adding line break tags in the translation text. Nowadays, there are games that players can enjoy in both directions. In this case, the length of the translation needs to be adjusted to fit in both directions.

8.3.2. Homonyms

Homonyms are one of the main factors for which LQA is required in Korean mobile game localization. The definition of homonyms is “each of two or more words having the same spelling or pronunciation but different meanings and origins” in the Oxford dictionary. Based on this definition, Korean is a language that has various kinds of homonyms. According to Kang (2005), in a comprehensive Korean

dictionary, about 30% of the entries are homonyms, and most of these are nouns. In general, it is not that difficult to find the right meaning or usage of the homonyms based on the context. However, in the translation situation, homonyms could have a completely different result. Reem Ibrahim Rabadi (2015, p. 27) notes that homonyms can be considered the cause of different linguistic phenomena and this could create misunderstandings and lack of communication. Especially in the case of game text that includes many short sentences consisting only of nouns, homonyms could cause significant translation problems.

Most homonyms in mobile games are nouns, or in other words they are mostly found where there are items. When these terms are in a sentence it is possible to figure out what is meant through context. However when they are placed as a stand-alone word, the only way to know what it refers to is to check the actual game. As homonyms have completely different meanings, incorrect usage of the terms affects game playability. For example, a word "간장 [Ganjang]" is soy sauce in Korean. In a text from *Use Map Defender*, the word appears separately without any reference content. In this case, the only thing the translator could think of is soy sauce. However, in the actual game, "간장 [Ganjang]" appears together with "막야 [Magya]" as weapons. In this case, when translators see the image, they know that the two words are related to weapons. "간장 [Ganjang]" and "막야 [Makya]" are famous swords in the games, originally taken from Chinese legend, and generally refer to the two great swords. A similar example is found in the game *KurtzPel.* There is a Korean word

“집사 [Jipsa]” in this game, which generally refers to a butler or a church deacon/deaconess. However, when the word is used in the context of cat, it means a cat owner in Korean. Not only nouns but adjectives can sometimes cause a homonym issue. In the same game, there is a cat with an adjective “매달린” which has two meanings: hanging and curdling. Without any context, both hanging and curdling can be used for a cat, and translators have no choice but to use one of the meanings and expect that testers would confirm the word. This kind of homonym is required to be checked through the actual game.

8.3.3. Matching Images

In game localization, the images and text should be matched. In other words, textual cohesion is required in mobile game localization. Bernal-Merino argues (2013, p. 205) that textual cohesion is challenged in the video game translation because deictic items referring to players and their actions need to be left as unknown, and the engineers use variables in order to do this. Especially in the case of translation from Korean into English, it is difficult to recognize the gender or age from character names, and this could cause translation errors. As there are many neutral names in Korean, translators can make mistakes when they need to use a pronoun for the name. In this case, when playing the actual game, a male character is explained as “she”, or female character becomes “he”. In order to prevent this cohesion issue, referencing the actual game or images is recommended. Needless to say, when translators understand a game and know what they are translating, it is much easier to translate and the final translation is more suitable for the game.

In terms of references in game localization, Frank Dietz (2006) critically reflects on the availability of the actual game for translators. He points out cultural issues and game design issues in localizing computer games, and suggests that translators should have a chance, and in fact should be expected, to play the games they are localizing. Also, he argues that it would be good to provide translators with game background information or screenshots for their reference. According to his argument, translators should access the game they are translating right from the beginning of the localization process. Dietz's point is ideal for both translators and game companies. However, in the game localization industry, it is not often happening prior to translation due to two reasons based on the status of the game. The first situation is when the game is already in service. In this case, clients are able to provide the game or related images, so translators are able to reference the game by obtaining these from the client or downloading from app stores. However in reality, translators do not have enough time to both reference the game and translate the text. Hence, in most mobile game translation, translators start translating without having knowledge of the game. The second situation is when the game is localized as sim-ship. In this case, the game is not yet ready to service even in the original country. Hence, translators are not able to reference the game and must rely on their translation ability. Therefore, in most mobile game translations, the real game and references are provided for the LQA process.

Chaume (2004) also points out the importance of the relationship between translation and the real image. He argues that translation must not only follow the source written

text, but also the events on screen. This is especially so given the fact that the game is a medium where on-screen events such as images and movements appear with texts at the same time: the texts should match the screen events. It is often found that a different translation needs to be applied depending on an image. Thus in the LQA stage, terms can be changed to more applicable ones. For example, the Korean word "상자 (literally "box")" is one of the most frequently used term in mobile games. The "상자" refers to all kinds of boxes in Korean while different shapes of boxes have different terms including box, chest, and crate in English. In a text based translation stage, it is not possible to choose the applicable English term for "상자", thus mostly this word is translated as "box". This word can be changed during the LQA process when translators actually see the game and image of the box. The figure below shows that a Korean word can be translated in many ways depending on the image.

Figure 8-5. Image of box example

In the above figure, the source text includes what kind of boxes they are. The word "선물" in the "선물상자" is a "gift", so translators know that these are gift boxes. However, when there is only one word "상자" in the text without any context, it can

only be translated as “box”. Below is another example of “상자” in Korean. From the text, the word “상자” is generally translated as “box”. However, as seen from the image below, the image for this “상자” is not a box but chest. Hence, the first translation “box” was changed to “chest” for this image.

Figure 8-6. Image of chests example

Figure 8-7. Image of crate example

Figure 8-7 shows another example for “상자”. Similar to the previous example, the real image of “상자” is a crate not a box. As explained with these examples, one simple word can be translated differently based on the image. When translation is done without reference to the image, the translation and the actual game may not have cohesion, and this indicates that LQA is an essential stage in mobile game localization.

UI translation is also often edited during the LQA process in order to match the translation and the image. As pointed out in Chapter 7, UI text is short and intuitive. Hence UI text is in general literally translated as in “시작하기” as “start”, “건너뛰기” as “skip”, or “나가기” as “leave”. However, sometimes the UI translation needs to be edited depending on the image or scene that the UI relate to. For example, in figure 8-8, the Korean source is “사용” which is “use” in English. It has no translation issue as it is, and players will know what to do when they see the word. However, as shown in the figure, the actual action that the UI would do is opening the chest on the left. Therefore, in this case, the translation is changed to “open”.

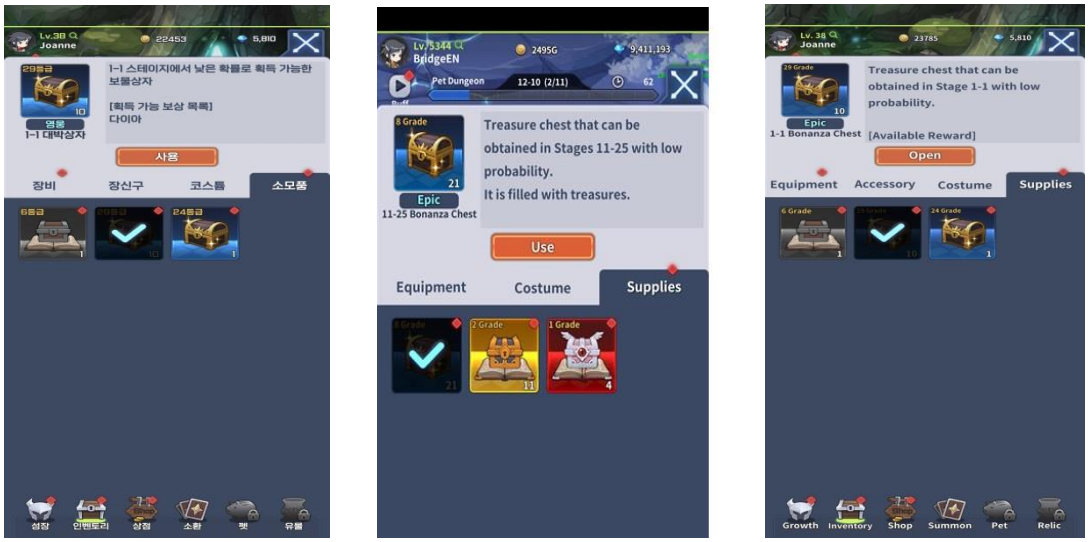


Figure 8-8. UI translation

In addition to the above mentioned items, some terminologies for the game controller often need to be edited in order to match with images or movement on the

screen. This is often caused by a source text mistake. Since mobile games are a new platform in the game industry, developers often consider mobile games to be the same as online or console games. In addition, since one of the new trends in the mobile game industry is transferring online games into mobile games, most online game text is used in the mobile game as well. In this case, a few terminologies from the online or console games are used in the source text. The most frequently found terminology is “click”, for instance “click here to claim reward” or “click to move”. In the online game, which uses a computer and a mouse, the word “click” is proper while there is no mouse to click in the mobile game. In the mobile games, “tap” or “touch” is used instead of “click”. Despite this functional difference, the word “click” is often found in the source text. In this case, most novice translators tend to follow the source text as it is, and this is changed to “tap” or “touch” during LQA in most cases. Another example is “joystick” or “controller”. For the console games, the joy stick or controller is used to play the game while there are no extra controllers for the mobile games. Although a controller for mobile games has been introduced recently, it is not commonly used. Accordingly, when testers find the word joy stick or controller while they are testing the game, it is changed to another appropriate word. When the text and the image do not match, players could get confused and discontinue play, and may even not be able to understand what they are being asked to do. As a game is a visual product in which image or action and the text appear on the same screen, it is especially important to maintain cohesion.

8.3.4. Untranslated text

Untranslated text in the game can be seen as a simple mistake, but this simple error can make the whole localization look bad. Untranslated text is not an easily imaginable translation issue in most translation work. It can happen rarely when translators accidently miss a part of the file and deliver the translation file without double checking. Even then, for the game translation which is conducted mostly in a CAT tool environment, untranslated texts can be detected by the program. Despite this help from translation technology, source texts are often found during LQA. It is found that this error is caused by hidden text, text on the image or an incorrect formula. The most used file format when clients provide game texts to a translation agency is Excel. Generally clients extract game text and make a translatable Excel file, however, in some cases there are hidden cells that CAT tools cannot detect. This kind of issue is not revealed during the translation stage, and needs to be checked by playing the actual game. Another cause of untranslated text is a formula in the source text. As the example below shows, there is untranslated text “대지의 검” which is “sword of the earth” in English in the sentence. The translated text is “collect 60 fragments and get the following skill card: sword of the earth (2 Star)” which has no source text. However, during LQA, the sentence is found as below with Korean text remaining, since a formula is included in the text as "=collect 60 fragments and get the following skill card: "&U8257&"("&B8257&" Star)". This kind of issue needs to be reported to the developer to be fixed.

Sword of the Earth	Collect 60 fragments and get the following Skill Card: 대지의 검(2 Star)

Figure 8-9. Untranslated text

The third cause of untranslated text in mobile game localization is when the source is extracted as an image. In this case, CAT tools cannot detect the image as text. Figure 8-10 shows examples of image text. The texts in the first column are images that will appear in the game as they are. For convenient translation and avoiding translation errors, a text formation column (not image formation) is made as in the third column. Since this is manual work, sometimes the image formation is delivered to the translator which causes untranslated text in the game.

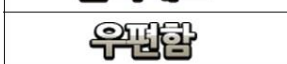
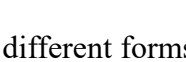
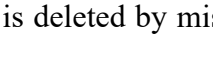
참고 이미지	폴더	한글	English
	02_ImageText	강해지는 방법	Get Stronger!
	02_ImageText	최근기록	Recent History
	02_ImageText	성공시	If Successful
	02_ImageText	소환하지 않은 가디언	Not Summoned
	02_ImageText	길드원 정보	Guild Member
	02_ImageText	출석체크	Daily Login Check
	02_ImageText	우편함	Mailbox
	02_ImageText	TAP공격	TAP Attack

Figure 8-10. Example of text as image

Technical mistakes also cause untranslated text. Depending on target languages, different forms of special symbols are used. For instance, when (“) symbol in the tag is deleted by mistake, or the game program understands the special symbol as a tag, then untranslated text comes out in the actual game.

Figure 8-11. Example of untranslated text in a game

A simple mistake can also sometimes cause untranslated text. Occasionally, a part of the game text, a sentence or a few words, is changed after providing the text to the translation agency. When a game company mistakenly does not include the new text to the translation agency, the previous version of the text is applied to the game, and newly added text is not translated, appearing as untranslated text in the game. As seen so far, there are various causes that result in untranslated text in mobile games that are not detected during the translation stage, but only found and fixed through LQA. Untranslated text has been considered just as a mistake by translators. However, as explored in this section, untranslated text is not a simple error to be fixed by re-translating, but is more complicated, needing LQA.

8.3.5. Variables, Tags, Symbols

From the software perspective, a game is an object made of programming languages including code strings, tags, and variables that are similar to other software. In software localization, these elements are considered important since the software

cannot be run properly when there is an error with these elements in the translated text. Similar to general software localization, these elements are also important in mobile game localization for the same reason. Among these programming language assets, the code or command is programming language that developers use to make games while variables and tags are closely related to translation in games as they are extracted together with the written text for translation. Variables are "values that hold the space for different text or numerical strings - such as proper nouns, numerals and objects – and they change depending on certain conditions specific to the player action" (O'Hagan & Mangiron, 2013, p. 132). According to Bernal- Merino (2013, p. 205), "variables can stand for a number for points or coins gained, as well as for a word", and are directly relevant to the interactivity in games. Tags are elements inserted in documents or files that change the look of content or perform an action.[46] These variables and tags are often included in game translation text.

Regarding these software related elements in game localization, a few scholars deal with the translation challenges. Erick Heimburg (2006), Bernal-Merino (2007, 2015), and Gianna Tarquini (2014) discuss code strings and tags in translation. Heimburg (2006) focusses on MMORPG which contains hundreds of thousands of words of text. In his study he addresses not only "string" which can be a sentence, a paragraph, or a word, but also "variables". For example, in a sentence "kill the $MONSTER$!", "$MONSTER$" is the variable and this can be replaced with any other characters.

[46] https://www.computerhope.com/jargon/t/tag.htm

Bernal-Merino (2014) also points out the challenge of the translation with variables. He argues that since the position of variables should be changed depending on the morphology and syntax of the language, it is a very important factor in game translation and localization because it affects player immersion, and the "playability" of the localised version can be a predictor of player engagement and game revenue. In addition, Zhang (2015, p. 133), Diaz Monton (2007), O'Hagna and Mangiron (2013, p. 132) all point out the challenge of translation with variables focusing on grammar issues. In the case of Korean into English or vice versa, the variables and tags issues appear in the same way. These variables and tags cannot be checked for how they would look in the text. The actual look of the variables and tags can be only confirmed through the actual game. In particular, the sentence structure of Korean is completely different from English, so both the variables and tags are challenging for translators. It is noticeable that the above-mentioned studies all focused on the translation challenge with these variables and tags. However, in order to understand why these elements are important in game localization, more detailed examples are required. In the game text, the variables are used in order to generate the text in an efficient way for the developer by avoiding repeated sentences, and the tags are mostly to attract players' attention by changing the colour or the font of the text. For example, a Korean sentence "감시탑을 {0}레벨로 업그레이드하세요" is "upgrade watch tower to level {0}" in English. In this sentence the variable {0} stands for number and it can be replaced by any number based on the watch tower's level. In the game text, this kind of upgrade sentence constantly appears in every stage. Hence for the developer, using the variable is more efficient than repeating the

same sentences just with different numbers.

However, when it comes to translators, the position of the variable often becomes a challenge. If a translator does not have knowledge of the content of the variable, the positon of the variable could be anywhere, which will make the translation unreadable. In the example sentence above, the variable { } is positioned in front of the word "레벨" which is "level" in English because generally number comes in front of words in Korean, while number comes after words in English. In this case, if a translator does not have knowledge of the variable, it would stay in front of level, and the final text would be "upgrade watch tower to {0} level". In addition, there is no space between number and the following word in Korean. Hence, as in the example sentence above, there is no space between the variable and the word "레벨". However, when translating into English, there needs to be a space between them. Another example, "%s" gets "%d" from Diaz Monton's (2007) study also shows the difficulties of translation with variables. This kind of sentence is very common in game text. In this example "%s" refers to player's name and "%d" can be any items or weapons. In many cases, the variables need to be relocated during the translation process because different languages have different sentence structures.

Unlike variables, tags are used not for content but for extra effects, to highlight the text or for better readability. In other words, the purpose of using tags is to provide clearer information for players by highlighting the important words or sentences with

a different colour, italic font or bold. For example, a colour tag in mobile game text is one of the frequently used tags. It is often found when specific words need to be highlighted in the sentence, so that the players immediately look at the important word. In addition, using a tag that has a line change function makes the text more readable. There are no official rules for tags in mobile games: one or two colours are used to highlight UIs, skills, or important words in general. The text in Figure 8-12 from *Guardian Soul* is an example of text colour tags. In the subtitle box, there are green and blue highlighted colours. These colours are written as tags in the text file as below.

Figure 8-12. Example of using tag

Source: 참고로, 상단 오른편에 있는 <color=#00ff24>[투자]</color> 버튼으로\n<color=#58D3F7>필살기강화</colour>를 하실 수 있습니다.

English translation: By the way, you can use the <colour=#00ff24>[Upgrade]</colour> button on top\n right to <colour=#58D3F7>upgrade the critical blow</colour>.

In the Korean source file, there are colour tags right before and after the word that

need to be highlighted with colour. As found in the source text and figure 8-12, the tag <colour=#00ff24> refers to the colour green, and <colour=#58D3F7> refers to blue. To apply these colours in a translation file, the tags should be placed correctly. Since tags move in pairs (opening and closing tags), there might be a tag related issue when placing the tag incorrectly. For example, if the closing tag is placed after the word “button” in the English translation file, then “[upgrade] button” will be highlighted in green. As seen from the real game image and the translation text, placing the tags in the right position is essential in mobile game localization in order to keep its skopos. If the tag is placed incorrectly, the words that are expected to be coloured become different which changes the skopos of the tags.

Another tag often found in mobile game localization is “\n” which stands for line change. In the figure 8-12, there are two lines in the text box. This text shows the usage of “\n” in game text. As shown from the text box, despite there being more space after the word “버튼으로”, the rest of the text is shown in the next line. In the source text, there is “\n” after “버튼으로”, which means changing line after this tag. By doing this, players see two short sentences instead of a long sentence. Considering the size of the mobile device, it is easier to read when the sentence is short. In the translated text, the tag is applied in the same way. In this example, the “\n” is applied after “top” in translation, and the line is changed after the word “top” as shown in the game image. It is generally the translator or tester’s decision where to insert “\n” in the translated sentence. Due to the different sentence structure of the

languages, the position of the tag is not the same as in the source sentence, instead, it is positioned based on the target sentence structure. When the tag is used incorrectly, the text outline becomes different from what it is expected. For instance, missing "\n" tag makes one long sentence instead of two lines, double "\n" tag makes one blank line between the two lines in the image, or missing "\" prints "n" in the target text.

In addition to the variables and tags, some of the symbols are also considered as challenging elements as they could cause errors in mobile game localization. When the text is extracted from a game, some of the coding symbols are extracted with the text. As some countries use different shaped symbols, it may cause a problem in the actual game. Thus developers sometimes use tags instead of symbols. For example, as the symbol "," is often a cause of errors in the game system, "<comma>" is used in game text instead, and this should be translated as it is. As examined in this section, the variables, tags or other encoding related factors are difficult to check in the translation stage as the translation file has no problem even though these elements are missed, omitted or changed. These elements are especially important in game localization as mistranslation of these may ruin the whole translation. In addition, it can affect the operating of the game as well.

8.3.6 Cultural Reference

Cultural references are one of the factors that turn game localization into a complex process that requires careful planning and adequate expertise together with linguistic,

technical and legal factors (Bernal-Merino, 2007). Hence, cultural references have been considered as an essential factor in game localization. Comparing mobile games with video games, mobile games include less cultural reference than video games. In global one-build games in particular, less cultural references are found due to internationalization. Accordingly, most cultural references that are still found in mobile games can be handled through modifying translation during LQA. As Mangiron and O'Hagan (2006) claim, localisers are often given carte blanche and they can modify, adapt, and remove cultural references. Some examples of cultural references that are often found in mobile game localization are units of length and weight, items, and special holidays.

Firstly, units of length or weight are often found in games. For example, the description of a character can include the character's height and weight, or racing games can include the mileage of cars. These units need to be localized based on the target culture in the case of players who are not familiar with the original units. For example, "cm" is more common in Korea while "feet" is more common in the USA when the unit indicates someone's height. Also, in Korea, only "km" is used when indicating distance while "mile" is used in USA. This simple cultural difference does not require technical change but can be localized by modifying text. Although it is not a translation error, from the players' point of view, it is uncomfortable as they have to calculate and switch the units by themselves while they are playing. Considering the skopos of the LQA, which is providing the best game experience to players, these cultural references are required to be localized. Phrases and buzzwords

are also cultural references that are often found in game text. For example, in Korea, there are a few phrases people often use when they find something essential is missing. These phrases are usually related to food, as in the example below.

> Korean: 자 어서 해변의 해적들과 몬스터들을 소탕하고와! **다시마가 빠진 너구리는 약하군.** 자~ 다음 해적을 물리쳐 볼까?!
>
> Literal Translation: Well, eliminate the pirates and monsters on the beach quickly! **Raccoons without dried seaweed are weak.** Now, do you want to eliminate pirates?
>
> Edited text: Go eliminate the pirates and monsters on the beach! **Raccoons are out of place here, and not as strong as they would be in a forest.** Now, ready for the pirates?

In the above sentence, the word raccoon refers not only to one of the characters in the game but is also a name for one of the most popular Korean noodles. This noodle is famous because it includes dried seaweed which makes the noodle taste better, and it is considered as an essential ingredient for that noodle. In other words, the sentence "Raccoons without dried seaweed are weak" means that something important is missing. In this case, the literal translation does not make sense, and it is difficult to find alternatives. Although it might be possible to find alternatives in some countries, it is better to re-write the sentence so that any player can understand the context. As seen in the edited sentence, the word "Raccoon" is still there, but the sentence has been re-written.

Various buzzwords are another factor that could be considered as cultural references, and handled through LQA. The Cambridge dictionary defines buzzword as "a word or expression from a particular subject area that has become fashionable by being used a lot, especially on television and in the newspapers" or "a word or expression that is very often used, esp. in public discussions, because it represents opinions that are popular".[47] As seen from the definition, buzzwords reflect the current society, or in other words, are culturally specific. Buzzwords spread extremely fast and become popular in an internet advanced country like Korea. Not surprisingly, mobile games use a lot of buzzwords in the text. However, when these words need to be translated, it could be an issue. For example, since 2016 there have been words "gold spoon", "silver spoon", "bronze spoon", "plastic spoon" and "dirt spoon" for social classes in Korea. As indicated by the words gold, silver, bronze, plastic and dirt, a gold spoon represents rich people, and the dirt spoon represents poor people. Although there are no distinct social classes in Korea such as noble or servant now, people made the new "spoon" classes and these became popular words. These words are based on the English expression "silver spoon" which is generally used in a sentence such as "born with a silver spoon in one's mouth". In a game *Rich King*, these spoon categorizations are used. However, since there is no English equivalent, a different translation approach is needed. To show the different level of categories, the words for the level are used literally, except that the dirt spoon becomes "wooden spoon". In this game, each spoon class possesses its own items, for instance, the "dirt spoon" has boxes or a bicycle while the "gold spoon" has a luxury desk or super computer.

[47] See https://dictionary.cambridge.org/dictionary/english/buzzword

As these words can be controversial depending on the culture, they need to be edited into neutral words.

In addition to the above mentioned LQA examples, translation text is sometimes shortened based on the target countries. Needless to say, understanding players' preferences is important for successful localization. In other words, linguistic testers are required to have knowledge about the target country and to edit the final text. For instance, according to a forum about a new market of the game industry[48], when a text is translated into Turkish, text needs to be shortened since Turkish players do not like to read long sentences while playing games. In this case, shortening the translated text needs to be completed during LQA, not in the translation stage.

Although the LQA is the final stage for mobile game localization, updates are excluded from LQA in general. In most mobile game localization cases, LQA is conducted for the newly localized version. In other words, the LQA is not conducted for the updates which are often found in the mobile game. This is because the volume of the updates is generally not big enough to conduct LQA, and publishers do not have enough time for re-doing the LQA for the whole game. As examined in this chapter, LQA is an essential process in order to polish the final localized product as well as providing the players with the best experience as in the original game.

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[48] http://www.inven.co.kr/webzine/news/?news=213667

9. Conclusion and Outlook

As the digital game industry globally has been growing rapidly, the localization of the games has also begun to be a focus in both industry and translation studies. In the early era of digital games, video games and online games took the major part of the digital game industry. Accordingly, research on game localization has been mostly on video games or online games. However, with the development of mobile phones, and the smart phone in particular, the market for mobile games has been growing significantly and it took more than half of the digital game market in 2021. However, there is almost no research available on mobile game localization. Mobile games have been mentioned in research on video game or online game localization as a small part of digital games. However, this thesis sees the mobile game as a major digital game in the current era, and brings mobile game localization into translation studies by examining the entire process of mobile game localization. The outcome of this research will become an important reference for various game translation studies.

Although this thesis focuses on global one-build mobile games, it can also be applied as the key reference material for future researches for individual build mobile games. In addition, even though this study focuses on Korean into English translation, the approaches and methodologies used in this research can be applied to other language pairs. In this sense, this thesis can be a reference not only for Korean researchers or game developers, but also for many other researchers who are interested in game localization itself or in related studies. As highlighted by Mangiron (2017), thus far

there is no academic research on mobile game localization, and so this research is a pioneering work. It will provide localization professionals with a clear blueprint of the mobile game localization process and the many, diverse (human and non-human) actors involved. Moreover, it will be a useful reference for game translation and localization research more generally because this study not only deals with the process and actors, but also looks at mobile game text translation in detail (eg. translatable assets, text types and translation strategies). In addition, this research will not only help translators but also game developers to make higher quality games by providing guidelines and case examples of LQA in two mainstream languages, and two languages that are both of major significance in the game industry.

9.1 Theoretical Contribution

This thesis contributes to the theoretical framework in translation studies in various ways. First of all, this thesis suggests a new definition for the mobile game and clarifies the existing terminologies in game localization. As explained in chapter 2, the notion of the mobile game has changed from a focus on handheld devices to mobile phone devices. However, this social change of definition for the mobile game has not been applied in the academic field and the existing definitions have been used. Accordingly, this study adopts the current definition of the mobile game with support from a few arguments about mobile game definition, game industry analyses reports and social notion on the mobile games.

Second, this thesis suggests a new mobile game localization model in chapter 3, which differs from existing video game localization. This thesis includes all the

stages from preparation to update in the localization process, based on the characteristics of mobile game localization. This is a new perspective to address all the localization stages. In order to reveal the difference between video games and mobile games, this chapter finds the characteristics that are specific to mobile game localization. Then existing research areas in translation studies such as audio-visual translation, software localization, culturalization, rewriting, and transcreation are reviewed in terms of similarities to, and differences from, mobile game localization.

Third, this thesis tries to address mobile game localization from a sociology perspective, not with the conventional textual analysis. Although mobile game localization shares various characteristics in common with these research areas in translation studies, there is a gap in addressing the whole localization process due to the complexity of the mobile game localization process. Therefore, this thesis adopts Actor Network Theory and traces the actors and their network. The brief explanation about ANT and its application for this thesis is drawn in chapter 4. This thesis also adopts skopos theory for textual analysis and finding the relationship between actors. As explained in chapter 4, Actor Network Theory is useful for this thesis as it considers all the actors including both human and non-human, as well as their interplays in the localization process. Skopos theory also helps in understanding how the text is translated based on four skopos of mobile game localization. The various actors in mobile game localization are identified based on their roles in localization in chapter 5. Then in chapter 6, the interplay between the actors is examined based on each stage.

Fourth, this thesis considers the text as an actor, and suggests four skopos for mobile game localization. Therefore, chapter 7 is not a conventional textual analysis, but categorized the game text based on the localization purposes, and demonstrated how the actors involved in the translation stage influence the translation.

Finally, this thesis introduces linguistic quality assurance (LQA) in translation studies. So far, LQA was simply mentioned as a part of post localization. However, this thesis highlights the importance of conducting LQA in mobile game localization, and addresses it with the help of ANT and skopos theory.

9.2 Limitations

This thesis aims to suggest the mobile game localization process based on the actors, network and skopos of mobile game localization. Although this thesis suggests a new model for mobile game localization, it has two limitations. First, it could be contentious to include preparation, publishing and update in localization process. This thesis includes all these stages in the localization process in order to follow all the involved actors, and due to the characteristic of mobile games which is frequent updates. In addition, all the actors influence the localization by interplaying with each other in the mobile game localization. However, it still can be arguable that the existing game localization process category, which is pre-localization, translation, and post-localization, is more suitable for game localization.

Second, the actor-network of mobile game localization could be more complex than

I illustrate as in figure 6-1. Due to the lack of existing studies on mobile game localization, I include 5 human actors and 4 non-human actors in the network. Based on my personal experience as a translator, LQA tester, as well as owner of a mobile game publishing company, I would argue that these actors are key actors in mobile game localization. However, the actors could be further subdivided depending on the game size.

9.3 Further Studies

While this study focuses on global one-build mobile games, I have already learned through the course of my professional experience and this research from discussions with industry stakeholders that the mobile game market for individual build games which are not global one-build games is also growing. These games are generally large scale games which need full localization as they are not internationalized prior to localization. This is similar to video game localization in regard to the changes of game images, game system or texts. Thus, developers create unique contents for each target country with different cultural aspects, character design, pricing, and business model for localization. Accordingly, the localization approach for such games requires different strategies than those for global one-build games. In addition, due to the more complex localization process there would be more actors for the localization for individual build mobile games. In the case of individual build games, people involved in localizing the game images or game system have important roles and they need to be considered as separate actors. Furthermore, as the actors are different from the global one-build games, the networks in the localization process

would be different as well. In this sense, the research on the localization of individual build mobile games is also further required.

This study sheds light on the mobile game localization process by examining actors, networks and skopos based on the Korean into English language pair. Since Korea has ranked highly (2nd in 2015, 4th in 2021) in the global mobile game industry, a study based on this language pair is worthwhile. Not only are Korean mobile games localized into other languages for global service, but many mobile games are also localized in Korean for Korean players. Therefore, further research on mobile game localization from English into Korean in terms of Korean characteristics such as honorifics, or Korean jargon in games will appear.

Machine translation post editing (MTPE) is also one of the areas for further research in mobile game localization. The MTPE industry has been growing, and the game industry also has adopted MTPE in translation. Big game publishers such as EA or NC Soft have made their own machine translation engine and use MTPE for their game translation. As game text includes various text types, some in-game text such as system messages or UI are applicable for machine translation while machine translation is generally not suitable for speech text. As MTPE has become one of the research areas in translation studies, research on MTPE for mobile game localization is further required.

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