
# A HOLISTIC CONCEPTUALIZATION OF CONSUMER WAITING BEHAVIOR IN ONLINE LIVE STREAMING PLATFORMS

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UNIVERSITAT ROVIRA i VIRGILI

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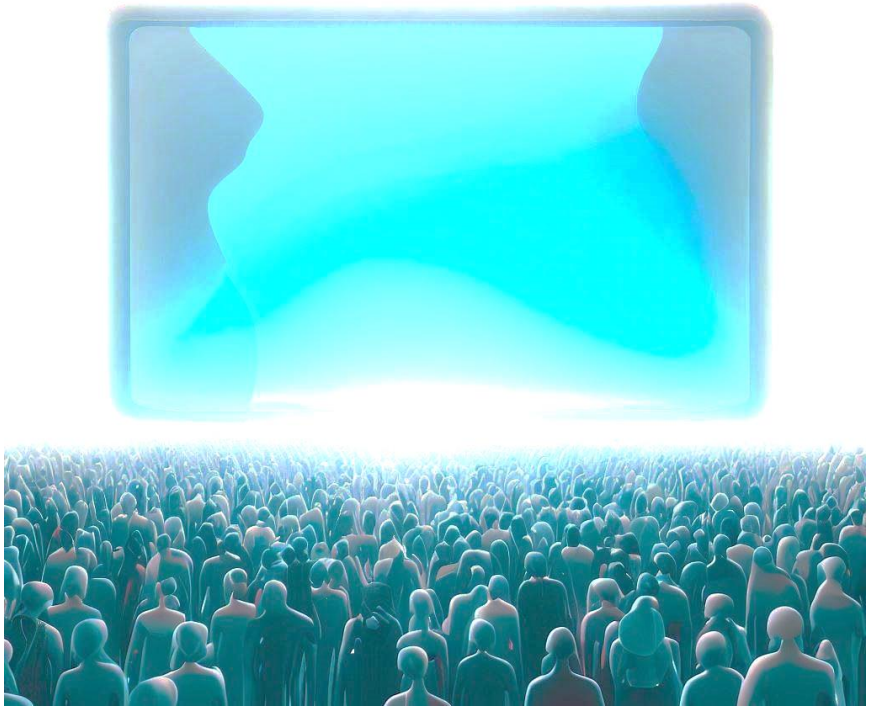

**DOCTORAL THESIS - TESI DOCTORAL – TESIS DOCTORAL-**

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DOCTORAL THESIS

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DEPARTAMENT DE GESTIÓ D'EMPRESES
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Facultat d'Economia i Empresa

FAIG CONSTAR que aquest treball, titulat **"A holistic conceptualization of consumer waiting behavior in online live streaming platforms "**, que presenta **Othmane Aride** per a l'obtenció del títol de Doctor, ha estat realitzat sota la meva direcció al **Departament de Gestió d'Empreses** d'aquesta universitat.

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HAGO CONSTAR que el presente trabajo, titulado **"A holistic conceptualization of consumer waiting behavior in online live streaming platforms "**, que presenta **Othmane Aride** para la obtención del título de Doctor, ha sido realizado bajo mi dirección en el **Departamento de Gestión de Empresas** de esta universidad.

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I STATE that the present study, entitled **"A holistic conceptualization of consumer** waiting behavior in online live streaming platforms ", presented by Othmane Aride for the award of the degree of Doctor, has been carried out under my supervision at the Department of Business Management of this university.

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Reus, 28 de juny de 2023/Reus, 28 de junio de 2023/Reus, June 28th, 2023.

Els directors de la tesis doctoral
Los directores de la tesis doctoral
Doctoral Thesis Supervisors

“Rather than love, than money, than fame, give me truth.”

~ Henry David Thoreau, Walden (1854)

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## Abstract

A holistic conceptualization of consumer waiting behavior in online live streaming platforms

**Othmane Aride**

Either it is in a queue, a crowd, over the phone or on the Internet…waiting is a common, pervasive, and inevitable influence in people's lives. As a result, it has been extensively studied over the last four decades. Nonetheless, a substantial portion of the literature focuses on specific manifestations of waiting within specific contexts, while research aiming to provide a comprehensive understanding of waiting remains scarce. Moreover, the literature primarily concentrates on a restricted set of reaction categories (i.e., behaviors, and emotions) and aspects of waiting (i.e., its negative aspects). Furthermore, limited attention has been given to novel waiting situations caused by recent technological advances. The present thesis responds to these limitations by investigating waiting on the Internet, in contemporary online environments, particularly, online live streaming platforms. It aims to propose a holistic conceptualization of the effects of waiting on the consumer. To achieve this, the current study employs a Grounded Theory methodology. The data collected consists of consumers' interactions within an online live streaming platform where the users are waiting online, together, for an extensive period. These interactions were analyzed using a qualitative approach. The data collection and analysis were aided by the qualitative analysis software NVivo. The research allowed the proposition of a comprehensive theory mapping the full range of consumers' reactions to the wait. It also allowed for the identification of new key types of responses to the wait. Finally, propositions were made to researchers and practitioners about the applications of the various findings in relation to a range of concepts and topics.

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# Chapter 1. Introduction

## 1.0. Introduction

Waiting is a significant part of people's lives (Kostecki, 1996; Nie, 2000; Soman & Zhou, 2002; Taylor, 1994). Indeed, every day, countless hours are spent waiting in queues, on the phone, on the Internet, in restaurants, at the supermarket and in a plethora of waiting situations. Ultimately, waiting is a reality of human life that cannot be ignored, nor can it be avoided. For this reason, waiting has been studied in a variety of fields of research. These areas of study are Management (Jones & Dent, 1994; Pearce, 1989), Operations Management (Ho et al., 1995; Sheu et al., 2003; Sheu & Babbar, 1996), Economics (Ittig, 2002; Siciliani et al., 2009), and Ethnography (Minton, 2008). Waiting has been studied in fields of study that are related to our area of research such as Psychology (Osuna, 1985; Unzicker, 1999) and Sociology (Mann, 1969; Mann & Tan, 1993; Sommer & Sommer, 1989). Waiting has indeed, been studied in our areas of research, that is, Marketing (M. M. Davis & Voilmann, 1990; Folkes et al., 1987; Hui & Tse, 1996; Mc Donnell, 2002; Tom & Lucey, 1995) and its sub discipline consumer behavior (Chuo & Heywood, 2014; De Vries et al., 2018; Hornik, 1984; Lahap et al., 2018; Mahmud & Rumman, 2020; Maister, 1985).

Despite this substantial interest of the researchers for the study of waiting, many aspects related to the wait have not drawn sufficient interest. Various studies have investigated waiting from a variety of different perspectives. Nonetheless, the research on waiting has not considered the different aspects of the wait in an extensive and

comprehensive manner. For example, many focus on particular subjects such as consumers' perception and use of time (Durrande-Moreau & Usunier, 1999; L. P. Feldman & Hornik, 1981; Mann & Tan, 1993; Anita Whiting & Donthu, 2006), music (Areni & Grantham, 2009; Kellaris & Kent, 1991, 1992) and sensorial environment impact on the wait (Grewal et al., 2003; Mc Donnell, 2002; McDonnell, 2007) or particular environments such as queues (Avi-Itzhak & Levy, 2004; Bekker et al., 2011), stores (Grewal et al., 2003), concerts (Jain et al., 2011), phone…etc. (Munichor & Rafaeli, 2007). Only a handful of studies have tried to build a global and comprehensive vision of waiting that would allow for a holistic understanding of the wait (Pàmies et al., 2016a, 2018; Ryan et al., 2015, 2018; Ryan & Valverde, 2003).

Another area in which the research on waiting might need more attention is related to new technological environments. The Internet in general (Charzinski, 2001; C. P. Chen, 2013; D'Arienzo et al., 2019; Mahmud & Rumman, 2020; Rajamma et al., 2009) and online live streaming in particular are environment that haven't been sufficiently investigated. Online live streaming platforms represent one of the most, novel, rapidly growing , and fast changing environments in terms of use, individuals' behavior, and consumption modes and habits (Cai et al., 2018; Hu et al., 2017; Spilker et al., 2020; Y. shen Wang, 2019; Wohn et al., 2018). Despite this, very limited interest has been given to waiting online and in online live streaming platforms (Demoulin & Djelassi, 2013; Mahmud & Rumman, 2020; Ryan et al., 2015; Ryan & Valverde, 2003, 2005). Finally, another area to which the literature has not paid sufficient attention is related to the positive

and negative aspects of waiting. In effect, the literature on waiting is essentially focused on the negative aspects of waiting (D. Liu et al., 2018; Pruyn & Smidts, 1998; G. M. Rose et al., 2008) . Meanwhile, very little attention is given to the potentially positive aspects of the wait (Mahmud & Rumman, 2020; Ryan et al., 2018).

The subject of this thesis comes as a response to the needs identified in the literature in terms of themes of research, subject of study, research questions and research objectives. Therefore, the subject of the present doctoral research is "Waiting online, in live streaming platforms". This research considers the new types of waiting in the contemporary environment of online live streaming platforms. It also aims to build a holistic and comprehensive view of waiting on the Internet, in online live streaming platforms. Finally, it aims to apprehend not only the positive aspects of waiting, but the whole spectrum of waiting effects ranging from positive to negative.

### 1.1. Objectives of the study

In this section, we have relied on the state of the art to formulate the objectives of the present thesis. These objectives aim to produce an investigation that is oriented towards the most promising and the most beneficial investigation for the research on waiting. These objectives are the guiding principles supporting the investigation conducted in this work.

The research objectives defined in this section are the byproduct of our main question for this work. This question is the grand tour question guiding the investigation. It can be divided into two sub questions that are meant to reflect it in a more precise manner. The grand tour question and the secondary research questions come as follows:

Chapter 1

**How do consumers react to waiting in contemporary online waiting situations?**

1. What is the valence of consumers' reaction to the wait between positive and negative polarities in online live streaming platforms?
2. What are consumers' reactions to the wait in online live streaming platforms?

As we can see, the research questions listed above are related to the themes of this work, that is, the study of waiting in online live streaming platforms, the proposition of a holistic view of waiting online, and the consideration of the full range of consumers' reactions, from positive to negative reactions to the wait.

The objectives listed in this section come as a direct answer to the research questions guiding this work. They offer a detailed and practical way to reach the general aims of this work. The objectives pursued in this academic project come as follows:

1. Exploring consumers' full range of reactions to the wait in online live streaming platforms from positive, to neutral, to negative responses to the wait.

2. Exploring the relationship between consumers' reactions to the wait and the object of these reactions (e.g., company, brand, other consumers…etc.) towards which these reactions are aimed on the Internet, in online live streaming platforms.

3. Identifying and understanding the main types and categories of consumers' reactions to the wait on the Internet, in online live streaming platforms.

4. Identifying and understanding the specific reactions to the wait displayed by the users in online live streaming platform (i.e., specific behaviors in which the users engage, emotions, and other specific responses to the wait).

5. Gaining a holistic understanding of waiting on the Internet and in online live streaming platforms in order to produce a general conceptual framework on the subject. (This goal is to be achieved by the integration of the knowledge gained through the realization of the objectives 1, 2, 3, and 4).

6. Consumer-centered, naturalistic, and inductive exploration of waiting, waiting on the Internet and in online live streaming platforms (in contrast with the researcher-oriented, non-naturalistic and deductive approaches usually used in this area of research).

## 1.2. Justification of the study

This section presents the main justifications of this work. These justifications are of two kinds, i.e., (1) theoretical and (2) practical justifications.

### *1.2.1. Theoretical justification*

Based on the state of the art, we have identified a number of theoretical and academic reasons that justify the choice of the subject of the present investigation.

First, the literature on waiting has considered a variety of contexts and situations and environment such as supermarkets, restaurants, travel, doctor's waiting room...(Alexander et al., 2012; Groth & Gilliland, 2006; S. Veeraraghavan & Debo, 2009). Most of the situations investigated in our area of research are real-life waiting situations. A few more studies have focused on consumers' waiting on the Internet (Charzinski, 2001; Milne & Boza, 1999; Rajamma et al., 2009; Ryan et al., 2015; Ryan & Valverde, 2003, 2005). Nonetheless, only a handful of academic articles have approached the phenomena related to the wait in contemporary settings (Demoulin & Djelassi, 2013; Mahmud & Rumman, 2020) such as online live streaming platforms. Therefore, one of the main justifications for our work is the limited research on waiting online, in live streaming platforms.

Second, the literature is centered on the negative dimensions of waiting. Indeed, waiting has been considered as a negative occurrence since the beginning of the research on the phenomenon (Maister, 1985). Frustration, dissatisfaction, boredom, service abandonment, are some of the aspects of the main effects associated to the wait (Chan &

Wan, 2008; Dabholkar & Sheng, 2008a; Dickson et al., 2005; R East et al., 1991; G. M. Rose et al., 2008). In the meantime, increasing evidence suggests that waiting can be positive (Demoulin & Djelassi, 2013; Dubé et al., 1991; Mahmud & Rumman, 2020; Ryan et al., 2018). For this reason, one of the main justifications for our work is the limited research on the positive aspects of waiting.

Third, the literature is focused on certain manifestations of the wait while paying limited attention to others (J.-C. C. Chebat et al., 2010; Fraser et al., 2008; Marquis, 1998). Apart from the focus on the negative dimensions of waiting to the detriment of its negative aspects previously discussed, the research on waiting has essential focused on the emotional (B. B. Anderson & Brodowsky, 2001; Casado Díaz & Más Ruíz, 2002; Clemmer & Schneider, 1989; Dawes & Rowley, 1996; Katz et al., 1991; Anita Whiting & Donthu, 2009) and behavioral (Durrande-Moreau & Usunier, 1999; Mobach, 2007; Raz & Ert, 2008; S. Veeraraghavan & Debo, 2009; Zourrig & Chebat, 2009) responses of the consumers. Nevertheless, we defend that it is limiting to focus on only two types of manifestations of the wait. We believe that there are more aspects of the wait to be explored (Houston et al., 1998; Sheu & Babbar, 1996; Unzicker, 1999). For this reason, the focus of the research on certain aspects of the wait is an important justification of our research.

Fourth, the literature on waiting is globally fragmented from a theoretical perspective. Indeed, the research in this area usually focuses on very specific and isolated manifestations of waiting and in very specific environments. Moreover, the studies on waiting usually come from very diverse areas of research. For this reason, the fragmented

literature and need for a global vision of waiting are some of the main justifications for this work.

### *1.2.2. Practical justification*

From a practical perspective, the justifications for the study of the wait are well established. Indeed, waiting has been proved to have a substantial impact on both the consumers and the companies (B. B. Anderson & Brodowsky, 2001; Evangelist et al., 2002; Osuna, 1985; Taylor, 1994). In regard to the consumer, waiting has shown to impact consumers emotions, behaviors, perception, evaluation of the services…(M. M. Davis & Heineke, 1994; M. M. Davis & Voilmann, 1990; Groth & Gilliland, 2006; Heineke & Davis, 1998; Munichor & Rafaeli, 2007; Pruyn & Smidts, 1998; Unzicker, 1999). As for the companies, the wait has a real impact on important factors such as consumers' satisfaction, their return to points of sale, and their purchasing frequency (M. M. Davis & Heineke, 1994; M. M. Davis & Voilmann, 1990; R. Feinberg et al., 1996; Fraser et al., 2008; Heineke & Davis, 1998; Pruyn & Smidts, 1998; Rajamma et al., 2009; Tom & Lucey, 1995).

As for the study of waiting in online live streaming platforms, it can be supported by many justifications. There is no doubting the importance of social media.

Social media are pervasive and have an impact on many aspects of people's lives (Alalwan et al., 2016; Hawkins & Vel, 2013; Hinz et al., 2011; Rathore et al., 2016) and their behaviors as consumers. Social media also have an important impact on companies (e.g., entrepreneurship, venture capitalism, etc.)(Greenwood & Gopal, 2015).

Online live streaming platforms are a type of social media (e.g., Twitch, YouTube Live, Facebook Live…etc.). They are, in fact, one of the most recent and innovative forms of social media (Harpstead et al., 2019; Spilker et al., 2020) on waiting on the Internet, in social media, and in online live streaming platforms. Some of their defining characteristics (such as their instantaneity and their interactivity) (Friedländer, 2017b; Harpstead et al., 2019; S. Lim et al., 2012) have gained them a large audience. As a result, in recent years, online live steaming has become a highly profitable media and service (Hsu et al., 2020) with a deep social and economic impact (Hu et al., 2017; S. Lim et al., 2012).

Based on all the reasons listed above, we defend that the recency, innovativeness, importance, and impact of online live streaming platforms are some of the main justifications for this work.

## 1.3. Organization of the thesis

This section aims to detail the organization of the present thesis. This work is structured around three parts and is composed of 7 chapters.

### *1.3.1. Part I. Conceptual context*

The first part is focused on the conceptualization of the present thesis. It is composed of three chapters: chapter 1, chapter 2 and chapter 3.

Chapter 1 (i.e., the present chapter) provides a brief introduction to the subject of the thesis (that is, waiting on the Internet, in online live streaming platforms), presents the main objectives of this research, and provides the theoretical and practical justification of this work.

Chapter 2 presents a review of the literature related to the subject of the present thesis. It an overview of the literature on the area of study, i.e., consumer behavior. This chapter also present a comprehensive review of the literature on waiting, research on the Internet, social media and online live streaming platforms in marketing, as well as the research on waiting on the Internet, in social media, and in online live streaming platforms.

Chapter 3 details, based on the state of the art, the gaps identified in the literature. It proposed a number of orientations with the aim of filling these gaps. Based on the gaps in the literature, a grand tour question is proposed as well as the more detailed sub questions that are derived from it. Finally, in response to the research questions, this chapter details the objectives of the present work.

### *1.3.2. Part II. Epistemology and methodology*

The second part of the present thesis is dedicated to the methodology used in this project. This part has been divided into two chapter: Chapter 4 and Chapter 5.

Firstly, Chapter 4 explains the constructivist epistemological stance of this work and the reasons behind this choice. Secondly, the chapter details the methodological approach chosen for this project, that is, Grounded Theory. Thirdly, the chapter explains the qualitative analysis and collection methods used in this work. Finally, the chapter details the reasons and the characteristics of the methodological choice made for the realization of the present work, that is, an online thematic analysis in online live streaming platforms using a Grounded Theory approach.

Chapter 5 presents the research design of the present thesis. It explains how it was conducted following the principles of Grounded Theory. The chapter details the main sampling decisions and outcomes of this work (observation unit, sampling unit, sampling method, sampling unit, environment and context of the sample, characteristics, and size of the sample…etc.) and measures and canons of verification used to insure the rigor of the study in line with principles of the Grounded Theory. Following that, chapter 5 describes the data collection process starting and details the nature of the data collected, the data collection process and their particularities. Finally, the chapter presents how the data analysis was undertaken by the researchers (preparation, coding, and analysis with the help of the assisted qualitative data software NVivo 12 pro).

### *1.3.3. Part III. Results and discussions*

The third part is dedicated to the presentation and discussion of the research results and conclusions of the present thesis. This part has been divided into two chapter: Chapter 6 and Chapter 7. Chapter 6 presents the detailed results of the analysis of the data gathered for the present study. As for chapter 7, it presents a discussion of the main results of the study. First, the chapter presents the interpretations, conclusions, and implications drawn from the analysis of the qualitative data. Secondly, it proposes and discusses the conceptual framework proposed for this thesis. Thirdly, this chapter discusses how the results of the research, and its theoretical propositions contribute to the field of research and practice, and how they have achieved the objectives of the research. Finally, the chapter presents the limitations of this thesis and a series of recommendations for future research.

# Chapter 1

## 1.4. References to chapter 1

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# Chapter 2. Theoretical background

## 2.0. Introduction

The objective of this chapter is to identify and critically evaluate the literature that serves as a foundation for the present thesis. The chapter presents a review of the literature going from the broader to the more specific conceptual framework.

First, the chapter presents the most general field of research used as a basis for this work, that is, consumer behavior. Secondly, the chapter focuses on the particularities of waiting within the global field of marketing and Consumer Behavior. Thus, a particular interest is given to the research on waiting in services. Thirdly, this chapter presents a review of the literature on waiting on the Internet. Finally, the chapter reviews the literature on waiting online, in the specific context of social media and online live streaming.

## 2.1. Consumer Behavior

### *2.1.1. Defining Consumer Behavior*

The literature offers many definitions of the concept of Consumer Behavior. Indeed, Consumer Behavior has been presented as a marketing discipline focusing on the analysis of consumers' needs and wishes (Schiffman & Kanuk, 1997), the study of human responses in a commercial world (Robert East, 1997), and the investigation of what and why people purchase and how these purchase decisions are made (Swarbrooke & Horner, 2007).

Nonetheless, one of the most widely accepted definitions of Consumer Behavior has been proposed by Solomon (2006). According to this definition, Consumer Behavior

is "the study of the processes involved when individuals or groups select, purchase, use, or dispose of products, services, ideas, or experiences to satisfy needs and desires" (Solomon et al., 2006, p. 6). Therefore, Consumer Behavior is a discipline that studies a large variety of behaviors carried out by consumers. These behaviors are not limited to the purchase of a product. Choosing the product, recommending it, and disposing of it are some of the many actions that are studied in Consumer Behavior. Therefore, Consumer Behavior includes actions and decision processes preceding, following, and taking place during the purchase (Blackwell et al., 2001; Loudon & Della, 1993). It is important to highlight that Consumer Behavior doesn't only examine behaviors but also experiences (Hirshleifer & Becker, 2009; Mano & Oliver, 1993; Unger & Kernan, 1983). Finally, it is worth noting that consumer behavior is not limited to the study of consumers as individuals. It also investigates groups of consumers (Swarbrooke & Horner, 2007).

### *2.1.2. Evolution of the research on Consumer Behavior*

The origins of Consumer Behavior as a field of research go back to the late 1950s. The necessity of the study of consumer behaviors was the result of a shift of vision and orientation in the practice of marketing. An increasing interest was given to the consumer and companies started putting the consumer at the center of their strategies. Indeed, the new orientation was that the companies should only sell to the consumer the products that he would actually want to buy. This orientation would be known as the marketing concept (Drucker, 2017; Kotler, 1972; Levitt, 1960; Schiffman & Kanuk, 1997). From that point,

the study of consumers will become a fundamental part of the research and practice of marketing.

Between the 1960's and the 1980's the main focus of the research on Consumer Behavior was to understand consumer behavior. A strong emphasis was put on the motives of the consumers and the reasons behind their choices. Additionally, great importance was given to consumers' behaviors and how they actually behaved. Some of the main concerns of researchers in that period were brand selection and purchase decision (Holbrook, 1995) processes in order to predict and influence customers' behavior (Schiffman & Kanuk, 1997). During this period, the study of Consumer Behavior was based on a positivist view that considered the consumer as a rational agent (Schiffman & Kanuk, 1997).

In the 1980's, the study of Consumer Behavior saw an important evolution. The researchers' overwhelming focus on purchase decisions started to leave room for research that is more concerned with the consumption experience (Holbrook, 1995). This evolution resulted in an increased interest for the emotional and affective aspects of consumer's behaviors in opposition to the cognitive dimensions of Consumers Behavior studies in the previous decades.

Another important evolution of the study of Consumer Behavior in this period is the increasing adoption of postmodernist views (Sherry, 1991) and orientation towards constructivist and interpretivist approaches (S. Brown & Turley, 2005; Hirschman & Holbrook, 1986; Holbrook, 1995). These changes allowed to nuance the traditional

positivist view and the dominant use of deductive methods (Marsden & Littler, 1998; Peter & Olson, 1983).

Starting from the 1990's, the research on Consumer Behavior opened to many fields of research. Indeed, Consumer Behavior was already an area of research that relied on a variety of disciplines such as Economics, Macroeconomics, Microeconomics , Experimental Psychology, Clinical Psychology, Social Psychology, Sociology, Anthropology…etc. (Schiffman & Kanuk, 1997). Nonetheless, from that moment on, the study of Consumer Behavior broadened its spectrum to include new fields of research such as literary criticism, semiotics, Human Ecology, History, Cultural Anthropology (Holbrook, 1995; Mick, 1986; Shankar & Goulding, 2001; Thompson et al., 1994).

To sum it up, the research on Consumer Behavior has strongly evolved from its beginnings to this day. This evolution was characterized by a progressive opening to a variety of influences. Indeed, the study of Consumer Behavior has progressively opened to new objectives and research question, epistemological views, methodological approaches, and fields of research. All these influences contributed to make of Consumer Behavior an extremely rich and diverse area of research.

### *2.1.3. Consumer Behavior: An interdisciplinary field*

As explained in the previous section, the study of Consumer Behavior is open to the influence of many fields of research. Indeed, Consumer Behavior is a relatively new area of research. Therefore, in its early days, the field of Consumer Behavior didn't have a strong foundation, in terms of theoretical and empirical background. As a result, many

elements were borrowed from existing disciplines such as psychology, sociology, social-psychology, anthropology…etc. (Schiffman & Kanuk, 1997). These bodies of knowledge helped build the foundation of Consumer Behavior as a new discipline. Later, even more fields of research will be integrated and used in the study of Consumer Behavior. As explained earlier, researchers applied principles developed in a variety of fields such as Psychophysiology, Literature, Cultural Studies…etc. (Shankar & Goulding, 2001).

As a result, researchers from a wide variety of backgrounds are involved in the study of Consumer Behavior. In fact, as put by Solomon (2006), "It is hard to think of a field that is more interdisciplinary" (p. 32) than Consumer Behavior.

This interdisciplinarity is not only a source of richness; it is also a necessity in the study of Consumer Behavior. In fact, the large variety of consumers' behaviors, contexts, environments, manifestations…etc., make it necessary to use such a wide array of fields of reference. Indeed, in Consumer Behavior, "There's an awful lot to understand and many ways to go about it" (Solomon, 2006, p.32).

### *2.1.4. Consumer Behaviors: Variety and pervasiveness*

An extremely wide variety of behaviors displayed by persons and groups can be considered as Consumer Behaviors. Indeed, the field of Consumer Behavior encompasses behaviors going from the purchase of carton milk in a supermarket, to the selection of a complex computer network system in a company. Donating to charity, deciding which phone to buy, searching for information about a product on the Internet, having an unpleasant experience at a store, recommending a product to a friend, waiting in a queue,

complaining about the service to a manager, trying on clothes in a fitting-room, enjoying a relaxing experience at a spa…all of these behaviors are only a few examples of the infinite possibilities in terms of consumption behaviors displayed by consumers. These examples illustrate the presence of Consumer Behavior in all our daily activities (Loudon & Della, 1993). This pervasiveness and variety of consumer behavior is an important reason behind the interest given to the research on Consumer Behavior.

## 2.2. Waiting in services

The objective pursued in this chapter is to identify the bodies of knowledge that are important to the research conducted in the current thesis and that constitute its theoretical background. The previous sections allowed us to go through the literature on Consumer Behavior. Indeed, consumer behavior is the most general field of reference for the present project. In what follows, we will address a body of knowledge that is more specific to our work, that is, Waiting in services.

Waiting time, in services, is defined as 'the time from which a customer is ready to receive the service until the service commences" (Taylor, 1994, p. 56). Waiting time is an important part consumers' daily life (Gasparini, 1995; Kostecki, 1996; Nie, 2000; Soman & Zhou, 2002). Indeed, all through the day, consumers wait for the services they are receiving. Either they are waiting for the bus, for a waiter in a café, waiting in a queue at a fast-food, waiting for a product delivery…consumers will inevitably experience some form of waiting in the process of acquisition of goods and services (Tom and Lucey, 1997).

### *2.2.1. Areas of research*

#### 2.2.1.1. Research on time

The earliest studies that can be linked to consumer waiting date back to the late 1960's. This early research didn't focus on waiting per se. Instead, it was mainly concerned with the various aspects of time and its influence on the consumers. For instance, researchers tried to understand the influence of time pressure on consumer's decision process (P. T. Gibbs, 1998; Howard & Sheth, 1969; Jacoby et al., 1976; Leclerc et al., 1995; Wright, 1974). Later work on time focuses on consumers' perception of time and consumer's time allocation (L. P. Feldman & Hornik, 1981; Hornik, 1982, 1984).

In the early 1980's, the research on Consumer Behavior will see the rise of the study of one particular aspect of time, i.e., waiting time (Hornik, 1984; Maister, 1985).

#### 2.2.1.2. Waiting in Marketing

The seminal work on waiting in marketing was impulsed by Hornik (1984) and Maister (1985). Hornik's and Maister's work was quickly followed by a large number of articles treating of a wide variety of subjects. Most of these articles were particularly centered on consumer's experience of waiting (J. Baker & Cameron, 1996; Hui et al., 2006; Kumar et al., 1997; Sarel & Marmorstein, 1999). Moreover, a large part of the literature has tried to link consumer's experience of waiting to their satisfaction. Thus, many articles have focused on the impact of waiting on consumer's satisfaction and the way in which they evaluated the services received (Alvarado Valencia & Trespalacios Leal, 2016; M. M. Davis & Voilmann, 1990; Dellaert & Kahn, 1999; Folkes et al., 1987; Hill & Joonas, 2006;

Houston et al., 1998; Hui & Tse, 1996; Pruyn & Smidts, 1998; Taylor, 1994, 1995; Tom & Lucey, 1995).

#### 2.2.1.3. Waiting in Psychology

Many aspects of consumers' waiting have been studied within the field of Psychology. The literature has investigated a variety of different subjects such as consumer time perception (J.-C. C. Chebat et al., 2010; Groth & Gilliland, 2006; Guéguen & Jacob, 2002; Hui & Zhou, 1996; Munichor & Rafaeli, 2007; Oakes, 2003), consumers affective response towards waiting (Dubé et al., 1991; Groth & Gilliland, 2006; Yan & Lotz, 2006), their satisfaction (Hui & Zhou, 1996; Tom & Lucey, 1995) and their evaluation of the service (Antonides et al., 2002; Houston et al., 1998; Unzicker, 1999). Overall, the investigation of waiting in services in the field of psychology shares many of the concerns and questions with the field of Marketing. Indeed, both areas of research try to understand the many ways in which the consumer experiences the wait and the way this experience impacts customers' satisfaction in general, and evaluation of the service in particular.

Nonetheless, some differences remain between the two fields (i.e., Marketing and Psychology). Indeed, besides the subjects of research listed above, the research on consumer's waiting in Psychology addresses a number of different questions related to the psychological (and financial) cost of waiting for consumers (Carmon et al., 1995; Osuna, 1985), fairness of waiting (Avi-Itzhak & Levy, 2004; Larson, 1987; Milgram et al., 1986)…etc.

Another key difference between the research on waiting in Psychology and Marketing is that the former is essentially focused on the consumer as an individual. Conversely, the study of waiting in marketing often considers the different aspects of waiting not only for individuals but also for groups (Sommer & Sommer, 1989).

#### 2.2.1.4. Waiting in Operations Management

The main goal of the study of waiting in Operations Management is to provide operational solutions to the issues caused by waiting situation. As a result, the research in this field of investigation strongly focused on one object of research, that is, the queue. Through its investigation of queues, Operations Management attempted to provide effective solutions to the problems caused by different kinds of queues, to propose ways to improve companies' efficiency (Ho et al., 1995; M. E. Pullman & Thompson, 2004; M. Pullman & Rodgers, 2010; Sheu & Babbar, 1996) through a better queue organization and management (M. M. Davis & Heineke, 1994; Ho et al., 1995; Jain et al., 2011; Koole & Mandelbaum, 2002; Sheu et al., 2003). In order to achieve these goals, the study of Operations Management considers many aspects of waiting in queues such as the social organization of queues, as systems (Schmitt et al., 1992), or customers' behavior while waiting in queues (M. M. Davis & Maggard, 1990; Guo & Zipkin, 2009; Jones & Peppiatt, 1996; Larson, 1987; Rafaeli et al., 2002).

#### 2.2.1.5. Other areas investigating waiting

Marketing, Psychology and Operations Management are the main disciplines studying waiting in services. Nonetheless, waiting is also studied in other fields of research.

Some of those fields are Economics (Ittig, 2002; Leclerc et al., 1995; Martin et al., 1992; Siciliani et al., 2009), Sociology (Mann, 1969; Sommer & Sommer, 1989), Ethnography (Minton, 2008), Management (Bennett, 1998; Dawes & Rowley, 1996; Jones & Dent, 1994; McGuire et al., 2010; Miller et al., 2008; Minton, 2008; Pearce, 1989; Zohar et al., 2002).

In the fields of study listed above, a wide variety of objectives, research questions and themes have been treated. The reduction of consumers dissatisfaction, the real cost of waiting time (Ittig, 2002; Leclerc et al., 1995; Okada & Hoch, 2004) the organization of queues as a social system, social justice (Mann, 1969) (Mann 1969; Mann 1977) time management in companies (Dawes & Rowley, 1996)…are some of the many subjects studied within this context.

### *2.2.2. Research methods in the study of waiting*

In terms of methodologies, the research on waiting in services follows the same trend of the field of Consumer Behavior. Just like Consumer Behavior, the study of waiting is strongly dominated by quantitative approaches. Indeed, the large majority of articles empirical papers on waiting are quantitative (J.-C. Chebat et al., 1995; J.-C. Chebat & Filiatrault, 1993; Dube-Rioux et al., 1989; Hensley & Sulek, 2007; W. Lee & Lambert, 2000, 2006; W. L. Li, 2010; Tom & Lucey, 1995). The majority of the quantitative papers published in the area are experiments. This was particularly true in the early studies on waiting in services. As for today, the literature is still dominated by studies using either experiments, alone (Dellaert & Kahn, 1999; Janakiraman et al., 2011; Pyone & Isen, 2011;

Seawright & Sampson, 2007; P. R. Selvidge et al., 2002; Spangenberg et al., 1996) or studies relying on a combined use of experiments and questionnaires (Clemmer & Schneider, 1989; Dubé et al., 1991; Gorn et al., 2004; Hui et al., 2006; Koo & Fishbach, 2010; Marquis, 1998; Soman & Zhou, 2002; Taylor, 1995; Tom & Lucey, 1995, 1997; Weinberg, 2000).

After experiments, questionnaires are the most used method in the study of waiting in services. Some studies use only questionnaires (Bielen & Demoulin, 2007; Robert East et al., 1994; Fraser et al., 2008; Stefanie Naumann & Miles, 2001; Rajamma et al., 2009; Sarel & Marmorstein, 1999; Taylor, 1994) while other studies use observation methods in conjunction with questionnaires (Heineke & Davis, 1998; Katz et al., 1991; Pruyn & Smidts, 1998). Thus, the overwhelming majority of articles on waiting in services are quantitative articles based on experiments and questionnaires.

In comparison, there is very limited research using qualitative methods. Indeed, there are only a few studies relying either on interviews (Unzicker, 1999), Personal diaries (Ryan & Valverde, 2006), Personal Diaries and Focus Groups (Ryan & Valverde, 2005), case studies (Dawes & Rowley, 1996) observation methods (Mobach, 2007) observation methods combined with interview (Mann, 1969) and Focus Group (Minton, 2008).

As for the use of mixed methods in the investigation of waiting in services. It is more limited, in terms of number of studies than any other methodological approach (Mc Donnell, 2002; McDonnell, 2007).

Finally, besides the quantitative and qualitative empirical investigation detailed above, researchers have contributed with a number of conceptual articles in their study of waiting in services such as literature reviews (J. Baker & Cameron, 1996; Church & Newman, 2000), Theoretical model propositions (Avi-Itzhak & Levy, 2004) and conceptual studies (Dabholkar & Sheng, 2008b). Despite the fact that there is much less conceptual investigation than empirical investigation, the study of waiting in services experienced an increase of published papers in the recent years (Avi-Itzhak & Levy, 2004; Debo, Parlour, et al., 2012; Guo & Zipkin, 2009; Ittig, 2002; Jain et al., 2011; Nie, 2000; Sellerberg, 2008).

Nonetheless, it is important to highlight that, despite the increase in theoretical articles, the study of waiting in services still needs to strengthen and enrich its theoretical frame. Indeed, the conceptual research conducted so far has been strongly focused on testing narrow and univariable relationships between specific factors in specific environments and settings (Ryan, 2004). Therefore, the literature can only count on a few and isolated efforts to propose an integrated and holistic framework that simultaneously includes the many factors and phenomenon related to waiting.

In this context, the present work aims to contribute to the state of the art in many ways. Firstly, one of the main purposes of this doctoral thesis is to propose a theoretical framework that explores a conjunction of aspects and dimensions of waiting. Indeed, this work attempts to build an integrating, holistic theoretical frame. The framework proposed should help tackle the limited holistic research in the study of waiting and contribute to a

more holistic understanding of waiting in services. Secondly, as previously explained, the study of waiting in services is strongly dominated by quantitative methods. Indeed, there are only a few qualitative studies in this field of study. The present project proposes a qualitative approach to study customer's behavior on the Internet, in online live stream platforms. Therefore, the present study will, indeed, contribute to making the study of waiting in services an area that is less quantitative oriented and more diverse in terms of methodological approach.

Nonetheless, the adoption of a qualitative is not simply based on the lack qualitative research. Rather, it is a deliberate methodological choice motivated by the context and particularities of the present project. Indeed, Qualitative approaches allow for a greater understanding of complex and nuanced phenomena. They provide rich and detailed data that allow for a deeper understanding of the subject matter (Denzin & Lincoln, 2006). Additionally, they are valuable for providing new insights and hypotheses (Locke, 2001). In the context of the study of waiting, qualitative approaches can provide rich data on consumers' subjective and personal experiences of waiting (Pàmies et al., 2016b), as well as the social and cultural contexts that shape their waiting experience (Mann, 1969). Qualitative approaches are also particularly useful for exploring the complexity of waiting and the different factors and interact it involves, which can help develop comprehensive understandings of waiting (Pàmies et al., 2016a). Despite certain efforts of conceptualization in the study of waiting (Demoulin & Djelassi, 2013; Mahmud & Rumman, 2020; Ryan et al., 2015), there remains a need for theoretical frameworks. This

is particularly true for the contemporary forms of waiting on the Internet. All the reasons listed above support the value and usefulness of using qualitative methods in the study of waiting.

### *2.2.3. Conceptual Foundation of waiting in services*

As previously explained, two articles are considered as the seminal work, that gave birth to the study of waiting in services. Those articles have been written by Hornik (1984) and Maister (1985). Maister's conceptual article attempted to consider the psychological dimensions of waiting in services. The effort of theorization conducted in this article resulted in 8 propositions that are fundamental for the whole field of study. In addition to these proposition Davis & Heineke (1994) suggested two additional postulates related to consumers' waiting in services. This resulted in 10 fundamental proposition that paved the way to the research on waiting.

In what follows, we present a short summary of these propositions. This is followed by a presentation of the ways in which subsequent empirical assesses these key propositions.

1. <u>Unoccupied time feels longer than occupied time:</u> This is probably one of the most intuitive propositions on waiting in services. When nothing is happening during the wait, the consumer feels the wait as much longer than if it was filled with some type of activity (Larson, 1987; Maister, 1985)

2. Pre-process waits feel longer than in-process waits: Pre-process wait refers to the wait that happens before the service begins. According to Maister (1985), this waiting time, preceding the beginning of the service, feels longer to the consumer.
3. Anxiety makes waits seem longer: When consumers are anxious, the wait feels longer to them. Common causes of anxiety during the wait are related to waiting uncertainty and unexplained waits (Maister, 1985).
4. Uncertain waits are longer than certain waits: When consumers knows how long they will need to wait, the wait feels shorter and is more pleasant. Conversely, in the absence of information about the duration of the wait, customers "spends the whole time in a state of nervous anticipation" (Maister, 1985, p. 5).
5. Unexplained waits are longer than explained waits: When consumers have no explanation about why they waiting, they experience waiting time as longer. Conversely, when the provider of the service explains the reasons of the delay the waiting period is experienced as shorter and induces more positive reactions from the customers.
6. Unfair waits are longer than fair waits: If a person arrives late to a queue and is served before those who have been waiting in the queue ahead of them, this will generate a feeling of injustice. This will result in the waiting time being experienced as longer (Maister, 1985).

7. The more valuable the service, the longer the customer will wait: Customers are keener to wait for services that they perceive to be of higher value (Maister, 1985) because they consider them as worthy of the wait.
8. Solo waits feel longer than group waits: When consumers are waiting in groups, they perceive waiting as significantly shorter (Maister, 1985).
9. Uncomfortable waits feel longer than comfortable waits: "Temperature, lightning, seating, sound levels should all be considered" (Davis & Heineke, 1994, p. 28) in order to increase the comfort of customers and reduce their perception of waiting time.
10. New or infrequent customers feel that the wait is longer than frequent customers: Consumers that frequently use a service will experience the wait as shorter than consumers who have never or rarely used said service (M. M. Davis & Heineke, 1994).

In what follows, we further detail how the literature supports the propositions listed above and to what extent.

1. Unoccupied time feels longer than occupied time:

The literature on waiting confirms that unoccupied waiting time feels longer than occupied one. Indeed, when consumers don't engage in any activity, the waiting time feels longer for them (Miller et al., 2008).

The relationship between the wait and how time is occupied can be impacted by two types of factors: Internal and external. Internal factors certainly have a positive impact on the user. Indeed, when the consumers keep themselves busy, not only does the waiting time feel shorter but it also feels more pleasurable (Jones & Peppiatt, 1996; Taylor, 1994). As for the external factors studied, they consist of the actions that can be undertaken by the company to fill the wait such as the use of music (Areni & Grantham, 2009; J. Baker & Cameron, 1996; Cameron et al., 2003), TV, magazines, etc. (McDonnell, 2007). External factors were found to have a positive impact on the user. Not only do they reduce the perceived duration of the waiting time (Bell & Baron, 1977; Goldstone et al., 1978), but they also have a positive impact on consumers' emotional state, satisfaction, and evaluation of the service (J. Baker & Cameron, 1996; Bell & Baron, 1977; Bellizzi et al., 1983; Gorn et al., 2004; Hoagland, 1966; Pruyn & Smidts, 1998). Nevertheless, there are some inconsistencies in the literature regarding the impact of external factors on the consumer. Indeed, a number of studies highlighted the potential of external factors in increasing the perceived duration of the wait and reducing the pleasantness of the waiting situation (J.-C. C. Chebat et al., 2010; Pruyn & Smidts, 1998; Tom & Lucey, 1997).

2. Pre-process waits feel longer than in-process waits

Pre-process waiting refers to the waiting period that begins when the client is ready to receive the service until they receive it (Church & Newman, 2000; M. M. Davis & Maggard, 1990).

Regarding the proposition that pre-process waits feel longer than in-process waits, the literature presents mixed results. Indeed, it confirms that in-process wait can impact the consumer. Nevertheless, it focuses essentially on the impact of the wait on satisfaction rather than waiting time perception. Moreover, it shows that pre-process and in-process waiting impact on the consumer is mitigated by other factors such as the type of service being delivered (M. M. Davis & Maggard, 1990; Dubé et al., 1994; Ellis et al., 2005)

3. Anxiety makes waits seem longer

Maister (1985) asserts that feeling anxious makes the consumers perceive the wait as longer. Subsequent research confirms this proposition (Gorn et al., 2004; Jones & Peppiatt, 1996; Kostecki, 1996). Nonetheless, the literature introduces some nuances to the understanding of this phenomenon. For instance, the claim that anxiety makes the wait feel longer applies more strongly to infrequent users than frequent ones (Jones & Peppiatt, 1996). The literature also explored the many ways in which companies can reduce consumers' levels of stress and thus, reduce their perception of time duration (e.g., customer training, service design, color choice (Gorn et al., 2004; Jones & Peppiatt, 1996; Kostecki, 1996).

4. Uncertain waits are longer than certain waits

Overall, the literature confirms that uncertain waits feel longer while certain waits feel shorter. It also shows that uncertain waits feel more stressful than certain waits, while certain waits are more pleasant than uncertain ones (Hui & Tse, 1996; Larson, 1987; Taylor, 1994). For instance, announcements about the wait duration can reduce negative

reactions towards the wait (Hui & Tse, 1996). Nonetheless, there are confliction results in the literature regarding the impact of being informed about the wait duration on user experience. Indeed, some studies suggest a positive effect while others indicate a negative effect or no significant impact at all (Groth & Gilliland, 2006; Hui & Tse, 1996; Kumar & Krishnamurthy, 2008; Anita Whiting & Donthu, 2009). The impact of being informed about the wait duration also shows to be inconsistent depending on the individuals and the situations (Katz et al., 1991).

5. Unexplained waits are longer than explained waits

The literature only partially confirms the fact that unexplained waits are longer than explained ones. The consumer can be informed about the duration of the wait in two different ways, that is, direct information, and indirect information. Regarding indirect information, it refers to the contextual cues that can be observed by the consumer during the waiting situation (e.g., employees' efforts to solve the wait). The literature shows that this type of information has, indeed, a positive impact on consumers' perception of waiting time (i.e., indirect information about the duration of the wait can make it feel shorter).

Nonetheless, when it comes to direct information about the wait, the literature presents mixed results regarding its impact on the perceived duration of waiting, as well as various other factors (e.g., pleasantness, anxiety, reactions towards the wait…etc.) (Groth & Gilliland, 2006; Hui & Tse, 1996; Katz et al., 1991; Kumar et al., 1997; Stefanie Naumann & Miles, 2001; Peevers et al., 2009; Anita Whiting & Donthu, 2009). Furthermore, the literature presents conflicting results regarding whether the consumer

knows or doesn't know the cause of the wait. Some studies suggest that knowing the cause of the wait can cause positive reactions (Taylor, 1994) while other studies suggest that it can cause negative reactions (Folkes et al., 1987).

6. Unfair waits are longer than fair wait is

The literature support the claim that consumers can perceive unfair waits as longer than fair ones (J. Baker & Cameron, 1996; Jones & Peppiatt, 1996). Unfair waits can also impact the consumers in many ways. Indeed, it can be seen as an intentional affront (Sulek & Hensley, 2004), and decrease consumer satisfaction (Durrande-Moreau & Usunier, 1999; Kostecki, 1996).

7. The more valuable the service, the longer the customer will wait

Research confirms that the duration of the wait is closely linked to the perceived value of the service. In other words, the higher the value of the service, the longer the wait (Gavilán-bouzas & Garcia-Madariaga, 2009; Jones & Peppiatt, 1996; Koo & Fishbach, 2010). The typical example of this dynamic can be found in express-checkout counters in supermarkets. In this case, customers with a few articles are less tolerant to waiting than those with carts full of products. This is because the goods they are acquiring are of (relatively) low perceived value. Thus, they are only disposed to allocate a small amount of waiting time in order to acquire them (M. M. Davis & Heineke, 1994; Jones & Peppiatt, 1996; Maister, 1985). Another finding related to the point of interest is that the more the service is perceived as valuable, the lesser consumers react negatively to the wait (M. M. Davis & Heineke, 1994; Jones & Peppiatt, 1996)

8. Solo waits feel longer than group waits

The literature supports the claim that waiting alone feels longer than waiting in a group. Indeed, consumers waiting in a group appear to be more tolerant to waiting time (Gavilán-bouzas & Garcia-Madariaga, 2009).

It is important to highlight the fact that the positive impact of group waiting needs to be nuanced (K. S. Ahmadi, 1984). Indeed, since the early work of Maister (1985), some studies have shown that sharing the waiting experience with other consumers can be either positive or negative (K. S. Ahmadi, 1984; J. Baker & Cameron, 1996; Zourrig & Chebat, 2009). In fact, the social interactions while waiting can be experienced as positive or negative depending on the consumer. In some instances, the social interaction can be seen as a way to fill the time by the consumer. Nonetheless, in other cases, consumers can see the social interaction as an intrusion (J. Baker & Cameron, 1996).

9. Uncomfortable waits feel longer than comfortable waits

It was proposed that uncomfortable waits feel longer to the consumer than comfortable ones (M. M. Davis & Heineke, 1994). The literature supports this claim. Indeed, many factors showed to be efficient in lowering consumers perception of the waiting time such as lightning (Goldstone et al., 1978), room temperature (Mc Donnell, 2002), scent, and colors (Bellizzi et al., 1983; Gorn et al., 2004).

The comfort of the environment can also have a positive impact on many other factors related to consumers' experience of the wait such as a reduced stress level, an

improved evaluation of the service, and satisfaction (J. Baker & Cameron, 1996; Mc Donnell, 2002; Pruyn & Smidts, 1998).

10. New or infrequent customers feel that the wait is longer than frequent customers

The literature (Jones & Peppiatt, 1996) supports the claim that new and infrequent customers feel the wait as longer than frequent ones (M. M. Davis & Heineke, 1994). One of the reasons explaining this difference is that "frequent users will not be having uncertain waits as they have used the service before" (Jones & Peppiatt, 1996, p. 57). In contrast, new or infrequent customers do, indeed, experience uncertain waits. Due to this uncertainty, new and infrequent customers experience the wait as longer.

### *2.2.4. Influential factors: Before, during and after the wait*

In the previous sections we have defined the concept of waiting. We have explained the evolution of the research on waiting. We have also identified the main bodies of knowledge and literature treating the subject of waiting in services. Additionally, we have considered the many methodological approaches used in the study of waiting in services. Finally, we have identified the fundamental concepts that define consumers' waiting behavior in services and shown how empirical research has confirmed many of these fundamental concepts. In what follows, we will review the main findings made in the literature about the many aspects of waiting in services.

In this section, we organize the conclusions and findings made in the area of waiting in services using the approach followed by (Durrande-Moreau, 1999). Indeed, Durrande-Moreau's approach presents a useful, structured and comprehensive way of classifying the

different factors in play in waiting for services. Moreover, Durrande-Moreau's structure has been used in a large number of later works (Durrande-Moreau & Usunier, 1999; Fraser et al., 2008; Lin & Chang, 2011; Zourrig & Chebat, 2009). Therefore, by adopting such an approach we are opting for a way of conceptualization that is recognized and established in the field of waiting in services. In sum, in this section, we divide the different factors and interactions found in the literature within three categories, i.e., before, during and after the wait. Additionally, for each category, we will make the distinction between the personal factors and the situational factors impacting consumers' behaviors while waiting in services.

#### 2.2.4.1. Before the wait: Personal factors

##### *2.2.4.1.1. Personality*

Consumer's personality is one of the most important factors that have been investigated in the research on waiting. Indeed, the personality of the consumers has shown to have an impact on the way they reacted to the wait. The literature shows that there is a temporal dimension of personality that impacts a large variety of behaviors that can be displayed by the consumers (Durrande-Moreau & Usunier, 1999; Fraisse, 1984). Many areas of research have studied the link between personality, time and waiting. Fields such as Psychology (Calabresi & Cohen, 1968; Wessman, 1973), Anthropology (Graham, 1981) or marketing (Bergadaa, 1990; Holman, 1981; Settle et al., 1978) have all investigated the relationship between personality and time. All these contributed served as a foundation for the study of the impact of personality on waiting in the field of Consumer Behavior.

The early research on identity has identified two main different types of personalities (Friedman & Rosenman, 1974; Rodin, 1985). On the one hand, the individuals displaying the first type of personality are impatient, irritable, aggressive…etc. On the second hand, the persons displaying the second type of personalities are more conciliant and relaxed. Research has shown that those two types of personalities reacted differently to waiting (Bennett, 1998). Indeed, the first type of personality showed higher levels of frustration in waiting situations compared to the second type.

Another key contribution related to personality in waiting is the concept of "time styles" (Durrande-Moreau & Usunier, 1999). Time styles have been defined as "the general attitude towards time" (Durrande-Moreau & Usunier, 1999, p. 175). Time styles can be defined through their characteristic dimensions which are: economic time, orientation toward the past, orientation towards the future, time submissiveness, feeling of unusefulness of time. Time styles have been found to have an impact on consumers behavior in relation to waiting. Indeed, time style have shown to influence the state of mind with which consumers start waiting for the service, and that will, in turn, impact on the way they experience waiting.

#### *2.2.4.1.2. Types of consumers*

Based on Ad Hoc observations, Jones & Dent (1994) suggested 3 types of consumers. The first category of customer are the "watchers", that is, those customers who "enjoy the bustle and do not mind waiting too much" (Jones & Dent, 1994, p. 56). The second category are the "neutrals". These customers don't experience neither enjoyment

nor frustration. Finally, the third category are the "inpatients". They are customers that hate waiting. They can go to great lengths to avoid waiting and are more likely to complain about the service.

#### *2.2.4.1.3. Gender*

The research examining consumer gender differences in consumer behavior has found a significant impact of gender on behaviors related to time and waiting (J.-C. C. Chebat et al., 2010; Kellaris & Mantel, 1994). For instance, the literature has shown a significant difference in emotional response between men and women in specific waiting situations (J.-C. C. Chebat et al., 2010). Gender was also found to have an impact on the estimation of time duration (Kellaris & Mantel, 1994).

#### *2.2.4.1.4. Expectations*

In the seminal work of Maister (1985) we already find the that an important role is given to consumers' expectations in regard to waiting. Indeed, according to Maister, customers' expectations play a key role in their satisfaction about the service. In fact, for Maister, the satisfaction is nothing more than the difference between the consumer's perception of the service and his expectation (Bielen & Demoulin, 2007; Dellaert & Kahn, 1999; Maister, 1985). Therefore, the expectation of the consumers have a direct influence on their satisfaction as well as on their actual behavior in waiting situations (Bielen & Demoulin, 2007; Durrande-Moreau, 1999). Due to the important of consumer's expectations toward waiting, a number of indicators have been built (Yan & Lotz, 2006)

such as the "zone of wait tolerance', the "perceived wait duration' and the "wait disconfirmation" that all place expectations at the center of their conceptualization.

#### *2.2.4.1.5. Previous experiences*

One of the individual factors that influence the consumer's experience of the wait prior to him entering in a waiting situation is his previous experiences (M. M. Davis & Voilmann, 1990; Kostecki, 1996; Sarel & Marmorstein, 1999) in relation to this type of services. Indeed, previous experiences of the customer with the service shape their expectation. Thus, consumers come to expect waiting times that are similar to what they have experienced before in the same situation (Kumar & Krishnamurthy, 2008; Sarel & Marmorstein, 1999).

#### *2.2.4.1.6. Frequency and experience with the service*

As explained in the last section (2.2.3.) customers that are new to a service or that use at a very low frequency experience the wait as longer than consumers that are experienced in the service and use it frequently (M. M. Davis & Heineke, 1994; Jones & Peppiatt, 1996). Some of the reasons given to this difference of perception is that the frequent consumer is more familiar with the service. Therefore, he experiences less uncertainty about the duration of the wait and has more realistic expectations about the waiting time (Jones & Peppiatt, 1996).

#### *2.2.4.1.7. Perceived value of the service*

As previously explained (2.2.3.) the more the consumers perceives the service as being of high value, the more he is willing to wait (Maister, 1985). Moreover, the more

valuable the service the longer the consumer is ready to wait. Furthermore, the higher the value of the service the lesser consumers will react negatively to the waiting situation (M. M. Davis & Heineke, 1994; Jones & Peppiatt, 1996).

#### *2.2.4.1.8. Prior mood*

It has been shown that the mood of the customer, before taking part in a waiting situation has a real influence on his reaction to the wait (A. Borges et al., 2015; J.-C. Chebat et al., 1995; M. M. Davis & Heineke, 1994; Hui et al., 1997). Indeed, if a customer is in a good mood will be more tolerant towards waiting. Conversely, a consumer that is in a bad mood will show more frustration in a similar situation.

#### *2.2.4.1.9. Time pressure*

Facing a waiting situation, a consumer that is in a hurry will not react the same as a consumer that has time. Indeed, customers under time pressure will react more negatively to the wait and show higher frustration (Robert East, 1997; R. A. Feinberg & Smith, 1989; Gross, 1987; Mattson, 1982).

### 2.2.4.2. Before the wait: Environmental factors

Because there are very little interactions between the company and the customer before the latter takes part in the service there is very little factors than can count as situation factors, that is, factors from the environment that can influence the behavior of the consumer and that can be changed by the actions of the companies.

#### *2.2.4.2.1. Information about the waiting duration*

The one factor that is situational before the consumers gets in the waiting situation is the announcement of the time duration. Depending on the service the announcement can take different forms. For instance, in a restaurant, the customers can be informed that they will be seated in a few minutes. In public administrations, signs can indicate the estimate duration of the wait…etc.

Information about the wait can be important for the consumer. Indeed, as previously seen (2.2.3.) consumers don't like uncertain waits (Maister, 1985). Indeed, on the one hand, uncertain waits are stressful and feel longer. On the other hand certain wait feel shorter and are more pleasant for the consumer (Hui & Tse, 1996; Larson, 1987; Taylor, 1994).

Announcement about the duration of the wait before the wait begins can have positive impact on the consumer. In some cases, announcement can reduce the negative reaction of the consumer towards the wait (Hui & Tse, 1996). Nonetheless, there is no real consensus in regard to the effect of announcements. Indeed, the findings on that subject are inconsistent (Katz et al., 1991). Moreover, the effect of the announcements is not consistent across individuals, nor is it consistent across situation. Therefore, the findings on the announcements of waiting duration before the customer joins the service should be interpreted with caution.

### 2.2.4.3. During the wait: Pre Process, In Process and Post Process

Researchers have differentiated between three types of waiting, depending on the consumers' position in the wait. The three categories identified are pre-process waiting, in-

process waiting and post-process waiting (M. M. Davis & Maggard, 1990; Hui et al., 1998; Maister, 1985; Taylor, 1994).

Pre-process waiting is the waiting time that starts from the moment the client is ready to receive the service until the service is provided to him by the company (Church & Newman, 2000; M. M. Davis & Maggard, 1990). In-process waiting refers to the waiting time corresponding to the period during which the company provides to the consumer the service that has been asked for (Church & Newman, 2000; M. M. Davis & Maggard, 1990). Post-process waiting refers to the period stretching from the service has been provided to the client to the moment the client can actually leave (Dube-Rioux et al., 1989; Dubé et al., 1991).

The general assumption made by researchers is that in-process waiting is better than post-process waiting. Indeed, Maister (1985) defends that pre-process waits feel longer to the consumer than in-process waiting. Later work goes in the same direction, suggesting that pre-process wait impacts the satisfaction of consumers.

Nonetheless, the findings regarding pre-process, in- process, and post-process wait are quite inconsistent. Indeed, the effect of a consumer's position in the wait can be conditioned by the type of service involved or the perception of the consumer on how the delay might impact them (M. M. Davis & Maggard, 1990; Ellis et al., 2005; Maister, 1985).

#### 2.2.4.4. During the wait: Personal factors

During the wait, many factors that are internal to the consumer can affect the way they are experiencing the situation. In what follows, we go through the more important of these factors.

##### *2.2.4.4.1. Filling the wait*

As explained in the previous section (2.2.3.), unoccupied waits are better than unoccupied waits for the consumers' experience (Maister, 1985). When the consumer doesn't engage in any activity while waiting, time goes even slower for them (Miller et al., 2008). Conversely, consumers who keep themselves busy during the wait experience waiting time as more pleasant (Jones & Peppiatt, 1996; Taylor, 1994). In this section, since we are discussing the personal factors impacting the wait, we are not talking about external factors used by companies to influence the consumer (J. Baker & Cameron, 1996; Cameron et al., 2003; Durrande-Moreau, 1999). Instead, we are discussing the many actions that can be undertaken by the consumer, on his own initiative, to fill the wait. For instance, a consumer can read messages, listen to music or watch videos on his phone, engage in small talk with other people in a queue, read…etc.

##### *2.2.4.4.2. Positivity about the environment*

Consumers that have a positive perception of their physical environment will experience the wait as more agreeable (Pruyn & Smidts, 1993; Smidts & Pruyn, 1994). Nonetheless, it is important to highlight that we are discussing the internal factors impacting consumers' waiting and not the external ones (J. Baker & Cameron, 1996;

Cameron et al., 2003; Durrande-Moreau, 1999). Indeed, the consumers' perception of their surroundings has little to nothing to do with the actual environment. Instead, consumers apply their own subjective evaluation of the environment. When this subjective evaluation is positive, they tend to experience a more pleasant wait (Pruyn & Smidts, 1993).

#### *2.2.4.4.3. Responsibility attribution*

Many factors can cause waiting situations. In some cases, these factors can be within the control of the service provider. In other cases, the factors causing the wait are beyond the control of the company. This is the case when the wait is caused by an extremely slow customer in a queue (Folkes et al., 1987; Tom & Lucey, 1995), a technical malfunction in the IT System, or a mechanical failure in airlines company plane (Folkes et al., 1987). Regardless of if the delay is actually caused by the company of by incontrollable factors, it is the perception of the consumer who the responsible of the delay is that really matters. This perceived responsibility of the company or external factors is known as customer attribution (Taylor, 1995; Tom & Lucey, 1995). In this regard, it has been shown that, when consumers attribute the delay to causes other the service provider they experience the wait as more pleasant (Bitner et al., 1990; R East et al., 1991; Folkes, 1984, 1988; Folkes et al., 1987; Taylor, 1995; Tom & Lucey, 1995).

#### *2.2.4.4.4. State of mind and humor*

As preciously explained (section 2.2.4.5.8.), consumers' disposition plays an important role in their reaction to the wait. This is true before the consumer starts waiting but also when the wait has already started. Indeed, a positive state of mind or good humor

will reduce the negative reaction of the consumer while waiting (J.-C. Chebat et al., 1995; J.-C. Chebat & Gélinas-Chebat, 1995; M. M. Davis & Heineke, 1994; Hui et al., 1997). In fact, the consumers' disposition and humor is directly linked to their evaluation of the service (Cameron et al., 2003), that is, the better the humor the more positive the evaluation of the service. Moreover, consumers' state of mind has an impact on their evaluation of the waiting time (Hornik, 1992; Kellaris & Mantel, 1994).

#### *2.2.4.4.5. Anxiety*

As previously seen (2.2.3.), one of the most fundamental propositions made by Maister is about the role of feelings of anxiety in waiting. Indeed, Maister (1985) suggests that 'anxiety makes waits seem longer' (p. 4). The anxiety experienced by the consumer during the wait can have many causes (Jones & Peppiatt, 1996; Kostecki, 1996) such as being temperamentally sensitive to time and schedule (Mattila & Hanks, 2012; Usunier & Valette-Florence, 2007), not knowing the duration of the wait, or being late for work (Jones & Peppiatt, 1996).

#### *2.2.4.4.6. Urgency*

One of the key factors, occurring before the waiting situation, and that impacts consumers' reaction to the wait is the time pressure (2.2.4.5.9). Nonetheless, having little time doesn't only affect the consumer before the wait (Robert East, 1997; Gross, 1987; Mattson, 1982), but it also influences they behavior during the wait. Indeed, consumers that have urgent matters to attend show more interest toward the pace of time in the waiting

situation. They also tend to perceive the waiting time as longer than it actually is (Anita Whiting & Donthu, 2009).

#### *2.2.4.4.7. Perception of the service value*

Another factor that influences the behavior of consumers before the wait (2.2.4.5.7) has an impact on them during the waiting situation. This is the case for the perceived value of the service (Gavilán-bouzas & Garcia-Madariaga, 2009; Jones & Peppiatt, 1996; Koo & Fishbach, 2010). Indeed, when consumers have a more positive perception of the service value they show a more positive reaction to the wait and a disposition to wait longer (M. M. Davis & Heineke, 1994; Jones & Peppiatt, 1996).

### 2.2.4.5. During the wait: Environmental factors

Some of the factors impacting consumers' experience during the wait are situational, that is, they are not internal to the customer and originate from the surroundings of the consumer. These environmental factors are very important for companies because service providers can impact them. Indeed, companies have no agency over the personal factors impacting the consumer. Nonetheless, they have the possibility to modify the environment and the surroundings of the consumer in order to shape the waiting situation.

#### *2.2.4.5.1. Environment and sensorial factors*

The surroundings of the consumers can have an impact on the way in which they experiment the waiting situation. Many elements can be controlled by the companies in order to impact the perception of the wait. One of the main objectives pursued by service providers in this regard is to reduce the duration of the perceived waiting time.

Many elements of the physical environment of the consumer can be leveraged by the company to improve their experience of the wait. Among these elements we can find a number of sensorial factors such as the lighting (J. Baker & Cameron, 1996; Baron, 1990), the temperature (J. Baker & Cameron, 1996; Bell & Baron, 1977), the scent (Mc Donnell, 2002; McDonnell, 2007), the color (J. Baker & Cameron, 1996; Gorn et al., 2004), the furniture (M. M. Davis & Heineke, 1994) and the overall aspect of the waiting room or waiting space (Pruyn & Smidts, 1998).

The sensorial factors can be used to achieve many goals related to the improvement of the waiting experience of the customer. For instance, by lowering the lighting it is possible to make the waiting time seem shorter (Goldstone et al., 1978). Maintaining the temperature withing an optimal comfort level and allows to prevent the consumer from feeling additional negative emotions. Indeed, uncomfortable temperatures such as high temperatures (Hoagland, 1966) can have a negative impact on the consumer and can make the waiting time feel longer (Bell & Baron, 1977). A scented waiting room can make the consumers feel that they are wasting less time (Spangenberg et al., 1996) and improve their evaluation of the service (Mc Donnell, 2002). By using cold colors in the waiting space the service provider can help induce lower levels of stress related to the waiting situation and consequently cause the consumers to perceive the waiting time as shorter (J. Baker & Cameron, 1996; Bellizzi et al., 1983; Gorn et al., 2004). Finally, an attractive waiting room with comfortable furniture can help increase consumers' satisfaction and evaluation of the

service while making the wait feel shorter (J. Baker & Cameron, 1996; M. M. Davis & Heineke, 1994; Pruyn & Smidts, 1998).

#### *2.2.4.5.2. Filling the wait*

During the wait, besides the colors, lights, scents and other environmental factors discussed above, service providers can influence a number of other factors in order to shape consumer's experience of waiting. Indeed, one of the uses that can be made of the environment of the consumer is to fill the wait. Surely, as suggested by Maister (1985), unoccupied time feels longer than unoccupied time. Thus, by keeping the consumer occupied we can make the wait feel shorter. Among the elements leveraged by companies to fill the wait we can find the use of music, magazines, tv, and other electronic devices (Areni & Grantham, 2009; Cameron et al., 2003; J.-C. Chebat & Filiatrault, 1993; Katz et al., 1991; Kellaris & Kent, 1991; McDonnell, 2007; Pruyn & Smidts, 1998).

Nonetheless, it is important to highlight that there are conflicting results in the literature (Tom et al., 1997). In some situations (J.-C. C. Chebat et al., 2010) factors such as music can cause emotional responses such as an increased arousal or a drop in pleasure related to the waiting situation. These emotional responses can actually cause the consumers to perceive the waiting time as longer than what is acceptable for them. Other factors such as the use of TV in waiting rooms have shown to have very little impact. In fact, TV had almost no impact in distracting the consumers or improving their experience of the waiting situation (Pruyn & Smidts, 1998).

#### *2.2.4.5.3. Informing about the wait*

During the wait, information is one of the environmental elements that can be leveraged by companies to influence the waiting experience of their consumers. We have already discussed how the information about the duration of the wait can be used as an external factor to influence the consumer before the wait starts (2.2.4.6.1.). In what follows, we will see how information about the wait can be used to impact consumers' behavior during the wait.

Companies can provide both direct and indirect information about the wait. Direct information is the explicit information that is generally given about practical aspects of the waiting situation such as the expected duration of the wait, the customer's position in the queue or the motives of the delay. The results about the positive effect of direct information of the consumer about the wait are quite conflicted and inconsistent. The discrepancies in results are true for all three types of direct information, that is, information about the duration of the wait (Groth & Gilliland, 2006; Hui & Tse, 1996; Katz et al., 1991; Kumar et al., 1997; Maister, 1985; Stefanie Naumann & Miles, 2001; Peevers et al., 2009; Anita Whiting & Donthu, 2009; Winblad et al., 2010), information about the position in the queue (Hui & Tse, 1996; Munichor & Rafaeli, 2007; Anita Whiting & Donthu, 2009), and information about the reason of the delay (Groth & Gilliland, 2006; Maister, 1985; Seawright & Sampson, 2007). Indeed, some researchers support the positive impact of direct information about the wait (Groth & Gilliland, 2006; Hui et al., 2006; Maister, 1985; Stefanie Naumann & Miles, 2001; Peevers et al., 2009) while others support that there are

no positive aspects related to the information about the wait. Some even suggest that the information about the wait can have negative effects on the consumer (Groth & Gilliland, 2006; Hui et al., 2006; Hui & Tse, 1996; Katz et al., 1991; Kumar et al., 1997; Munichor & Rafaeli, 2007; Seawright & Sampson, 2007; Anita Whiting & Donthu, 2009).

Besides the direct information provided by the company, indirect cues can allow the consumer to stay informed (J. Baker & Cameron, 1996; Sarel & Marmorstein, 1999). The indirect information of the consumer about the wait can be done either through employees visibility as well as their perceived effort (J. Baker & Cameron, 1996; Sarel & Marmorstein, 1999). Unlike direct information about the wait, indirect information has shown to have a real impact on the consumer. Indeed, the more the employees of the company are visible, the shorter the consumers will perceive the waiting time. Moreover, the more the consumers perceive the employees as working hard to reduce the wait the better their reaction to the wait will be.

#### *2.2.4.5.4. Apologies and attribution of delays*

The delays occurring in a service can be caused by the service providers. They can also result from external factors over which the company has no agency. In the face of delays and waiting time, the company can react in several ways. Indeed, the company can either own the delay and take responsibility of it or deflect its responsibility (assuming that the company did, in fact, play a role in the delay imposed on the consumers). When it is responsible of the delay, the company can also choose to apologize or not. In this section we will focus on consumers' relationship with waiting and service providers responsibility.

We will also pay attention to consumer's reaction to apologies from companies about delays and waiting time (J.-C. Chebat et al., 1995; Folkes et al., 1987; Taylor, 1994).

It is important to highlight that there is a difference between the actual responsibility in regard to the wait and the responsibility attribution. Indeed, either they are informed or not, consumers will try to find a responsible for the wait. Regardless of who is, in fact, responsible of the delay, the consumers will attribute the responsibility either to the service provider or to external factors (Taylor, 1994). The consumers will also try to identify the cause of the wait and whether the company has control over the situation and can reduce the waiting time (J.-C. Chebat et al., 1995).

One of the main findings on the attribution of delays is that the more the company is perceived as the cause of the delay the more the evaluation of the service is negative (Taylor, 1994, 1995). Nonetheless, all the results are not as clear and definitive. In fact, most of the results related to the other aspects of delay attribution are inconsistent. For instance, regarding the delay attribution, some studies conclude that react positively when the cause of the delay is established (Taylor, 1994). Conversely, other studies found that establishing the cause of the delay actually caused negative reactions from the customers (Folkes, 1984).

Regarding the company's apologies about delays and additional waiting time the literature vouches in favor of a positive effect of apologies. Indeed, the apologies can alleviate negative feelings caused by the delay (Sarel & Marmorstein, 1999). Nonetheless, this positive effect of apologies is conditional. Indeed, the service providers apologies will

have no effect on the consumers' negative reactions to the wait or their perception of the duration of the wait unless the customers perceive an effort on part of the company. Nonetheless, when the apologies of the company are accompanied by a compensation, consumers reaction is clearer. Indeed, when the company apologies to the consumer and rewards them this increases their satisfaction as well as their positive feelings toward the company (Yan & Lotz, 2006).

#### *2.2.4.5.5. Design of the queue*

Most often than not, waiting groups in physical spaces (such as stores) take the form of queues. As a result, the large majority of the studies on waiting are focused on queues (Alexander et al., 2012; Avi-Itzhak & Levy, 2004; Bekker et al., 2011; Groth & Gilliland, 2006; Katz et al., 1991; Luo et al., 2004; Mann, 2002; Schmitt et al., 1992; Sciences & Zhang, 2009).

We can identify two types of queues, i.e., multiple queues and unique queues. A single queue (unique line) is a configuration where customers wait in a common line and are served in the order of their arrival, while a multiple queue involves the presence of separate queues corresponding to different service points (Rafaeli et al., 2002). In this regard, no significative difference has been found between the two types of queues on customers' reaction to the wait (Hornik, 1984; Pruyn & Smidts, 1993).

Nonetheless, the type of queue is not the only factor related to queue design that impacts consumers' waiting behavior. Indeed, the literature has identified 5 factors that impact the experience of the consumer in the queue. Those factors are social justice, queue

progress, queue design, queue environment and information about the queue (J. Baker & Cameron, 1996; Homans, 1974; Jacoby et al., 1971; Larson, 1987; Mann, 1969; Rafaeli et al., 2002; Soman & Zhou, 2002). By promoting creative queue designs (Larson, 1987) and conceiving queues that optimize these factors, companies are able to have a positive impact on the waiting situation. For instance, service providers can modify the spatial structure of the queue to create such a positive impact. Indeed, the literature suggests that a spatial distribution of the queue that conveys an impression of social justice will cause more positive reactions of the consumers as well a shorter perception of the waiting time. In the same way, if the queue is designed in such a manner that the consumers perceive a smooth and steady queue progress their reaction will be more positive and their perception of the waiting time shorter.

#### 2.2.4.6. After the wait: Affective response, reaction and service evaluation

Besides consumer behavior before and during the wait, researchers have also studied consumers' responses after the wait (Durrande-Moreau, 1999). For instance, it is in this phase that comes after the wait that the consumer will evaluate how the service has been carried out and form his evaluation of the waiting situation (Buonanno, 2010; M. M. Davis & Heineke, 1994; Taylor, 1994). The way in which consumers process their experience of the wait in the 'after wait" phase follows a certain sequence. First, the waiting situation generates affective responses in the consumer (Folkes et al., 1987; Maister, 1985; Taylor, 1994). Secondly, these affective responses to the wait will cause the consumer to

(1) react to the service in a way or another (Bielen & Demoulin, 2007; Folkes et al., 1987; G. M. Rose et al., 2008) and to (2) produce his evaluation of the service (Taylor, 1994).

The literature has identified many affective responses of the consumers to the wait. Some of these affective responses are negative such as stress, anxiety, frustration, anger, loss of control…etc. (Abrahamse & Steg, 2009; Katz et al., 1991; W. Lee & Lambert, 2006; Maister, 1985; B. Schwartz, 1975; Taylor, 1994). Some other affective responses are neither positive nor negative (Ryan et al., 2015). This is the case for feelings such as indifference. There are also positive affective responses to the wait such as attractiveness (Kostecki, 1996) and perception of service quality (Chuo & Heywood, 2014; Gavilán-bouzas & Garcia-Madariaga, 2009; Kostecki, 1996; Rafaeli et al., 2002).

All these affective responses to the wait can cause the consumer to react to the waiting situation in several ways. Indeed, these affects can impact positively or negatively, a variety of behaviors such as future visit frequency of the selling point, recommendation and word-of-mouth (M. M. Davis & Heineke, 1994; M. M. Davis & Voilmann, 1990; Heineke & Davis, 1998), attitude towards the brand (G. M. Rose & Straub, 2001), loyalty (Bielen & Demoulin, 2007), service abandonment (Dabholkar & Sheng, 2008b; Munichor & Rafaeli, 2007; Rajamma et al., 2009; Soman & Zhou, 2002; Zhou & Soman, 2003; Zohar et al., 2002), sales point re-visit and (Casado Díaz & Más Ruíz, 2002), consumption habits (R East et al., 1991; Robert East et al., 1994), complaints (Casado Díaz & Más Ruíz, 2002; Folkes et al., 1987).

Consumers' affective responses to the wait also impacts consumers' evaluation of the service, that is, customers' global satisfaction about the quality of the service provided (Groth & Gilliland, 2006; Sheu et al., 2003; Sheu & Babbar, 1996; Unzicker, 1999). Depending on a variety of factors, this evaluation of the service might be positive or negative (Antonides et al., 2002; Cameron et al., 2003; Dellaert & Kahn, 1999; Houston et al., 1998; Sheu & Babbar, 1996; Taylor, 1994, 1995).

## 2.3. Marketing on the Internet

In this section, we aim to present an overview that will allow us to provide a framework for subsequent examination of waiting in the more specific context of the Internet.

### *2.3.1. Original concepts of marketing on the Internet*

With the development of communication technologies and the Internet, the 90's saw an explosion of concepts related to the practice of business and marketing on the Internet. The more general concept originally proposed is the concept of "e-business". It is the most englobing concept developed because it is related to all the managerial, business and marketing practices that can be deployed by companies and organizations. Moreover, "e-business" is the most general concept proposed because it includes all the information technologies and tools developed at that time. Internet is, indeed, one of the key technologies used in e-business. Nonetheless, it is not the only one (El-gohary, 2010; Y. Lee et al., 2012).

In the same period, another concept, more specific than e-business has emerged, that is, the concept of "e-commerce". The difference between 'e-business' and 'e-commerce' is that the latter is limited to a particular set of managerial practices such as customer service, business collaboration, marketing, etc. Finally, the more specific concept that has emerged in this era is the concept of "e-marketing". The concept of "e-marketing" can be defined as the result of the application of information technology, such as the Internet, and its use for marketing purposes (Seargeant & Tagg, 2014; J. Strauss et al., 2003; Tagg, 2015). Other terms can be used to refer to 'e-marketing' such as online marketing, web marketing or marketing on the Internet.

In the early 2000's the way the World Wide Web is conceived and used will know a significant change. Indeed, both users and developers started to use the Internet in a way that largely differs from the way it was used before (Kaplan & Haenlein, 2010). In effect, prior to this change, content and applications were developed by individuals and developers who would create them and then published them. Nonetheless, after this turning point, content, platforms and application were continuously modified by all users in a participatory manner. This significant evolution will mark the start of the era of the Internet 2.0 (Alalwan et al., 2017; Kapoor et al., 2018).

In this work, either we are talking about the 1.0 or the 2.0 Internet era, we will use the term 'e-marketing' interchangeably with the other terms that share the same meaning such as online marketing, web marketing, or marketing on the Internet.

### *2.3.2. Importance of the research of Marketing on the Internet*

The study of web marketing has drawn the interest of many researchers. In fact, it is one of the most important bodies of knowledge studied in marketing in the last decades. This importance of the study of marketing on the Internet is due to many reasons. One of the main reasons of the interest of researchers for marketing on the Internet is the crucial role Internet plays in the economy, society, consumers' daily life, and companies survival and success (Clarke, 2000; Hajarian et al., 2021; Hinz et al., 2011). For instance, in 2019 alone, more than 333 billion USD have been spent on digital marketing by companies. Moreover, the budget allocated to digital marketing are expected to keep going up to reach more than 517 billion USD in 2023 (Hajarian et al., 2021).

The interest of Internet in the field of marketing is not recent. Surely, a large number of articles have been treating the subject since its early days (Coomber, 1997). The interest for web marketing didn't fade, quite the opposite (Ngai, 2003; Parasuraman & Zinkhan, 2002). The research on the subject kept growing and adapting to the evolutions of the technology and use of the Internet by consumers and marketing practitioners alike (L. R. Baker & Oswald, 2010; C. P. Chen, 2013; Clarke, 2000; El-gohary, 2010; Frisby et al., 2002; García-Crespo et al., 2010; Kao, 2009; Oliveira & Henderson, 2003; Parasuraman & Zinkhan, 2002; Rajamma et al., 2009).

### *2.3.3. Consumer Behavior on the Internet*

Consumers' behavior online is one of the central issues treated in the research on marketing on the Internet (Fuciu, 2015; García-Álvarez et al., 2015; Haugtvedt et al.,

2005). Indeed, researchers have been investigating the behavior of online consumers for more than 2 decades (Stone & Abbott, 2002) and the interest for the subject is as strong as ever (Y. K. Dwivedi et al., 2021). A large number of different topics have been studied in the area of online consumer behavior such as understanding the consumers' behavior online (Novak et al., 2000; Strader & Hendrickson, 2001) and identifying Internet users (J. Chang & Samuel, 2006; C. Dennis et al., 2002; Jayawardhena et al., 2003), their motivations (Lohse et al., 2000; Morganosky & Cude, 2000; Phau & Meng Poon, 2000), their use of the Internet, the products sold on the Internet (Einwiller, 2003), online consumers' types and profiles (Phau & Meng Poon, 2000; Rowley, 2000), consumers' online experience (Novak et al., 2000; Rettie, 2001), online search behavior (Jiang, 2002; Ward & Lee, 2000), consumers reaction to online advertising (Goldsmith & Lafferty, 2002; Jill Austin & Lynn Reed, 1999), virtual presence (H. Li et al., 1999, 2003), online banking (Mols, 1998; Sathye, 1999), online shopping (Deshprabhu -Sadekar & Pereira, 2018; Kolesar & Galbraith, 1108; Morganosky & Cude, 2000; Waite & Harrison, 2015), and consumers' use of the Internet as a business environment (Fuciu, 2015).

It is important to highlight that the research on consumer behavior online follows the evolution of the technology, and the habits related to the use of Internet by consumers and companies. Thus, a strong tendency of the research is its growing interest for social media (Abed et al., 2015; Alalwan et al., 2017; Batrinca & Treleaven, 2014; Fotiadou et al., 2014; Goh et al., 2012; Legewie & Nassauer, 2018; Mohammadian & Mohammadreza, 2012; Poecze et al., 2018; Wilson et al., 2012; Y. Q. Zhu & Chen, 2015) and its more recent

forms such as online live streaming (Bründl & Hess, 2016; Friedländer, 2017b; J. S. Lim et al., 2020; Z. Lu et al., 2018).

### 2.4. Marketing and social media

Social media can be defined as user-driven platforms that facilitate the diffusion of the content, dialogue, creation, and communication to a large number of users (Kapoor et al., 2018). Social media is, by definition, a digital space on the Internet. It is an environment that encourages interactions and networking. Some of the more recognizable social media platforms are Facebook, Instagram, WhatsApp, YouTube, linked in…etc. (Kapoor et al., 2018).

We can identify different types of social media (Kaplan & Haenlein, 2010):

- Blogs, collaborative projects (e.g., Wikipedia)
- Content communities (e.g., YouTube)
- Virtual Social Worlds (e.g., Second Life)
- Virtual Game Worlds (e.g., World of Warcraft)
- Social Networking Sites (e.g., Facebook)

Because of their importance and their role, social media have been largely studied in marketing). Within this field, researchers have investigated a large variety of subjects such as the behavioral aspects of social media use consumers' intentions. Researchers have also studied a variety of factors allowing to explain, influence and predict social media use. Some other aspects related to marketing have drawn significant interest in the study of

social media such as the interaction between organizations, customer participation and patronage, word to mouth, consumer engagement, satisfaction (A. R. Dennis et al., 2016).

**2.5. Marketing and online live streaming**

Online live streaming is an online media that is used to broadcast and record video and audio content in real time It is a Social Network System (SNS) and a type of social media (Hsu et al., 2020; Zimmer, 2018). Some of the most known online live streaming platforms are Twitch (Hu et al., 2017; Recktenwald, 2017), YouTube Live, Facebook Live (Legewie & Nassauer, 2018), Instagram Live…etc.

Live streams usually involve a broadcaster that uploads a video in real time (Hu et al., 2017) while playing video games, performing a daily task, singing, playing an instrument, dancing…etc. Live streams also involve viewers. The viewers are an audience that watches the video, makes comments and interacts through a text-based chat room.

Live streaming platforms present a number of characteristic features (Scheibe et al., 2016; Zimmer et al., 2018). These features come as follows:

- Are Synchronous
- Allow the users to broadcast content in real-time
- Allow the users use their own devices
- Allow the viewers to interact with the broadcaster and with other members of the audience via chat
- Permit to reward the broadcaster with points, badges, or money

- Support gamification mechanics and dynamics (Woodcock & Johnson, 2018).

Due to its importance, online live streaming has drawn rapidly increasing interest from researchers in the fields of marketing and Consumer Behavior (Bründl et al., 2017; Cai et al., 2018; C. Y. Lu et al., 2020; Y. shen Wang, 2019; Anne Whiting & Deshpande, 2016). Within these fields, a large number of subjects and research questions have been raised. Among the subjects studied we can find the different types, categories, profiles and characteristics of users and communities utilizing online live streaming platforms (Chatzopoulou et al., 2010; Hilvert-Bruce et al., 2018; Scheibe et al., 2016; Wohn et al., 2018; Zimmer, 2018; Zimmer et al., 2018), user's behavior in online live streams (Apablaza-Campos & Codina, 2018; J. S. Lim et al., 2020; Scheibe et al., 2016; Sjöblom et al., 2017), users' motivations (Friedländer, 2017b; Hu et al., 2017; Kaytoue et al., 2012; Y. Li et al., 2020; Q. Zhao et al., 2018), the livestream platform (Ham & Lee, 2020; Y. Li et al., 2020; Pires & Simon, 2015; Scheibe et al., 2016; Zimmer, 2018; Zimmer et al., 2018), the interaction between the audience and the broadcaster (Recktenwald, 2017) and between users (L. S. Chen & Pan, 2019; Diwanji et al., 2020; Z. Lu et al., 2018), user experience (Y. shen Wang, 2019), viewer participation and enjoyment (Wulf et al., 2020), donation behavior (Gros et al., 2017), waiting in social media purchase behavior (Ma & Mei, 2019), streamer gift value and gift sending (Z. Zhu et al., 2017) and emotional, instrumental and financial viewer support (Wohn et al., 2018).

## 2.6. Waiting on the Internet

In the previous section we have examined the literature on the broad subjects of marketing (2.3.) and consumer behavior (2.3.3) on the Internet. In what follows we will focus on a specific aspect of consumer behavior on the Internet, that is, waiting. Indeed, waiting is at the heart of this project. Therefore, an investigation of the different aspects of waiting in the context of the Internet is a necessity for the present work.

The early work on waiting suggests that waiting has an important effect on e-commerce as a sector activity. This effect is believed to be negative. Indeed, many researchers defend that waiting hinders the growth of the commercial activities on the Internet (Dellaert & Kahn, 1999; G. Rose et al., 1999; G. M. Rose & Straub, 2001; Sears et al., 1997; P. Selvidge, 1999). In fact, waiting is believed to cancel some of the main benefit that the consumers seek the use of Internet, that is, the convenience of use and time saving (Dabholkar, 1996; Foucault & Scheufele, 2002). Waiting also has a number of adverse effects on the online consumer such as frustration, abandonment of the service/website, interruption of the 'Flow' and the interactivity, reduction of the trust in the security and safety of the website/platform (Bluedorn et al., 2011; Kaufman-Scarborough & Lindquist, 2002; Rettie, 2001; Stewart & Pavlou, 2002; Van Beveren et al., 2003).

### *2.6.1. Fields of research*

One of the most important fields of study investigating waiting is marketing. Indeed, as previously seen (2.2.1.2.) an extremely large body of knowledge is dedicated to

the study of various aspects of waiting (J. Baker & Cameron, 1996; M. M. Davis & Voilmann, 1990; Dellaert & Kahn, 1999; Folkes et al., 1987; Hornik, 1984; Houston et al., 1998; Hui et al., 2006; Hui & Tse, 1996; Kumar et al., 1997; Maister, 1985; Pruyn & Smidts, 1998; Sarel & Marmorstein, 1999; Shareef et al., 2019; Taylor, 1994, 1995; Tom & Lucey, 1995).

In the same way, an important percentage of the articles on waiting on the Internet belong to the field of marketing (Dellaert & Kahn, 1999; Friedländer, 2017b; Harpstead et al., 2019; G. M. Rose & Straub, 2001; Schmitt et al., 1992; Weinberg, 2000). Nonetheless, the overall number of studies on waiting on the Internet in marketing remains small.

Different aspects of waiting on the Internet are also studied in other fields of research such as System Response Studies (Borella et al., 1997; Hoxmeier & DiCesare, 2000; Meyer & Hildebrandt, 2001; Perfetti & Landesman, 2001; Ramsay et al., 1998; Schleifer & Amick III, 1989; Sears et al., 1997; Sears & Jacko, 1998; P. Selvidge, 1999; P. R. Selvidge et al., 2002; Stanyer & Procter, 1999; Weiss et al., 1982), Internet Quality of Services (QoS) (Bhatti et al., 2000; A. Bouch et al., 2000; Anna Bouch & Sasse, 1999), Retail Marketing, Social Psychology, Web Design, Economics or Management and decision making (Bhatti et al., 2000; Anna Bouch & Sasse, 1999; Dellaert & Kahn, 1999; G. M. Rose & Straub, 2001; Weinberg, 2000).

### *2.6.2. Subjects and research questions*

The early articles studying waiting on the Internet almost exclusively focused one aspect, that is, the wait caused by download time (Dellaert & Kahn, 1999; G. M. Rose &

Straub, 2001; Weinberg, 2000; Weinberg et al., 2003). Therefore, the initial research on waiting on the Internet is very limited in scope. Indeed, download time alone is not sufficient to understand all the mechanisms and interactions in play when consumers wait on the Internet. Moreover, the technological advancements and the evolution of the Internet after the turning point toward the Internet 2.0 makes the study of delays obsolete to a large degree. In effect, the speed of connections used nowadays is infinitely faster than the connections found in the period where the first articles about waiting on the Internet were written. As a result, the delays caused by slow charging times (slow website page charging for instance) are not an issue anymore because these charging delays don't exist anymore.

Later work has attempted to respond to more diverse and more complex questions related to waiting on the Internet. For instance, some projects have attempted to widen the specter of research on the subject (Ryan & Valverde, 2003) and to widen the definition of waiting on the Internet and to unveil more online waiting situations (Ryan & Valverde, 2005). Others have proposed holistic theoretical frameworks (Ryan, 2004), and investigated consumers' emotional reactions to the wait (Ryan et al., 2015). Other research studied a wide variety of waiting situations, consumer type of reactions to the wait (e.g., positive and negative responses), and consumers waiting in specific contexts such as online banking (Demoulin & Djelassi, 2013) or Facebook brand communities (FBC) while waiting for product delivery.

## 2.7. Waiting in social media and online live streaming

Very few studies have studied waiting in social media in general, and in online live streaming in particular. Many reasons can explain the limited number of studies on these subjects. We will see the reasons in what follows. We will also elaborate on the results and findings made to this day.

### *2.7.1. Waiting in social media*

As previously explained, there are very little studies on waiting in social media. This is due to the fact that waiting is a somehow limited area of research. This is particularly true when we focus on waiting in our specific field, that is marketing. The limited scope imposed by the combined areas of research leave a very narrow space for investigation. Consequently, few researchers engage in the investigation of such a specific and specialized subject of research.

Moreover, as previously seen (2.3.1.), the number of articles on waiting on the Internet within the field of marketing is relatively small (Bielen & Demoulin, 2007; Dellaert & Kahn, 1999; Demoulin & Djelassi, 2013; Fagundes, 2017; Mahmud & Rumman, 2020; Pàmies et al., 2016b; G. M. Rose & Straub, 2001; Ryan et al., 2018; Schmitt et al., 1992; Weinberg, 2000). The early investigation of waiting on the Internet in marketing is mostly concerned with questions related to page download delay. Furthermore, this early research has been deployed in the era of the Internet 1.0, a period when social media didn't exist. Thus, if we take away this early work and keep only the articles that treat of social media, we are left with very few papers.

In fact, to the best of our knowledge, there is only one relevant article that belongs to the area of marketing and that treat the subject of waiting in the context of social media. The article has been written by Mahmud & Rumman (2020). The article is a Netnographic study that treats questions related to, social media, waiting, and the positive aspects of waiting. In this work, Mahmud & Rumman (2020) have assessed the existence of positive effects of waiting on the consumer, alongside with the negative effects of waiting. The authors have also identified 13 waiting behaviors that are specific to waiting online in social media (e.g., whining, quitting, justifying, loving, cheerleading, etc.).

The study has been carried on a Facebook brand community which members shared and interacted consistently on the social media platform. The members of the Facebook brand were exchanging about a waiting situation related to the delivery of a product ordered on the Internet.

### *2.7.2. Waiting in online live streaming*

As seen in the previous section, in the field of marketing, the literature on waiting online in social media is extremely limited. Only one reference treating the subject was found. Online live streaming is, by definition, a type of social media. Therefore, the search of articles on online live streaming adds an additional criterion and a higher level of difficulty to an already difficult search.

In fact, we didn't identify any article that investigates waiting in online live streaming platforms in the field of marketing. One of the reasons for the unavailability of any article on our matter of interest is that there is already a limited number of articles in

marketing about waiting on the Internet (Demoulin & Djelassi, 2013; G. M. Rose & Straub, 2001; Ryan et al., 2015) and waiting in social media (Mahmud & Rumman, 2020), let alone waiting in the specific form of social media that is online live streaming. Another reason behind the lack of publications on our subject of interest is its novelty. Indeed, the development of the research on online live steaming is extremely recent. In fact, most of the articles on the subject have been published in the last three years. Therefore, if we combine our very narrow area of research on waiting in online live streaming in marketing to the very recent development of the field of study of online live streaming, we can understand how finding any relevant resource was made impossible.

Nonetheless, far from being an issue, the lack of literature on our subject of research is, in fact an opportunity. Indeed, the literature clearly shows the importance of online live streaming in marketing. The fact that no research has been done yet on a subject of such importance shows a real necessity and a great potential for our investigation.

## 2.8. Qualitative research and online live streaming

### *2.8.1. Research on social media*

#### 2.8.1.1. Definition, importance, and interest of the study of social media

Facebook, Instagram, WhatsApp, YouTube, linked in, are some of the applications that first come to mind when we think about social media.

The pervasiveness of social media is well established. They are, indeed, an increasingly important part of people's daily lives and they influence its many aspects and dimensions: Social, professional, educational, political...etc. They are also of great

influence in a variety of settings such as entrepreneurship, venture capitalism or purchasing/selling behavior. For these reasons and because of its relevance to various stakeholders and the many consequences associated with its use, social media have drawn a great interest from practitioners and researchers alike (Abed et al., 2015; Constantinides et al., 2013; Y. Dwivedi et al., 2015; Kapoor et al., 2018; Shareef et al., 2019).

Many studies have attempted to define social media (Bhatti et al., 2000; Lundmark et al., 2017; Schlagwein & Hu, 2017; Spagnoletti et al., 2015; Q. Tang et al., 2012; Wakefield & Wakefield, 2016; S. X. Xu & Zhang, 2013). Considering all these propositions Kapoor et al. (2018) have suggest a definition that considers social media as "made up of a variety of user-driven platforms facilitating the diffusion of content, dialogue creation, and communication to a broader audience, (...) a digital space created by the people and for the people, and provides an environment that is conducive for interactions and networking to occur at different levels" (Kapoor et al., 2018, p. 536). These different levels of interaction can be personal, professional and can occur at a business, marketing, political, and societal level.

Social Networking Services or Social Networking Sites (SNS) are "web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system." (D. M. Boyd & Ellison, 2007, p. 211). SNS are a sub-category of social media (Zimmer et al., 2018). The difference between social media and SNS is that SNS is specifically

characterized by its public display of connections, and by being a sub-category of social media (Y. Zhang & Leung, 2015). Kaplan & Haenlein (2010) defined different categories of social media based on their media richness and social presence, with SNS being one of them. Indeed, SNS are one of the eight mediums generally accepted for social media (i.e., (1) SNS, (2) blogs, (3) wikis, (4) podcasts, (5) forums, (6) content communities, media-sharing and social bookmarking sites, (7) Micro blogs, and (8) (effective worlds) (Mohammadian & Mohammadreza, 2012; Naylor et al., 2012; Saravanakumar & SuganthaLakshmi, 2012). The present study is taking place on a YouTube live stream. According to the literature, YouTube live has been defined as Social Live Stream Service (SLSS) (K. Fietkiewicz & Stock, 2019). SLSS are "social media which combine Live-TV with elements of Social Networking Services" (Zimmer et al., 2018, p. 430). Thus, YouTube live streams are a particular type of social media that also presents SNS characteristics (Scheibe et al., 2016)(See 2.5.2.1.).

#### 2.8.1.2. Fields of research studying social media

Social media and SNS have been used extensively in many fields of research. Nonetheless, most of the articles using and studying social media are from the fields of Computer (Spagnoletti et al., 2015) and Information Science (D. M. Boyd & Ellison, 2007; Weerasinghe & Hindagolla, 2018) and Marketing (Y. Dwivedi et al., 2015; Kapoor et al., 2018; Y. Zhang & Leung, 2015), Psychology (Błachnio et al., 2013; Mancinelli et al., 2020; Piotrowski, 2016; Wilson et al., 2012), Communication (Y. Zhang & Leung, 2015) and

Management (K.-S. Kim et al., 2014) are also fields where social media and are largely used and studied.

Some other major areas focusing on social media platforms such as Facebook are: Education (Zulkanain et al., 2019), health (Blunt-Vinti et al., 2016), disease management, mental health (D. A. Baker & Algorta, 2016; X. Q. Yin et al., 2019), addiction/problematic use and well-being (Calvo & Carbonell, 2019; D'Arienzo et al., 2019; Piotrowski, 2016; Saiphoo et al., 2020).

#### 2.8.1.3. Themes and subjects of research in social media

Within the fields of research previously discussed, the different studies have investigated many subjects related to social media. A large part of these studies have investigated the behavioral aspects of social media use (Kapoor et al., 2018). These studies try to understand various aspects of social media users' behavior such as their motives (Brandtzæg & Heim, 2009; Cheung et al., 2011; Friedländer, 2017a; Hollenbaugh & Ferris, 2014; J. H. Kim et al., 2010), and their intentions (P. F. Chang et al., 2015; Chiu & Huang, 2015; Maier et al., 2015; Matook et al., 2015; Turel & Serenko, 2012), as well as the factors influencing (Wakefield & Wakefield, 2016; Y. C. Xu et al., 2014), explaining (Kreps, 2010; Shi et al., 2015; Stieglitz & Dang-Xuan, 2013; Zeng & Wei, 2013), and allowing to predict social media use (A. Chen et al., 2015).

Alongside the behavioral aspects of social media, their use in marketing is one of the subjects that has drawn significant attention: The interaction between customers and organizations (García-Crespo et al., 2010), the user and market generated content's impact

on purchase expenditure (Goh et al., 2012), customer participation and patronage (Ramkumar et al., 2013), the importance of and link between word to mouth and consumer engagement and satisfaction (A. R. Dennis et al., 2016) are just some of the many subjects treated in the investigation of the role of social media in marketing.

Some other important themes of research involving social media are reviews and recommendations, impression management and friendship management, network and network structure, participation in online communities, traditional vs social media, bridging online and offline networks, organizational impact, value creation, interaction with public bodies, critical and extreme events management, privacy, risk concerns and negative stigma around social media, social media for help...etc (Kapoor et al., 2018; Y. Zhang & Leung, 2015).

Going through the literature, it is easy to see that both marketing and behavioral research are key areas of study of social media. This is important to us because our work belongs to the field of consumer behavior that is at the cross section between marketing and behavioral studies. This strengthens our case by supporting the interest, importance and relevance of this work for its field of reference as well as for the study of social media.

**2.8.1.4. Methodological approaches and methods used in the study of social media**

The research on social media relies largely and predominantly on quantitative methods. In their 2015 review, Zhang and Leung found that 75% of the articles on this subject used quantitative methods. Only 7,1% use mixed methods while no more that

11.9% use qualitative methods. Between quantitative, qualitative and mixed methods 94% of the literature is empirical and relies on primary data. The final 6% of the articles is made up of conceptual articles and critical discussions.

Subsequent work has confirmed the domination of quantitative methods in this field of research. In their study Kapoor et al. (2018) examined 132 publications on social media, of which an overwhelming majority of 110 articles use quantitative methods. This is of great importance to our work. It shows that the investigation using qualitative methods is very limited in the research on social media. It could be suggested that the limited methodological variety substantially impedes the advancement of knowledge on the topic of research.

Moreover, the majority of these quantitative articles on social media rely on surveys, analytical techniques and experiments. Based on the literature it is clear that surveys are prevalent and constitute an important part of the literature if not the most important. As we can see in Zhang and Leung's literature review, the "Survey/Questionnaire was the most frequently used method (54.8%)" (Zhang & Leung, 2015, p. 1012). Nonetheless, this dominant choice isn't without limitations. In fact, "since the self-administrative survey/questionnaire is usually preferred by social media researchers, in most cross-sectional designs it will lead to certain difficulties in interpretation of data" (Zhang & Leung, 2015, p. 1018). This difficulty in the interpretation of data is even more relevant knowing that cross-sectional studies represent the large majority of articles in the literature in general and in this study in particular where it

constituted more than 65% of the articles reviewed. This shows that the literature heavily relies on administration and analysis methods that have substantial limitations. Every methodology and method having its own strengths and weaknesses, we suggest that these limitations can be balanced by enriching the literature using methodologies and methods that don't have those same limitations. Hence, this work aims to contribute to this field of research by using a qualitative approach.

Finally, within the category of quantitative methods, the investigation frequently relies on experiments. According to Zhang & Leung (2015), experiments are the next most used quantitative method after surveys. Based on this work, experiment-based articles alone represent more than all the qualitative ones combined (16.7% for the former versus 11.9% for the latter). One of the key limitations of experiments (and surveys), is that they don't investigate the consumer's behavior in its natural setting. Conversely, qualitative methods focus on the consumer in his natural setting (Miles & Huberman, 1994). Therefore, the qualitative approach we are proposing in this work allows us to address that point, thus, allowing for a holistic understanding of waiting online.

The limitations of the current widely used approaches and methods suggests that we would benefit from further research of social media with a broader range of methods. Indeed, a qualitative approach would help overcome the limitations of the overriding focus of current methods facilitating a new perspective and enriching the literature. We believe that the methodology and method we are adopting in this work, i.e., qualitative research using Grounded Theory, will fulfill these objectives.

### *2.8.2. Research investigating online live streaming*

In what follows, we will review the main concepts related to online live streaming as well as its importance and the main reason encouraging its study.

#### 2.8.2.1. Definition, importance, and interest of the study of online live streaming

Online live streaming, also referred to as Social Media Live Streaming (SMLS) (Apablaza-Campos et al., 2020; Apablaza-Campos & Codina, 2018), social live streaming services (SLSSs) (Scheibe et al., 2016), or live webcasting (C. Y. Lu et al., 2020) can be defined as online media broadcasting and recording video and audio content in real time (Hsu et al., 2020). It is a Social Network System (SNS) and a type of social media (Zimmer, 2018). It falls under the definition and holds the characteristics of Social media and Social Network System (SNS) as we already discussed in the last section. Nonetheless, it goes beyond that and presents distinctive aspects and features of its own. This makes it, undoubtedly, a distinct media and a subject of research in its own right.

In the few last years, online live steaming has gained a large audience and has become a highly profitable media and service (Hsu et al., 2020). Not only has it been a global economic phenomenon, it also has had a deep social impact (Hu et al., 2017). The platforms supporting these media are now ingrained in the users' digital life and have

become an "online necessity" for millions of users all around the world (S. Lim et al., 2012).

Besides the increasing and large number of users, the study of online streaming is of interest because it challenges traditional media as we know them (Sjöblom & Hamari, 2017; Spilker et al., 2020). Indeed, the transition from traditional media, like television and radio, to social media and streaming services is a major theme in media research (Spilker et al., 2020). Online live streaming raises many questions for both researchers and practitioners. As explain by Spilker et al. (2020), "a crucial concern has been how to understand the emerging forms of flexibility and interactivity that characterizes the use of new media platforms" (p. 605). Therefore, online live streaming challenges traditional media through the introduction of new audience practices and new ways of viewing and engaging with the media content that are both more flexible and more interactive.

Additionally, it is a new media genre (Y. shen Wang, 2019) that hasn't been sufficiently studied (Hu et al., 2017) and for which the research is still in its early days (W. A. Hamilton et al., 2014). Indeed, while the many aspects of traditional interactive social media have been well documented, this is not yet the case for this novel area of research that is online live streaming (Wohn et al., 2018). Moreover, due to this novelty, many questions related to the use of live video stream in general and the way they are used and experienced remain unanswered (Y. shen Wang, 2019) as previous research haven't proposed clear answers or a comprehensive framework. Neither has it been fully explored as a consumer experience in marketing and consumer behavior research.

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Live streaming's substantial economic and social importance and impact, its innovativeness combined with its novelty and the many unanswered question that it raises call for further investigation of this subject of research. This supports our choice of an exploratory methodology and method for the present project.

A typical live video streaming activity involves a streamer/broadcaster who uploads his real-time video and audio content in real time (Hu et al., 2017). This could be while playing a video game, performing a daily life activity or displaying a talent of any sort or whatever content the streamer wants to share. As for the viewers constituting the audiences of the streaming channel, they can comment and communicate with each other via text-based chat room function. In the meantime, while broadcasting, the streamer interacts and dialogues his audience.

Based on these definitions and on the reality of the practices in online live streaming a plethora of live streaming platforms have been identified. The most used online live streaming platforms are Twitch (Hu et al., 2017; Recktenwald, 2017; Sjöblom & Hamari, 2017; Spilker et al., 2020), YouTube Live, Facebook Live (Legewie & Nassauer, 2018) or Flickr (S. Lim et al., 2012). Other important platforms are Periscope (J. C. Tang et al., 2016), Ustream (Smith-Stoner, 2011; Tasner, 2010), YouNow (Honka et al., 2015; Scheibe et al., 2016; Stohr et al., 2015), Instagram Live, Niconico (in Japan), Yi-ZhiBo, Xiandanjia, Yingke, YY Live (all in China), Picarto and Live-T (Zimmer, 2018)(Zimmer et al., 2018) and Naver V live, in South Corea (Ham & Lee, 2020).

Within these platforms we can differentiate between two kinds of social live streaming services. (1) The general live streaming services, that don't have any thematic limitation such as YouNow, Twitter's Periscope, Meerkat Streams, YouTube live, Ustream…etc, (2) and the topic-specific live streaming services such as Twitch for gaming and e-sports broadcasting, or Picarto for art. Nonetheless, whether they are general or specific, the different live streaming platforms are generally based, on similar environments and present similar structures, tools and information. Recktenwald (2017) presents a schematic representation of the typical Twitch broadcaster page as we can see in Figure 2.1. Because Twitch pioneered live streaming (Q. Zhao et al., 2018), due to its importance as one of the most used platforms (Y. Liu et al., 2020) and because of the structural similarities between these different streaming platforms, it can serve us as a model to visualize the general structure of a live streaming broadcast page. This allows us to see, in a practical way, the display of these platforms and the way they are used.

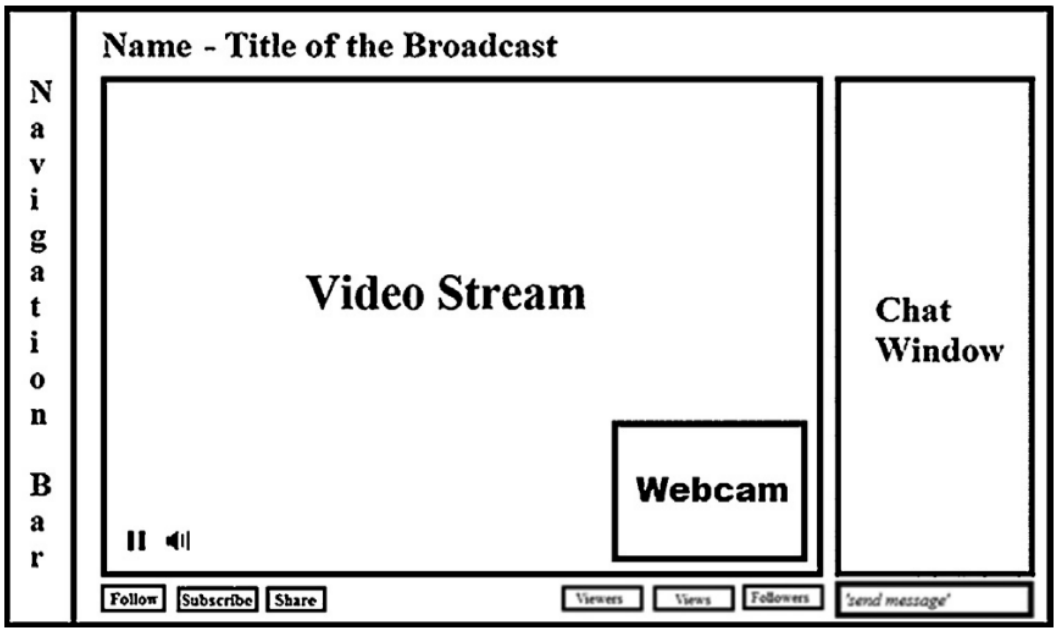


Figure 2.1. Representation of Twitch's broadcaster page (Recktenwald, 2017).

As shown in Figure 2.1, the central space is dedicated to the video stream, that is, the content that is being displayed and shared. Depending on the platform this stream can be completed by a zoom in webcam view of the streamer. The bottom part includes the social media buttons allow to subscribe follow and share the content. On the right side comes, usually, the chat. In this section the viewers can comment instantaneously on the video, interact with each other or with the streamer. As for the navigation bar on the left it doesn't necessarily exist in all live streaming platforms.

Many authors have attempted to define online live streaming. Depending on the approach and the field of reference, online live streaming has been described and characterized as the use of video streaming technology to provide valuable content to

customers and prospects (C. Y. Lu et al., 2020; Ma & Mei, 2019) media content that is simultaneously consumed by the receiver (Gelman et al., 1991; Sjöblom et al., 2017), a media genre that combines the broadcast of an activity with cross-modal video-mediated communication (Y. shen Wang, 2019) and a virtual third places where users socialize and take part in informal communities (W. A. Hamilton et al., 2014).

All these different definitions converge in identifying the particularities of live streaming. When it comes to the technology and the content, the various studies agree on the fact that it is always Internet based and that it relies on multiple media forms such as visual and audio media (W. A. Hamilton et al., 2014; Hu et al., 2017; Wohn et al., 2018) to broadcast a content. They also converge in identifying live streaming instantaneity and simultaneity as their main features (Wohn et al., 2018; Zimmer et al., 2018) as everything happens in real time. Nonetheless, all the researchers insist on the fact that live streaming goes far beyond broadcasting and includes interactive elements that confer it a social dimension. The shared chat room (Hu et al., 2017) in this instantaneous, simultaneous setting doesn't only allow for a real time sharing of the data itself, it also allows for a real time interaction between the streamer (creating and displaying the content) and the viewer (consuming and using it for his entertainment, information...etc) (Hsu et al., 2020).

This definition of online live streaming is of key importance to our work. Because not all methodological approaches are equally fit for the treatment, analysis and interpretation of the type of data provided by online live streaming, we tried to retain the

methodology that would allow us to make the most of the possibilities offered by these platforms.

#### 2.8.2.2. Online live streaming and waiting

In what follows, we will present the main characteristics of online live streaming platforms that are relevant to the study of waiting. We will show how each of these characteristics relates to waiting.

##### *2.8.2.2.1. Instantaneity of online live streaming and waiting*

According to all the references investigating online live streaming, its defining feature is the fact that it is instantaneous. In their study of online live streaming in the context of video game streaming, Harpstead et al. (2019), have pinpointed this as one of the major interests of online live streaming as a medium. Indeed, because of the way they are presented, online live steams make new forms of data available to researchers. Streamers make their activity publicly visible, hence available for analysis.

This is of particular interest when it comes to the study of waiting. In fact, many aspects of waiting are difficult to assess (J.-C. Chebat & Filiatrault, 1993). By studying the stream of instantaneous interactions occurring during an online live stream we can observe, make sense of and eventually extend our understanding of aspects of waiting that could not until now have been easily studied otherwise. Therefore, the study of online live steaming responds to a real need in the research concerned with waiting because it permits us to scrutinize waiting in an unpreceded manner and to shed light on certain aspects of waiting behavior that have remained unexplored so far.

#### *2.8.2.2.2. Interactivity and sociability of online live streaming and waiting*

As explained previously one of the key aspects of online live steaming is its interactivity and its social dimension. The social aspect is one of the most mentioned motives for the use of social media (Friedländer, 2017a). In fact, the essence of the use of these media is built around the shared experience between the different participants (S. Lim et al., 2012). Initially the literature distinguishes between uploaders and viewers (Pires & Simon, 2015). The uploaders are in charge of the online streaming channel as a broadcaster while the viewers are watching the live streaming session. Nonetheless, this strict distinction between actors doesn't really translate the content creation dynamic in play in online live streaming. Indeed, the interaction between the various actors is so essential to online live streaming that the limits between the different actors are quite porous. On social media and online live streaming users act as prosumers (Arthurs et al., 2018; Bründl et al., 2017; Buzzetto-More, 2013), which are both producers of content as well as its consumers. In the same way, produsage combines the active production and the passive consumption of user-generated content (Arthurs et al., 2018; Martínez, 2015; Zimmer et al., 2018).

This is important to our investigation of waiting and its various aspect. In fact, this social dimension is just as crucial to waiting as it is to online live streaming. Waiting is a highly social subject of research (Mann, 1969, 1970) that can, indeed, be seen as a social system (Schmitt et al., 1992) that follows a certain set of social norms (Fagundes, 2017) and that is, overall, largely studied for its social dimension in fields such as social psychology (Hui & Zhou, 1996; Milgram et al., 1986; Norman, 2008).

Therefore, basing our methodology and research methods on online live streaming environments enables for the study of this social dimension of waiting. This should allow us to better understand all of waiting, online live streaming and waiting in online live streams.

#### *2.8.2.2.3. Dissemination of suspense in online live streaming and waiting*

Besides its instantaneous nature and the fact that it is strongly conducive to sociability and social interactions, online live streaming presents an additional important characteristic, which is its "dissemination of suspense" (Y. Li et al., 2020).

Suspense can be defined as an occurrence in which the consumer or the user experiences mixed feelings of hope and fear (Madrigal, 2005). It is used, traditionally, in mystery novels, television, cinema (Zillmann, 1996) but also in sports events (Peterson & Raney, 2008) and advertising (Madrigal, 2005). Suspense is an important and recognized driving force behind media entertainment consumption (Peterson & Raney, 2008). As such it is an important factor involved in the entertainment media that is online live streaming (Wulf et al., 2020). Indeed, in many cases, live streaming encapsulates high moments and low moments. Navigating between these highs and lows, the viewer will experience suspense and excitement hoping for a particular outcome (Y. Li et al., 2020). For instance, in online live streaming, the viewers can experience suspense while watching an e-sports event or a broadcaster involved in a competitive game.

The literature studying the concept of suspense in online live streaming platforms is primarily concerned with live streaming in gaming. Little to no research investigates the

concept of suspense in non-gaming online live streaming (Karhulahti, 2016; Y. Li et al., 2020; Wulf et al., 2020). Gaming in live streaming refers to the streaming of video games by the streamer while the audience watches. In contrast, non-gaming live streaming involves the broadcast of a variety of content that extends beyond video game-related material.

Nevertheless, the concept of suspense is still of great relevance to our work because (1) gaming is a pioneering content in online streaming (Hu et al., 2017), (2) it is a pioneering subject of research in the study of online streaming (Scheibe et al., 2016; Smith et al., 2013), (3) constitutes a large part of the content broadcaster through online live streaming (Y. Li et al., 2020). Additionally, we argue that the role of suspense in online gaming live streaming can be extrapolated and extended to other online streaming types of content. The fact that suspense has been studied predominantly in video game online live streaming doesn't mean that it doesn't apply to other types of online live streaming. We could reasonably presume that a viewer watching an online live stream that is not related to online gaming would experience suspense just as much as a viewer watching an online gaming live stream. Moreover, there is abundant literature on the use of suspense in a variety of media other than online live streaming such as TV, radio, cinema (Madrigal, 2005; Peterson & Raney, 2008; Wulf et al., 2020; Zillmann, 1996). These medias are not related to video gaming. Despite that, suspense plays an important role for all of them (Peterson & Raney, 2008). Therefore, we can conclude that being related to video gaming is not a necessity for a content to disseminate suspense. Consequently, we can rightfully

assume that the fact that the live stream is related or not to gaming is of little relevance to its dissemination of suspense.

The concept of suspense has drawn our attention for many reasons. Firstly, as explained earlier, it is an important and defining characteristic of online live streaming. Secondly, suspense plays an important role in viewers' enjoyment while watching content. According to the literature, it is an established prerequisite for media enjoyment (Klimmt et al., 2009; Zillmann, 1996). In other words, when the viewers experience suspense, they enjoy the content they are watching. Thirdly, the concept of suspense presents a striking resemblance with some key concepts involved in our study of waiting, namely, positive waiting and positive anticipation. Therefore, suspense in online live streaming is of particular interest for our investigation.

In waiting literature, positive anticipation is a recently developed concept. It refers to "deliberate attempts by companies to promote a sense of waiting and to actively encourage positive anticipation and longing among its consumers" (Ryan et al., 2018, p. 68). During the waiting period, the consumer looks forward and counts down the time until he can experience the expected event, service or consumption act. The more an individual expects to enjoy a future event, the greater the positive anticipation (Jevons, 1905).

It is theorized that positive anticipation enhances the enjoyment of the event, product or service by the user. It does so by giving the waiting consumer the time to contemplate and anticipate future consumption and experience positive sensations and pleasurable feeling conceptualized as savoring (F. B. Bryant, 2003; F. Bryant & Veroff,

2006; Hurley & Kwon, 2012). For instance, visitors to a theme park may savor the highly charged emotions of anticipation, excitement, and fear as they wait in line to board a particularly thrilling ride (Heger et al., 2009).

When looking at the concepts of suspense and positive anticipation we can see that they present striking similarities. Firstly, both concepts uphold a sense of expectation related to a future event with mixed emotions of excitement, thrill, fear and hope. Secondly, the two concepts play an important role in improving the enjoyment of the experience. When a viewer feels suspense, he enjoys the experience. In the same way, when consumers and users experience positive anticipation, the enjoyment of their waiting time is enhanced. We can see how those two concepts, that are the dissemination of suspense in online live streaming research and the positive anticipation studied in the research on waiting, are similar.

**2.9. Summary**

The present revue of the literature allowed us to situate our investigation in its context. Indeed, through the review of the literature on the fields of consumer behavior and waiting, we were able to define the general frame of our work. The state of the art on Internet, social media and online live streaming allowed us to refine our analysis and to get a clear understanding of the position of the present work within its areas of reference.

As a result, we were able to get a clear view of the great importance and interest of the study of waiting in online live streaming platforms in marketing. This research also

allowed us to realize that little research has been done on the subject despite its interest and importance.

Therefore, this chapter shows the potential of this research and supports the choices made all along the present thesis.

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Chapter 2

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# Chapter 3. Objectives and research questions

## 3.0. Introduction

In chapter 2 we have realized a review of the literature summarizing the existing knowledge related to waiting in services, waiting on the Internet, and waiting in social media and online live streaming platforms. Building on this state of the art, the present chapter aims to identify the most outstanding questions in our knowledge. In response to the limitations identified, we formulate, in this chapter, the research questions that constitute the foundation of this study. Finally, based on the research questions, a set of research objectives is defined in order to guide the undertaking of the study.

## 3.1. Literature limitations

Despite nearly 40 years of research on waiting, the literature still doesn't cover all the aspects and dimensions of the subject. This is even more true when it comes to the study of waiting on the Internet, even more so in novel and contemporary waiting contexts and environments such as online live streaming platforms.

In this section, we leverage the deficiencies uncovered in the literature to formulate the corresponding recommendations. These recommendations will serve as guiding principles supporting our efforts to address the shortcomings identified in the state of the art.

### *3.1.1. Fragmented vision of waiting*

The literature studying waiting is rich and diverse. Nonetheless, this diversity comes with its downsides. Indeed, the result of such diverse research is a fragmented vision

of waiting. In effect, various researchers from extremely different areas of research have studied very specific dimensions of waiting in very specific contexts. In most cases, the investigation focuses on a very narrow and isolated aspect of waiting.

Some of the elements that have been studied in such a fragmented way are the impact of time on consumer behavior (Carmon, 1991; P. T. Gibbs, 1998; Howard & Sheth, 1969; Leclerc et al., 1995; Mann & Tan, 1993; McGuire et al., 2010; Wright, 1974), consumer perception of time (Guéguen & Jacob, 2002; Munichor & Rafaeli, 2007), time allocation (L. P. Feldman & Hornik, 2002; Hornik, 1984), consumer's experience of waiting (J. Baker & Cameron, 1996; Hui et al., 2006; Kumar et al., 1997; Sarel & Marmorstein, 1999) and its relation to consumer's satisfaction (Hui et al., 2006; Tom & Lucey, 1995). Research has also studied consumers' evaluation of services (M. M. Davis & Voilmann, 1990; Houston et al., 1998; Pruyn & Smidts, 1998; Taylor, 1994; Unzicker, 1999), psychological and financial cost of waiting (Carmon, 1991; Osuna, 1985) fairness of waiting (Avi-Itzhak & Levy, 2004; Larson, 1987), consumer expectations (Durrande-Moreau & Usunier, 1999; Durrande-Moreau, 1999; Tom & Lucey, 1995; Anita Whiting & Donthu, 2009; Yan & Lotz, 2006) and personal (Durrande-Moreau & Usunier, 1999; Fraisse, 1984) and environmental (Areni & Grantham, 2009; J. Baker & Cameron, 1996; J.-C. Chebat & Filiatrault, 1993; Kellaris & Kent, 1991; McDonnell, 2007) factors impacting the wait. Some other subjects studied in the investigation of waiting are the organization, management, and social organization of queues as well as consumers

behaviors in queues (Bekker et al., 2011; M. M. Davis & Heineke, 1994; Ho et al., 1995; Jain et al., 2011; M. E. Pullman & Thompson, 2004; Sheu & Babbar, 1996).

The subjects of focus are not the only aspect of the investigation of waiting that is fragmented. Indeed, researchers' theoretical contributions often tend towards being partial, overly focused, and fragmented. The early work of Hornik (1984) and Maister (1985) suggested a number of propositions that are meant to define the key aspects of waiting in services (e.g., Unoccupied time feels longer than occupied time, pre-process waits feel longer than in-process waits, anxiety makes waits seem longer…etc.). Nonetheless, these propositions focus on specific aspects of waiting and don't provide us with a complete vision of waiting in services. Moreover, researchers (Hornik, 1984; Maister, 1985) didn't really explore the links between the different propositions they have made and little interest has been given to understanding how each proposition relates to the others.

Subsequent research to Hornik (1984) and Maister (1985) has come with a number of propositions to complete the theoretical investigation of waiting in services (e.g., uncomfortable waits feel longer than comfortable waits, infrequent customers feel that the wait is longer than frequent customers, etc.) (M. M. Davis & Heineke, 1994; Durrande-Moreau, 1999; Jones & Peppiatt, 1996). Just like Hornik's and Maister's work, this investigation only provides a partial and fragmented image of waiting in services. Neither does it explore the links between the different theoretical propositions suggested in the literature.

Additional elements found in the literature confirm the fragmented vision of waiting from a theoretical perspective. Indeed, many of the theoretical propositions made in the literature present notable inconsistencies and inconclusive results (Durrande-Moreau, 1999; Hui & Tse, 1996; Katz et al., 1991). These inconsistencies and occasional inconclusive results stem from and translate limited theoretical integration of the field of study and a partial view of waiting.

Despite all the arguments made above, it is important to highlight that there isn't a complete absence of holistic investigation of waiting. Nonetheless, the number of studies pursuing a theoretical integration of the various elements of waiting remains very limited. This is even truer when we compare the very small number of holistic theoretical articles to the huge number of papers published in the area of research focusing on the study of waiting.

In fact, the contributions that are intentionally aiming to provide a holistic framework for the study of waiting can be counted on the fingers of one hand (Pàmies, 2013; Pàmies et al., 2016b; Ryan, 2004). In their attempt to propose an integrated approach to the study of waiting, these studies have succeeded in providing a number of insights that contribute to a holistic understanding of waiting. Nonetheless, these studies don't answer the key questions we are asking in the present work for many reasons. First, some of these studies, despite their global holistic conceptualization of waiting, are focused on aspects that push them further from our work and our concerns. Indeed, they are largely focused on cultural dimensions of waiting (Pàmies et al., 2016a, 2016b, 2018) while our work is

not limited to this aspect of waiting. Secondly, most of these studies are focusing on offline waiting situations (Pàmies, 2013; Pàmies et al., 2016b), while our work is focused on online waiting, particularly in online live streaming platforms. Thirdly, there is research that attempts to build a global understanding of waiting on the Internet (Ryan, 2004; Ryan et al., 2015). Nonetheless, this investigation has been conducted in a very specific context. It has been realized at a time where Internet was extremely different to what we know today. Indeed, that work has been initiated in the early 2000's, at a time where the Internet 2.0 hadn't emerged yet. Interactivity, sociability and many other aspects of the Internet as we know it today were not present yet.

As a result, the investigation that have been conducted with the purpose of building a global view and a holistic picture of waiting is not always sufficient and doesn't always answer all the particular and contemporary questions raised in our project.

In conclusion, one of the main limitations of the literature on waiting is the absence of a global, holistic, and up to date investigation of waiting considering recent technological advances in Internet technologies and the emergences of social media in all its varied guises. This is particularly true for online contexts, especially in online live streaming platforms. As a response, we suggest, as one of our main recommendations of this section, to expand the current vision of waiting. Thus, our first recommendation for this work is to go from the currently partial, fragmented and not up to date vision of waiting to a more complete holistic and contemporary one.

### *3.1.2. Limited methodological diversity*

The review of the literature has clearly shown a limited diversity in terms of methodologies. Indeed, in all the areas of research related to our investigation, most studies rely on quantitative methods.

In the study of waiting in services, the large majority of articles are quantitative (J.-C. Chebat et al., 1995; J.-C. Chebat & Filiatrault, 1993; Hensley & Sulek, 2007; Tom & Lucey, 1995). The most frequent type of quantitative research is laboratory experiments (Bu & Go, 2008; Dube-Rioux et al., 1989; Kumar & Krishnamurthy, 2008; P. R. Selvidge et al., 2002; Spangenberg et al., 1996). Surveys and questionnaires represent the second most used quantitative method followed by quantitative methods combining laboratory observation and questionnaires (Bielen & Demoulin, 2007; Cameron et al., 2003; J.-C. Chebat et al., 1995; Gavilán-bouzas & Garcia-Madariaga, 2009; Gorn et al., 2004; Heineke & Davis, 1998; Hul et al., 1997; M Voohees et al., 2009; Soman & Zhou, 2002; Tom & Lucey, 1995; Anita Whiting & Donthu, 2009).

The over reliance on quantitative methodological approach can also be found in the research on social media in general (Kapoor et al., 2018; Y. Zhang & Leung, 2015) and online live streaming in particular. Indeed, in the research on social media most studies rely on surveys and questionnaires as well as experiments (Y. Zhang & Leung, 2015). In the specific research on online live streaming too, surveys and questionnaires are the most used research methods. This is particularly true in our fields of research, i.e., marketing

and consumer behavior (Bailey et al., 2017; Cai et al., 2018; Gros et al., 2017; Hilvert-Bruce et al., 2018; Hu et al., 2017; Scheibe et al., 2018; Sjöblom et al., 2017).

Either it is in the study of waiting in general (Pàmies et al., 2016a, 2016b), waiting on the Internet (Ryan et al., 2015; Ryan & Valverde, 2005) or waiting in social media, there are, indeed some qualitative studies (Y. Zhang & Leung, 2015). These studies usually rely on interviews, focus groups or diaries (Dawes & Rowley, 1996; Mann, 1970; Minton, 2008; Ryan & Valverde, 2005; Unzicker, 1999). They also rely on Ethnography/Netnography, particularly in the study of social media and online live streaming (C. Y. Lu et al., 2020; Recktenwald, 2017; Spilker et al., 2020). Nonetheless, these studies are very limited in number. Additionally, the more we focus on our subject of research the more scarce the references using qualitative methods. Indeed, there is already a limited number of qualitative articles on waiting and waiting in services in general. When, we home in on waiting in social media the number of qualitative papers rapidly shrinks. In fact, we have found no more than one significant qualitative article on waiting in social media (Mahmud & Rumman, 2020). As for the research on online live streaming, we didn't find any qualitative study investigating the subject at all.

It is worth noting that there is an increase in both the number the variety of qualitative articles in the study of waiting, social media, and online live streaming. Nonetheless, despite the increase and diversification in articles using qualitative methods in our areas of research, the number of papers remains very limited. Therefore, the increase

and diversification of methodologies in these fields of research remains very relative and barely noticeable.

The lack of diversity in the methodological approaches used is clearly one of the main shortcomings of the literature. Indeed, the quantitative methodological approaches usually employed prioritize observable and measurable factors (Apuke, 2017). This can lead to a disregard for subjective and personal experiences, which often results in incomplete understandings of studied phenomena (Sudeshna & Datt, 2016). This is the case in the study of waiting, waiting on the Internet, social media, and online live streaming platforms, where individual and situational factors play a significant role in shaping consumers' experiences. Thus, heavy reliance on quantitative approaches limits the depth and complexity of the research and restricts its scope. This has negative consequences on the development of a comprehensive theoretical conceptualization, and a holistic vision (Lakshman et al., 2000), ultimately results in a more limited understanding of waiting. Therefore, our second recommendation for this section is to aim for more diverse research in the study of waiting, waiting online, social media and online live streaming platforms. Thus, one of the goals we have set for this work is to contribute to the variety of methodological approaches used in these areas of research. In order to do so, we have opted for the qualitative methodology of Grounded Theory.

### *3.1.3. Research dominated by the perspective of the researcher*

As highlighted in the previous section, quantitative articles constitute most of the literature on waiting, waiting on the Internet, social media and online live streaming. As a

result, the perspective of the user has not been sufficiently considered. In effect, a large portion of the studies has heavily relied on laboratory experiments. This is particularly true for the early work on waiting (K. S. Ahmadi, 1984; A. Borges et al., 2015; Groth & Gilliland, 2006; Mc Donnell, 2002), waiting on the Internet (Dabholkar & Sheng, 2008b), and online live streaming (S. Lim et al., 2012). The result of such an approach is a literature that is more centered on the researcher than the consumer or the user.

This is a weakness of the current literature because it provides a limited view of waiting and waiting on the Internet. Indeed, it limits the study of waiting and waiting on the Internet to pre-defined phenomena that have been identified based on the researchers' vision. This approach ignores, to a large extent, the view of consumers and users on the phenomenon under study. As a result, the literature produced provides an understanding of waiting and waiting on the Internet that is limited and lacks depth.

It is worth noting nonetheless that, more recently, some studied have adopted a user-centered approach to explored different aspects of waiting and waiting on the Internet (Pàmies et al., 2016a, 2016b; Ryan et al., 2015; Ryan & Valverde, 2005). Nonetheless, these studies remain very limited in numbers compared to the sheer number of articles published in the areas of research considered in this work. Thus, the literature is still overwhelmingly researcher oriented.

The limited amount of user focused research is the byproduct of the still dominant use of quantitative methodologies in the study of waiting, waiting on the Internet, in social media, and online live streaming platforms. Indeed, as explained above, the reliance on

quantitative approaches is more conducive to researcher centered study of the wait. The qualitative studies conducted at this point are not numerous enough to counter this underlying trend.

For all the reasons listed above, the third recommendation proposed for this section is to include the point of view of the user regarding waiting and waiting on the Internet. Placing the user at the center research should allow for a deeper, richer and more complete understanding of waiting which should, in return, provide us with new insights on consumers' waiting in general and waiting on the Internet.

### *3.1.4. Lack of ecological validity*

The concept of ecological validity can refer to whether or not one can apply and generalize the behavior observed in a study to consumers' behavior in a natural setting (Frey, 2018; Quinan et al., 2015; Schmuckler, 2001). In other words, ecological validity translates the aptitude of a research and its design to explain how individuals do, in fact, behave in the real world. The ecological validity can be high or low depending on many factors (Sandra Naumann et al., 2022). The research method used is one of the key factors influencing how ecologically valid a study is. Indeed, quantitative approaches such as laboratory experiments (C. A. Anderson & Bushman, 1997) present a low ecological validity while qualitative methodologies such as Ground Theory are though to present a high ecological validity (Amsteus, 2014).

As we have seen in the literature review, a large majority of articles studying waiting and waiting online have used quantitative methods. From this quantitative corpus,

a very large number of studies have relied on laboratory experiments. Moreover, not only is the research based on laboratory experiments important in terms of number of articles, but it is also important because of its fundamental role in the literature. Indeed, the use of laboratory experiment was widespread in the early days of the research on waiting and waiting on the Internet. Therefore, this type of studies has had a key role in initiating the research on our subjects of study. It has also played an important role in laying the foundation of the research on both waiting and waiting online.

Thus, an important portion of the literature, both in terms of number of articles and in terms of impact on the field of research have used laboratory experiments to collect their data. All this literature has relied on waiting and online waiting situations that are artificial, on an environment that is controlled by the researcher, and overall, on an approach that lacks ecological validity.

Therefore, the fourth recommendation made for this work is to push towards the use of more natural settings (real waiting situations) in order to produce research with high ecological validity. This would ensure that our results truly reflect the users experience.

### *3.1.5. Research centered on the negative aspects of waiting*

From the review of the literature, it was made abundantly clear that the research on waiting is centered on its negative aspects, dimensions, and effects. Indeed, since the seminal research on waiting (M. Davis & Heineke, 2004; Maister, 1985) waiting was considered as a negative occurrence. This view is supported by the subsequent empirical work. In effect, this work has shown that waiting can cause frustration, boredom,

dissatisfaction, consumers negatively evaluating the service, abandoning the wait and not coming back on future occasions (Carmon, 1991; Chan & Wan, 2008; Dabholkar & Sheng, 2008a; Dickson et al., 2005; R East et al., 1991; Hui & Tse, 1996; Pruyn & Smidts, 1998; G. M. Rose et al., 2008; Soman & Zhou, 2002; Taylor, 1994).

This focus on the negative aspects of waiting has lasted decades without really being challenged (Bielen & Demoulin, 2007; Bitner et al., 1990; Carmon, 1991; M. M. Davis & Heineke, 1994; M. M. Davis & Voilmann, 1990; Fung, 2006; Hensley & Sulek, 2007; Larson, 1987; Mcdougall & Levesque, 1999; Pruyn & Smidts, 1998; Rafaeli et al., 2002; Soman & Zhou, 2002; Taylor, 1994; Zhou & Soman, 2003). Nonetheless, progressively, instances of the possible positive aspects of waiting has started appearing in the literature (K. S. Ahmadi, 1984; Dickson et al., 2005; Friman, 2010; Mann, 1969). Increasingly, more work started acknowledging the positive aspects of waiting (Friman, 2010; Koo & Fishbach, 2008; S. Offermans et al., 2016; S. Veeraraghavan & Debo, 2009). It became apparent, then, that waiting was more than just a negative occurrence. It was clearer and clearer that waiting presents aspects that go beyond its negative dimensions and include positive aspect and effects for both the consumers and the organizations.

Nonetheless, despite the evidence of positive aspects of waiting, very little research has focused on the subject. In fact, only a handful of researchers have specifically focused on the effects of waiting that are not necessarily negative (Ryan et al., 2015) and that can be positive (Demoulin & Djelassi, 2013; Mahmud & Rumman, 2020; Ryan et al., 2018). Thus, it is obvious that the literature on waiting is overwhelmingly focused on the negative

aspects of waiting while paying little attention to the negative aspects of waiting despite their potential and importance.

The fifth point raised in this project is to encourage the research to go beyond the negative dimensions of waiting and to explain more in depth aspects of the phenomenon. Recommendation is made to consider other manifestations of waiting that are not necessarily negative and that can be positive.

### *3.1.6. Incomplete investigation of consumer's reaction to the wait*

Many articles have tried to identify the way in which consumers respond to waiting (J.-C. C. Chebat et al., 2010; Demoulin & Djelassi, 2013; Fraser et al., 2008; Groth & Gilliland, 2006; Hui & Zhou, 1996; Mahmud & Rumman, 2020; Marquis, 1998; Munichor & Rafaeli, 2007; Schmitt et al., 1992; Taylor, 1994). A part of the literature has considered the reaction to the wait in terms of behaviors displayed by the consumer when faced with a waiting situation (Durrande-Moreau, 1999; Mobach, 2007; Pàmies et al., 2016b). Some examples of these behaviors are: picking a queue (Raz & Ert, 2008; S. Veeraraghavan & Debo, 2009), leaving the waiting situation (Bennett, 1998; Carmon, 1991; Soman & Zhou, 2002), engaging in social interactions (Mann, 1969; Schmitt et al., 1992; Zourrig & Chebat, 2009) or distracting activities…(Hong et al., 2013). Another part of the literature has focused on the way in which consumers react to the wait from an emotional perspective. In effect, a substantial number of articles has considered consumers' affective responses to the wait (Bitner et al., 1990; Clemmer & Schneider, 1989; Dawes & Rowley, 1996; Dubé et al., 1991; Friman, 2010; Jones & Peppiatt, 1996; Katz et al., 1991; S. Kim et al., 2016;

Maister, 1985; Ryan et al., 2015; Taylor, 1994), essentially negative ones such as frustration, boredom, impatience, confusion, anger...(B. B. Anderson & Brodowsky, 2001; Casado Díaz & Más Ruíz, 2002; Ryan, 2004; Ryan et al., 2015; Anita Whiting & Donthu, 2009) but also some negative and neutral emotions such as indifference, resignation, interest, curiosity, feeling relaxed…(Avi-Itzhak & Levy, 2004; Gavilán-bouzas & Garcia-Madariaga, 2009; Gorn et al., 2004; Koo & Fishbach, 2008; Ryan, 2004). One of the most studied subjects, that has been considered by many as a type of emotion, is consumers' satisfaction and dissatisfaction (Bitner et al., 1990; Clemmer & Schneider, 1989; R. Feinberg et al., 1996; Heineke & Davis, 1998; Pruyn & Smidts, 1998; Tom & Lucey, 1995).

In addition to consumers' emotions and behaviors, some researchers have also focused on reactions to the wait that are neither emotional or behavioral. These reactions take the form of thought and can be qualified as cognitions (Pruyn & Smidts, 1998). Nonetheless, the research on the cognitive responses to the wait pales in comparison to the literature that is focused on consumers' behavioral and emotional responses to the wait. Very few articles are dedicated to these particular aspects of waiting (Heineke & Davis, 1998; Houston et al., 1998; Pruyn & Smidts, 1998; Sheu & Babbar, 1996; Unzicker, 1999). Additionally, very few manifestations of consumers' cognitive reactions to the wait have drawn any interest at all. Among the few cognitive reactions considered in the literature we can find consumers' perception of waiting time (Pruyn & Smidts, 1998), consumers' perception of the environment (A. Borges et al., 2015), or consumers attitude towards the

delay (Ryan & Valverde, 2003). In fact, the literature is overwhelmingly concerned with one type of cognitive response to the wait, namely, consumers' evaluation of the service (Cameron et al., 2003; Groth & Gilliland, 2006; Houston et al., 1998; Sheu & Babbar, 1996; Taylor, 1994, 1995; Unzicker, 1999).

Based on the points raised above, it appears clearly that the literature concerned with consumers' reactions to the wait is uncomplete in many regards. Indeed, the literature is essentially focused on behavioral and emotional reactions to the wait while giving little attention to consumers' cognitive responses. Moreover, either it is for behavioral, cognitive, or emotional reactions to the wait, the full range of responses to the wait has not been identified yet. Thus, more effort is needed to identify the many ways in which consumers respond to waiting situations.

Therefore, our sixth recommendation for this work is to broaden the research on consumers' response to the wait to include all the types of responses possible. We defend that this goal can be reached essentially by extending and deepening the research to the cognitive reactions to the wait.

### *3.1.7. Limited research on waiting in contemporary online settings*

The research on waiting has considered a large variety of contexts and situations. Supermarket queues, restaurants, airline travel, theme parks, health services, sports events, concerts…are some of the many environments investigated in this area of study (Alexander et al., 2012; Bennett, 1998; Church & Newman, 2000; Fraser et al., 2008; Groth & Gilliland, 2006; Jain et al., 2011; Jones & Dent, 1994; Mann, 1970; Sciences & Zhang,

2009; S. Veeraraghavan & Debo, 2009). Extensive literature has considered these real-life waiting situations.

The same cannot be said about recent and contemporary waiting situations, particularly on the Internet. Indeed, very little research has focused on more recent waiting contexts such as waiting online, in social media, and online live streaming platforms (Bründl et al., 2017; Demoulin & Djelassi, 2013; Hilvert-Bruce et al., 2018; Mahmud & Rumman, 2020; G. M. Rose et al., 2008; Ryan et al., 2015; Ryan & Valverde, 2003; Scheibe et al., 2016; Anne Whiting & Deshpande, 2016; Q. Zhao et al., 2018). This is problematic because this prevents the area of research from keeping up with consumers' consumption modes, habits, and behaviors.

In effect, the increased time spent by the consumers online as well as the extended number and variety of consumption acts taking place on the Internet is, indeed, one of these main evolutions. As a result, consumption on the Internet, on social media as well as in online live streaming has been largely studied in the areas of marketing and consumer behavior (Bründl et al., 2017; Chatzopoulou et al., 2010; Demoulin & Djelassi, 2013; K. J. Fietkiewicz et al., 2018; Hilvert-Bruce et al., 2018; Z. Lu et al., 2018; Mahmud & Rumman, 2020; Pires & Simon, 2015; Recktenwald, 2017; G. M. Rose et al., 2008; Ryan et al., 2015; Ryan & Valverde, 2003; Scheibe et al., 2016; Anne Whiting & Deshpande, 2016; Q. Zhao et al., 2018; Zimmer, 2018).

The research on waiting falls short in comparison. In effect, within our field of research (i.e., marketing and consumer behavior) the number of articles on waiting on the

Internet is quite limited (Demoulin & Djelassi, 2013; Fagundes, 2017; G. M. Rose et al., 2008; Ryan et al., 2015; Ryan & Valverde, 2003, 2005; Weinberg, 2000). There are even fewer articles studying waiting in social media. In fact, there is no more than one article investigating waiting in social media (Mahmud & Rumman, 2020). As for the study of waiting on online live streaming platforms, to the best of our knowledge and despite repeated searches we have found no article treating the subject.

From all the elements listed above, it is clear that the research on contemporary online waiting contexts is very limited in regard to their importance. Therefore, to address the limitations of the literature in this area of research it is important to extend the literature to new, innovative and relevant waiting contexts.

Thus, our last recommendation for this work is to enrich the research on waiting by including the study of waiting on the Internet, in social media and particularly in online live streaming platforms.

### 3.2. Research question

Based on the gaps in the literature previously highlighted, this section aims to present the research questions and objective that will be guiding this project. First, we start by presenting the general research question (3.2.1.) serving as a guiding principle for the whole investigation conducted in this work. Secondly, we detail the specific research questions (3.2.2.) that translate more specifically, more precisely, and more practically the questioning effort conducted in this section.

### *3.2.1. General research question*

In what follows we present the general research question aiming to respond to the gaps in the literature identified in the previous part of this chapter. Thus, we formulate the "grand tour" research question (Guba & Lincoln, 1994; A. L. Strauss, 1987), that is, the largest and most general question asked in the present research. This research question comes as follows:

**How do consumers react to waiting in contemporary online waiting situations?**

The goal pursued through this research question is to give a satisfactory response to the most important limitations of the literature. This goal should be attained through:

- The building of a holistic, complete, and up to date vision of waiting, waiting on the Internet and in online live streaming platforms.
- The contribution to the diversification of the methodological approaches used in the research on waiting, waiting on the Internet and in online live streaming platforms.
- The integration of the point of view of the user regarding waiting and waiting on the Internet.
- The study of waiting in its natural setting for an increased ecological validity of the research on waiting, waiting on the Internet and in online live streaming platforms.

- The consideration of the many manifestations of waiting without limiting the research to the study of its limited aspects. This could consist of considering the positive effects of waiting, its neutral effects, etc. particularly on the Internet and in online live streaming platforms.
- The extension of the research on waiting to the many possible responses to the wait including all emotional, behavioral and cognitive reactions to the wait with a focus on Internet and online live streaming environments.
- The consideration of the more recent evolutions of waiting in its more contemporary settings on the Internet, in social media and particularly in online live streaming platforms.

The research question presented in this section aims to address, as much as possible, the many knowledge deficiencies found in the literature. Nonetheless, it is important to note that this work alone cannot redress all the weaknesses that have been identified in the review of the literature. Indeed, because of the organic nature of the methodological approach adopted (i.e., Grounded Theory), an important margin is left for factors and elements that emerge in and of themselves. Thus, the different gaps of the literature will be addressed with more or less detail and intensity depending on the results and conclusions that will emerge from the analysis of the qualitative data.

### *3.2.2. Specific research questions*

At this stage of the research, it is common to divide the general question into more operational sub-questions. The general question is usually translated into hypotheses, that

is, questions put in relation to their expected answers (Kolawole & Sekumade, 2017; Wobeser, 2007). This is typically the case in quantitative research. Nonetheless, in exploratory studies it is better not to present the specific research questions as hypotheses. Instead, it is preferable to express them in the form of propositions. Indeed, it is more adapted to the nature of an exploratory study to formalize the specific research questions as propositions. These propositions can either take the form of a statement or a question (Armstrong, 1974; Baloch, 2013; Krathwohl, 1988; Locke, 2001).

In our case, we are adopting a qualitative approach and our research is of exploratory nature. Therefore, we will present our specific research questions in the form of propositions. We have made the choice to express these propositions as questions. In what follows, we present the general research question defined in the previous section put in relation with corresponding specific research questions.

**How do consumers react to waiting in contemporary waiting situations?**

1. What are consumers' reactions to the wait in online live streaming platforms?

2. What is the valence of consumers' reaction to the wait between positive and negative polarities in online live streaming platforms?

The first specific research question is the following: *What are consumers' reactions to the wait in online live streaming platforms?* Its goal is to identify the different types of reactions of the users of the online live streaming platform to the wait. It will try to identify the main categories of reactions to the wait displayed by the consumers. From the literature, some examples of such large categories of reactions to the wait are behavioral reactions to the wait, emotional reactions to the wait…etc. (Mahmud & Rumman, 2020; Pàmies et al., 2016b; Ryan et al., 2015).

Another goal that can be fulfilled by the first specific research questions is the identification of the specific reactions to the wait displayed by the users of the online live streaming platform. This could consist of specific behaviors in which users of the online live streaming platform engage, particular emotions, and any other specific responses to the wait.

The second specific research question comes as follows: *What is the valence of consumers' reaction to the wait between positive and negative polarities in online live streaming platforms?* Its goal is to understand how consumers' reactions to the wait can range from positive to negative in a waiting situation in online live streaming platforms. This question pushes us to consider not only the negative responses to the wait but also the positive ones as well as the possible neutral reactions to the wait.

Another goal that can be pursued through this second specific research question is understanding not only consumers' positive, negative, neutral reactions to the wait, etc., but also who those positive, negative or neutral reactions are directed to. In effect, it is

often difficult to identify and understand the object of the reaction to the wait. Indeed, as suggested in the literature (Ortony et al., 1988) the reaction of the consumer, regardless of whether it is positive, negative or neutral, can be aimed at the company, at the brand, the good and the service at the consumer itself…etc. Thus, one of the goals set for this first specific research question is to explore the relationship between consumers' reactions to the wait and the object towards which these reactions are aimed.

These questions will serve as a guide ensuring that the research will follow the goals initially set for this project.

### 3.3. Research project objectives

In this section, we present the main research objectives of the present thesis. These objectives have been identified based on the gaps in the literature and the research objectives that have been formulate in response to these gaps. The objectives defined will serve as guiding principles and operational guidelines thorough this work.

The objectives of this doctoral thesis come as follows:

1. To explore consumers' full range of reactions to the wait in online live streaming platforms from positive, to neutral, to negative responses to the wait.

2. To explore the relationship between consumers' reactions to the wait and the object of these reactions (e.g., company, brand, other consumers…etc.) towards which these reactions are aimed on the Internet, in online live streaming platforms

3. To identify and understand the main types and categories of consumers reactions to the wait on the Internet, in online live streaming platforms.

4. To identify and understand the specific reactions to the wait displayed by the users in online live streaming platform (i.e., specific behaviors in which the users engage, emotions, and other specific responses to the wait).

5. To gain a holistic understanding of waiting on the Internet and in online live streaming platforms in order to produce a general conceptual framework on the subject. (This goal is to be achieved by the integration of the knowledge gained through the realization of the objectives 1, 2, 3, and 4).

6. To enrich the literature from a methodological and practical perspective through a consumer-centered, naturalistic, and inductive exploration of waiting, waiting on the Internet and in online live streaming platforms (in contrast with the researcher-oriented, non-naturalistic and deductive approaches usually used in this area of research.

### 3.4. Summary

In this section we have investigated the unexplored terrain in the literature on waiting, waiting on the Internet and in online live streaming platforms (e.g., fragmented vision of waiting, limited methodological diversity, researcher dominated field, lack of ecological validity…etc.). In response to these gaps, we were able to formalize research questions that is designed to the most important necessities expressed in the state of the art. These questions have been translated into practical objectives that will guide all the efforts of research deployed in the present thesis towards a holistic consideration of waiting going beyond its negative effects and exploring the various elements of the wait (e.g., the types of reactions, the objects of the wait…etc.) within the naturalistic setting of real life waiting on the Internet, in an online live streaming platform.

## 3.5. References to chapter 3

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# Chapter 4: Epistemological and methodological considerations

## 4.0. Introduction

In this chapter, we aim to make the methodological choices that best respond to the needs and objectives of our investigation. Indeed, not all methodological approaches can respond to all research objectives and questions. Depending on the objective and the research question some methodologies are more adapted than others. That is why the objective and the research questions raised by the investigation are going to be the main guide for the methodological choices we will be making.

We will start by considering the nature of this investigation and its objective. Secondly, we will focus on the epistemological perspective adopted. Thirdly, we will outline the chosen methodology. Finally, we will detail the specific research methods to be deployed for this work.

## 4.1. Starting point

Over the last 40 years, the large majority of publications on the study of waiting focus on queues. Very few (Demoulin & Djelassi, 2013; Mahmud & Rumman, 2020; Ryan et al., 2015) have studied waiting on the Internet. Today, the centrality of the Internet in people's lives is clearly established, as is its importance in social sciences research (Ngai, 2003; Ward & Lee, 2000).

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In the last decade, computer-mediated communication has extended to various social media services, virtual communities, Social Network Services (SNS), and blogs (Kaplan & Haenlein, 2010) and goes beyond text and image to include text and video (Morison et al., 2015). This has led to the emergence of a variety of new online waiting situations. Indeed, waiting situations in the early days of the Internet (e.g., dealing with download delays, online advertising banners)(Ryan & Valverde, 2005) were very different from those of the present day (e.g., waiting in a Facebook brand community for a product launch) (Mahmud & Rumman, 2020). Consequently, a more contemporary and englobing study of waiting on the Internet seems necessary.

Research on online live streaming videos is still in its early days (Recktenwald, 2017; Y. shen Wang, 2019). This could explain why, at this point in time, and despite its importance and potential, no previous work has investigated waiting on the Internet through these media to the best of our knowledge. Because of the limited work on waiting on the Internet, particularly in its more contemporary form (i.e., web 2.0), any further investigation requires the building of a theoretical framework.

Indeed, waiting has long been studied. Nonetheless, research has mostly focused on traditional, offline, with a large and overwhelming focus on queues (Alexander et al., 2012; Bennett, 1998; Hassin & Haviv, 2006; Larson, 1987; Mann, 1977; S. Veeraraghavan & Debo, 2009). With the emergence of the Internet, came new waiting situations. Initially, the research was limited to the consideration of the wait caused by download time

(Dabholkar & Sheng, 2008b, 2008a; Gorn et al., 2004; Y. Lee et al., 2012; G. M. Rose et al., 2005). It extended rapidly to much more diverse waiting situations, e.g., waiting for the online reply to an enquiry, for an online confirmation, for an advertising to finish, for a software to get installed...etc. (Ryan & Valverde, 2005). Nonetheless, despite its growing importance over the years, very few studies have investigated waiting on the Internet (Demoulin & Djelassi, 2013; Mahmud & Rumman, 2020; Ryan et al., 2015; Ryan & Valverde, 2003). We would like to highlight that, waiting on the Internet, online waiting, and waiting online are nothing but different terms that refer to the same phenomenon. Therefore, in this section, this thesis, and the literature in general, they are used interchangeably and synonymously.

This resulted in an uneven and strongly unbalanced proposition of theory. On the one hand, there is an abundance of theories and frameworks related to offline, traditional waiting situations, and particularly queues (Houston et al., 1998; Mann, 2002; Universiteit & Koole, 2002; S. K. Veeraraghavan & Debo, 2011). On the other hand, there is very little theory on waiting on the Internet (Ryan & Valverde, 2005). Moreover, not only is the research on online waiting limited in terms of number of studies, but it also didn’t, understandably, catch up with the extremely fast technological and social evolution of Internet. As a result, the theoretical frameworks proposed for the study of waiting online relate to asynchronous types of interaction, communication, and online social interaction (Demoulin & Djelassi, 2013; Mahmud & Rumman, 2020). Therefore, the state of the art

doesn't fully consider the particularities of waiting on the Internet, particularly those related to some of its more recent and important evolutions such as its instantaneity. In this context, we are facing the necessity of building a theoretical framework that would allow us to acquire a more complete and contemporary understanding of waiting online. Therefore, for this research we are presented with a case of theory building (Denzin & Lincoln, 2006; Thorpe & Holt, 2011).

The literature reveals several limitations in the current understanding of the subject matter. Thus, in line with the previous chapter, we aim to produce a framework including the factors in play in consumer's waiting online, particularly, in online live streaming platforms (Neergaard & Ulhøi, 2007; Thorpe & Holt, 2011).

The review of the literature on waiting on the Internet has shown that very few articles have studied waiting in social media and online live streaming platforms. This is particularly true when it comes to the study of waiting on the Internet from a conceptual perspective. Previous research has studied various conceptual aspects of waiting on the Internet. This effort of conceptualization consisted of the definition of the concepts related to waiting on the Internet (Ryan & Valverde, 2003), the identification of the different types of wait on the Internet (Ryan & Valverde, 2005), the conceptualization of consumers' emotional responses to the wait on the Internet (Ryan et al., 2015), as well as the identification (Mahmud & Rumman, 2020) and the modeling of consumers' behavioral responses to waiting online (Demoulin & Djelassi, 2013). As we can see, among the

conceptual articles studying waiting on the Internet listed above, we have identified only one study that focuses on waiting in social media (Mahmud & Rumman, 2020).

This is problematic because consumers' use of the Internet has profoundly changed in the last years. Social media, and particularly online live streaming have become an important part of our digital life and a necessity for Internet users (Hu et al., 2017; S. Lim et al., 2012). Because of that, the literature needs to provide a conceptual framework that would allow us to understand waiting online in the context of online live streaming platforms. In response to this necessity, the present work aims to produce a conceptual framework including the factors in play in consumers' waiting online, and more specifically, in online live streaming platforms. Therefore, the present work will be exploratory in nature and oriented towards theory building (Neuman, 2011).

## 4.2. Epistemological perspective

In this section, we aim to choose the epistemological stance that best aligns with the investigation's objectives and research question. In order to do so, we will start by presenting the main and most widely known epistemological classification, that is, positivism versus constructivism. We will start by explaining the characteristics of each of these paradigms. Then, we will explain the epistemological perspective we opted for.

### *4.2.1. Positivism*

Positivist social science is "an organized method for combining deductive logic with precise empirical observations of individual behavior in order to discover and confirm

a set of probabilistic causal laws that can be used to predict general patterns of human activity" (Neuman, 2002, p. 97). It is based on the principle that there is an external and objective reality (Easterby-Smith et al., 2002; Neuman, 2011). This reality can be discovered and explained through the definition of theories.

Positivism can be characterized by its use of deductive processes and the development of hypothesis. These hypotheses are then tested and the observations that can validate or invalidate these hypotheses are identified. It implies a possible deduction of a particular instance from general inferences (Easterby-Smith et al., 2002).

#### *4.2.2. Constructivism*

Constructivism is situated at the other end of the spectrum. Unlike positivism, constructivism considers reality as subjective. It isn't objective, nor is it external. It can be understood as multiple mental constructions that are socially and experimentally based, that is, reality is socially constructed and aided by the meanings different people place on actions (Brannen, 2005).

One of the key features of the constructivism is the link between the researcher and the object of study because the findings are created while the investigation is conducted (Guba & Lincoln, 1994). This results in the use of qualitative methods and approaches. Unlike positivism, that uses a deductive approach, constructivism relies on inductive investigation. As we can see, constructivism is often defined in opposition to positivism (Guba & Lincoln, 1994).

### *4.2.3. Epistemological positioning*

Having defined the characteristics of the two main paradigms we will, in this section, chose the one that will be used in the present research. As previously explained, the epistemological positioning is guided by the objective of the research and the research questions.

This research will adopt a constructivist perspective. This choice has been made for the following reasons:

- This work is embedded in the larger field of social sciences which is particularly adapted to this perspective.
- A qualitative methodology adapted to the inductive approach suggested will allow more flexibility as the research progresses.
- There is little theory on waiting online. The existing theoretical frameworks are partial. Moreover, due to the rapid evolution of Internet, previous theoretical propositions don't take into consideration the more recent developments of Internet that shape the way we currently experience waiting on the Internet.
- A constructivist approach will allow the construction of a framework that would enable the understanding of contemporary waiting on the Internet, in online live streaming platforms.

Finally, on the issue of the nature of reality, this work must take an intermediate position between considering reality as something external and objective and as something

socially constructed. This is because our aim is to achieve a holistic view of the phenomenon, which necessarily requires the inclusion of both facts (for example, what people objectively do when faced with waiting in an online live stream) and impressions, feelings and emotions (which are inherently subjective and thus constructed by the individual).

Having chosen the epistemological perspective, we will identify the methodological approach and the methods that will be used in this project.

### 4.3. Methodology: Grounded Theory

In line with the constructivist epistemological orientation of this work and in response to its main objectives that are exploration and theoretical framework building, the natural and logical choice for our methodology is Grounded Theory.

As explained earlier, waiting has long been studied, which would suggest that the logical next step is theory testing. Nonetheless, despite a substantial effort of exploration and theorization, the literature doesn't provide us with theory that would allow us to understand our subject of research, that is, waiting in the context of online live streaming platforms. Indeed, the vast majority of the previous works has produced theories that have permitted the conceptualization of waiting, but not on the Internet. Instead, the theories built are usually focused on traditional waiting situations such as waiting in lines and queues (Alexander et al., 2012; Bennett, 1998; Hassin & Haviv, 2006; Larson, 1987; Mann, 1977; S. Veeraraghavan & Debo, 2009).

Nonetheless, later work has proposed a limited number of theoretical frameworks that attempt to conceptualize waiting on the Internet (Demoulin & Djelassi, 2013; Mahmud & Rumman, 2020; Ryan et al., 2015). In spite of that, these studies on waiting online relate to situations that date back to the emergence of the Internet or to earlier evolutions of social media. Despite the fact that they constitute a useful foundation for our work, these previous studies on waiting online don't provide us with theory that is testable for more recent forms of online interaction such as online live streaming.

Indeed, despite the relatively short span of time between the development of the early Internet interactive tools (Constantinides, 2004; El-gohary, 2010), traditional social media (Alves et al., 2016; D. Liu et al., 2018), and online live streaming (Harpstead et al., 2019; Y. Li et al., 2020), the modes of communication, interaction and socialization have changed drastically. As a result, waiting in online live streaming is a very different experience than waiting as studied in the previous work on waiting on the Internet. The main difference resides in the fact that waiting has transitioned from synchronous and relatively simple platforms to asynchronous, complex and extremely rich environments. Waiting for a page to load, for a reply to an enquiry (P. Selvidge, 1999) or for a product or online service to be delivered (Demoulin & Djelassi, 2013; Mahmud & Rumman, 2020) is a very different experience than waiting for an event to happen in an online live stream while interacting, in real time, through both chat and audio, all while watching a video together.

In conclusion, the differences in terms of dynamics, settings and context make it unwise to use previous theories for the investigation of waiting in online live streams. Therefore, new testable theory adapted to the study of waiting on the Internet in online live streams is necessary. Therefore, the choice of exploratory research for this project is based on the absence of previously developed testable theories on waiting in online live streaming.

In light of the specific characteristics and requirements of the present study (theory building, exploratory and mainly constructivist) the choice of research methodology would logically lead the researcher to Grounded Theory. Grounded Theory, as a research methodology, is particularly suited to the present research project as it was developed with the principal aim of aiding researchers in theory building. As a methodological approach, Grounded Theory (Glaser & Strauss, 1967) is particularly adapted to our research since it follows the particular objective of developing new theory. We will see the characteristics of this methodology in more detail in what follows.

In their seminal book "The Discovery of Grounded Theory", Glaser & Strauss (1967) provided an alternative to the dominant quantitative research methods of their time. Grounded Theory is intended to generate theory (Charmaz, 1983; Goulding, 1999) through the systematic collection and analysis of qualitative data. The ways of defining Grounded Theory have evolved overtime. Nonetheless, its key features, characteristics and principles remain the same at a fundamental level. We will see these in more detail below. Besides

the two key elements of Grounded Theory previously discussed, that is, its inductive logic and its orientation towards theory development (J. Corbin & Strauss, 2008; Glaser & Strauss, 1967; Rennie, 2007), we will examine more of its defining characteristics in what follows:

- Theoretical sensitivity: Existing knowledge plays a key role in Grounded Theory. Despite it following an inductive approach, the research doesn't necessarily have to start from the blank ground of the "Tabula rasa" principle. The researcher can adopt a perspective that will help him navigate through and make sense of the data. Thus, a limited prior knowledge of the theory related to the subject of research is not necessarily detrimental to Grounded Theory research. This principle been labeled as theoretical sensitivity (Glaser & Strauss, 1967). In the present research, we have opted for a theoretical sensitivity approach instead of a "tabula rasa" for many reasons. First, theoretical sensitivity gives us a starting point for data analysis, which allows us to spot trends and connections (Glaser, 1978). Second, it can guide our data collection and analysis by shedding light on the theoretical concepts that are relevant to it (J. Corbin & Strauss, 2008). Third, it ensures that our conclusions are supported by the data by fostering key components of the Grounded Theory approach such as rigor (Charmaz, 2006) (See. Chapter 5. Section 5.3.). Moreover, we have found in the literature a number of theories and concepts

that relate to waiting in traditional offline contexts but not to waiting online in live streaming platforms. This is important because it shows that there are theoretical frameworks on waiting that have been used in other contexts than that of our study. These frameworks can be useful for our understanding of waiting in the particular context of our thesis. Because of that we believe that considering certain elements of the literature according to the principle of theoretical sensitivity could enlighten our conceptualization efforts without limiting our views on the phenomenon under study.

- Interaction between data collection and data analysis: In Grounded Theory, data collection and data analysis take place simultaneously (Charmaz, 1983). The data collection, the analysis and the coding interact constantly.
- Theoretical sampling and saturation: Theoretical sampling means that the theoretical categories which emerge during the analysis determine what should be collected next and where it should be collected from (Glaser & Strauss, 1967). According to this principle the simultaneous collection, analysis and further sampling could go on indefinitely. Theoretical saturation intervenes here, to allow the researcher to know when to end data collection and the analysis of a category.

- Constant comparative analysis: This approach to data analysis considers the process as constant, a process that necessitates a consistent comparison between new data and the categories that have previously emerged (Charmaz, 1983).
- Canons of verification: When it comes to the measurement of the validity and reliability of the end results of the research process, Grounded Theory diverges largely and doesn't follow the traditional norms of the quantitative approach (Glaser & Strauss, 1967). Instead, it relies on different canons of verification consisting of logical consistency, clarity, parsimony, density, scope, integration and finally, the theory's fit and ability to work (Gibson & Webb, 2012; Webb & Wang, 2013).

### *4.3.1. Choice of research method: Online thematic analysis using ground theory*

As previously explained, the objectives and research questions are the main guide in our approach to choosing our epistemological stance, our methodology and the methods used to collect and analyze the data. All methods offer a rational approach to research, data collection and data analysis. However, the Grounded Theory approach seems especially well suited for certain types of research, including those listed below (Roy, 2006).

Grounded Theory focuses on informants' interpretative process. Therefore, it is especially useful in understanding how the people who are experiencing the phenomenon under study make sense of their experience. It allows for a deep understandings of the patterned relationships between social actors and how these relationships and interactions

actively construct reality (Berger & Luckmann, 1967). Thus, Grounded Theory research is especially well suited to study how individuals construct meaning, as well as their subjective experience and socially constructed realities (Gibson & Webb, 2012). In our investigation of waiting, it is, indeed, a subjective experience that is being studied (R. V. Levine et al., 1980), be it in terms of perception or attitudes (B. B. Anderson & Brodowsky, 2001; Ezzell, 2002; Kosiu et al., 2005; Mosakowski, 2000) towards time and waiting. Furthermore, beyond the fact that it is subjective at an individual level, waiting can be seen as socially constructed. The main reason is that the concept of time - that is at the center of the study of waiting - varies depending on the culture (Mann, 2002). For instance, two different people from two different cultures will not experience waiting in the same way. Indeed, some cultures are more tolerant to waiting and express less frustration than others (Mann, 2002; Pàmies et al., 2016a). The meaning of the waiting situation can also be collectively shaped on a smaller scale. For example, while waiting for a sports event, around a stadium, people taking part in the waiting situation end up collectively creating a number of social rules and codes that define the experience of waiting for all of them (Mann, 2002). At an individual level, many factors can affect the way we perceive waiting time (Areni & Grantham, 2009). We all can make the experience of how time flies, for us, in certain situations and can go very slowly in others, for the same amount of time.

As explained previously, Grounded Theory is particularly focused on making sense of the subjectivity of experiences. Therefore, Grounded Theory is the most suitable

approach for the study of both the subjective and collective social creation of meaning in waiting and waiting online in live streaming platforms.

Grounded Theory is particularly adapted to the study of "social knowledge that is widely known but covert and unofficial, such as how workers manage to date colleagues despite organizational policy expressly forbidding such action" (Gibson & Webb, 2012, p. 163). Waiting, is an occurrence that is widely known, because of the personal experimentation everyone and anyone can make of it. Nonetheless, it is often ruled by covert consensus, such as the untold rules regulating a queue (allowed absence time, absence from the queue...) (Mann, 2002). In effect, when consumers are waiting, depending on their cultural context, unwritten rules apply to shape of the waiting group (R. N. Levine, 2008). For instance, in England, consumers automatically queue up into organized waiting line. In other countries, such as Spain, people don't wait in a queue. Instead, "they ask who is last in line. Then, the reference isn't the queue. It's the last person to arrive just before" (Pàmies et al., 2016, p. 11).

Grounded theory is often used to "describe newer phenomenon where few or no previously published theories exist" (Gibson & Webb, 2012, p. 163). Here researchers actively explore how interesting, new phenomenon operate. Clearly, waiting in virtual environments is a relatively new phenomenon. This is even more true when talking about online waiting in live steaming platforms which is a new phenomenon for which no specific previously existing research can be found.

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Grounded Theory can explain and help read parts of previously published theory that remains largely understudied by (a) offering a more detailed elaboration of a specific part of the theory, (b) a new understanding of how that theory "works" in a previously unforeseen and undiscussed setting, such as virtual environments. In our case, the study of waiting can build on existing theories on waiting in offline, traditional settings. It can also build on the earlier work on waiting online from before the widespread of social media and real time video streaming technology and use. Therefore, Grounded Theory is best indicated for our framework building approach and goes beyond, by facilitating the integration of previously available knowledge and encouraging the development of new theory based on the new data.

## 4.4. Method: Qualitative collection and analysis

In the previous sections we have defined the epistemological perspective of this work and its methodological orientation. In this section, we will address the specific research method to be used.

### *4.4.1. Characteristics of qualitative collection and analysis methods*

When it comes to the study of online content, it is rare to find completely new and innovative techniques (Webb, 2017). It relies largely, and almost exclusively on a limited number of traditional qualitative techniques. Therefore, the choice of empirical methods for this work will be about putting previously available qualitative collection and analysis

techniques into use. Guided by the objective and research questions of this study, we will try to identify the most suitable method for our research.

In order to do so, we will consider the variety of qualitative techniques that have been used in or are compatible with online qualitative data collection and analysis. Most of these are text based. That is the case for online interviews, content analysis, discourse analysis, framework analysis, and thematic analysis using Grounded Theory (Martínez, 2015; Y. shen Wang, 2019). Nonetheless, some of the widely used qualitative methods used online are not necessarily text based. This is often the case for Netnography (Moore et al., 2015) and online focus groups (Martínez, 2015; Y. shen Wang, 2019). In this section we will briefly explain each one of the methods.

- Netnography: also called online ethnography or cyber ethnography is ethnography adapted to the study of online communities (Addeo et al., 2019; Moore et al., 2015). It aims to respond to the continuing need to adapt existing ethnographic methods to online contexts. It presents the advantage of being faster, simpler and less expensive than tradition ethnography. Moreover, it is more naturalistic and less obtrusive than focus groups or interviews.
- Online focus groups: Focus groups are widely used in social sciences (Webb, 2017). Their main aim is to provide collective and individual insights related to particular topics. Capitalizing on the increasing use of Internet as a communication media, online focus groups have been largely used in the last

decade. We can identify two types of online focus groups (Moore et al., 2015). Synchronous and asynchronous focus groups. The first one allows for real time interactions as in a traditional in person focus group. The later, uses static text-based communication such as in forums.

- Online interviews: They follow the traditional face-to-face interview methods (Honeycutt, 2005) with the difference that they occur online via video chat, texting chat or other specific online media.
- Participant observation: The researchers participate in social media groups or communities in order to report their observations and experiences. They rely mostly on ethnography techniques (Webb, 2017).
- Content analysis: Unlike thematic analysis, it starts with pre-selected categories that are defined by the researcher. The investigation tries then to find the extent to which the data fits into these categories.
- Discourse analysis: it analyses the discourse itself and investigates language, language use and linguistic qualities. It shares a lot of similarities with thematic analysis/Grounded Theory in the sense that it uses the same methodological procedures (Fotiadou et al., 2014).
- Framework analysis: It is an intermediate approach offering a compromise between content analysis and thematic analysis/Grounded Theory. The starting point for this method, as in content analysis, is broad categories. Nonetheless,

it searches for emergent themes within these categories, as in thematic analysis (McNeil et al., 2011).

- Thematic analysis using Grounded Theory (Gibson & Webb, 2012; Webb, 2017): Thematic analysis refers to Grounded Theory. It is among the most widely used methods for textual analysis in communication and social sciences. All the characteristics of Grounded Theory exposed earlier, its objectives and its advantages can be used, and have been used successfully for the use of online qualitative data.

### 4.5. Use of qualitative methods in social media and online live streaming research

In the previous section, we have discussed the different methodologies and methods that can potentially be used in this study, either it is qualitative research or quantitative research. Nonetheless, in what follows we will focus exclusively on the qualitative investigation of social media and online live streaming. Two main reasons justify our focus on qualitative methods. First, the evolution of the research on online live streaming suggests an increasing importance of qualitative methods. In the last years, increasingly diverse research methods have been used in the investigation of online live streaming. Indeed, "there has been an explosion of approaches applied to the space as the field begins to move from a basic understanding of how these platforms work to exploring what can be done with them" (Harpstead et al., 2019, p.115). In order to accompany the growing complexity of the research questions asked, more and more diverse methodological

approaches have been used. This evolution towards more diverse research methods coincides with the emergence of qualitative studies investigating online live streaming (W. A. Hamilton et al., 2014; M. Johnson, 2018; Karhulahti, 2016; Recktenwald, 2017; G. Zhang & Hjorth, 2019). The trend observed in the literature suggests a growing importance of the qualitative investigation of online live streaming. Therefore, it is important for us acquire a deep understanding of the current use of qualitative methods in social media and online live streaming.

Secondly, in the previous section, we have discussed the different methodologies and methods available to us, either they are quantitative or qualitative. This allowed us, indeed, to better situate our work within the research on social media and online live streaming from a methodological perspective. Nonetheless, this investigation of the literature is still relatively general in regard to our research. Indeed, for the present work, we have opted for a qualitative approach. A deep understanding of qualitative investigation of social media and online live streaming is necessary for us to understand the literature in which our work is embedded. It will also allow us to better evaluate the potential added value of our research, to better assess the advantages and disadvantages of our methodology and overall to provide informed justifications for our methodological choices.

In what follows, we aim to evaluate the potential of the use of a qualitative approach in the present work. First, we address the use of qualitative methods in social media.

Secondly, we elaborate on the use of qualitative methods in video game online live streaming. Finally, we talk about the use of qualitative methods in non-gaming online live streaming.

There has been a number of studies using qualitative methods in the study of social media. A variety of qualitative methods have been used in the study of online live streaming and social media. Nevertheless, the number of qualitative studies is limited. out of the 79 articles on social media reviewed by Zhang & Leung. (2015), only 10 used pure qualitative approaches. Nonetheless, the publication of qualitative articles in social media follows an upward trend (Andreotta et al., 2019).The qualitative research conducted in social media is essentially concerned with the study of social media themselves in the fields of advertising, communication, marketing and public relationships as well as information systems and computer science (Snelson, 2016), psychology and economics (Błachnio et al., 2013), healthcare and medicine (Hamm et al., 2013), Sociology and education. Nonetheless one of the clearest results presented by Snelson. (2016) is that the vast majority of publications using these approaches are multidisciplinary, and thus, not limited to one of these fields. The most used qualitative methods in social media are Ethnography/Netnography, interviews and participation observation followed by textual and thematic analysis (Mahmud & Rumman, 2020; Y. Zhang & Leung, 2015).

Within the pioneering and fundamental research on video game online live streaming, a number of studies have relied on qualitative approaches. In their review of the

literature, Li et al. (2020) have identified the different methods used such as Ethnography (W. A. Hamilton et al., 2014), in a paper based on the interviews of 11 streamers and 4 audiences on Twitch, Semi structured interviews (M. R. Johnson & Woodcock, 2019) of 39 full-time video game streamers on Twitch, in-depth interviews (Vosmeer et al., 2016) of people involved in game steaming on a regular basis, a case study (J. Greenberg, 2016) as well as data crawled Grounded Theory (Pellicone & Ahn, 2017) based on months' worth of posts on an online forum.

In their work (Harpstead et al., 2019) confirm the underrepresented qualitative studies in online live game streaming. Nonetheless, it also confirms an increase in the use of these methods in this area.

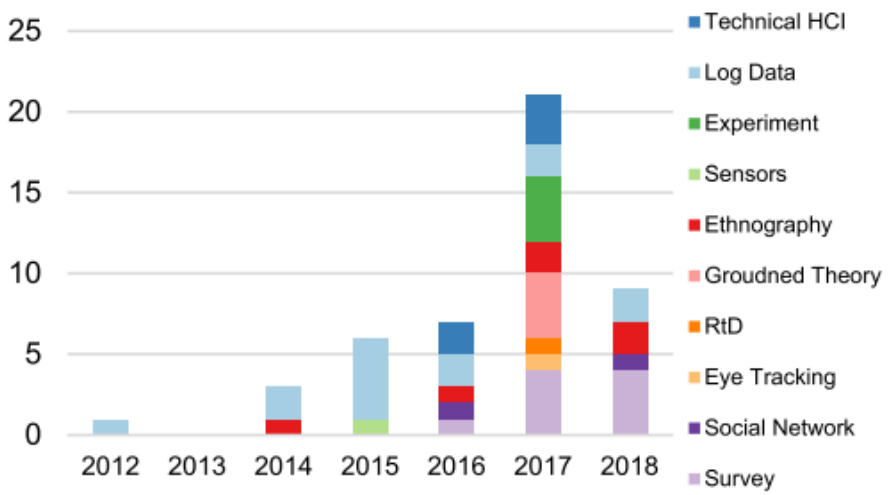


Figure 4.1. Temporal distribution of primary methods used in online game live streaming research (Harpstead et al., 2019).

Chapter 4

Based on this study, the main qualitative method used in the research on video game online live streaming is Ethnography/Netnography (W. A. Hamilton et al., 2014; M. Johnson, 2018; Karhulahti, 2016; Recktenwald, 2017; G. Zhang & Hjorth, 2019). Interestingly enough, within this limited qualitative corpus, Grounded Theory is used in a significant manner. Three articles from different authors using Grounded Theory were published (S. L. R. Anderson, 2017; Bingham, 2020; M. R. Johnson & Woodcock, 2019). While one of these studies (S. L. R. Anderson, 2017) focuses essentially on the design of the streaming platform (i.e., Twitch) the two others focused on the study of the broadcasters (i.e., the streamers) (Bingham, 2020; M. R. Johnson & Woodcock, 2019). This shows that Grounded Theory has been essentially used to understand the streamers and to a lesser extent the platform used for the online live stream. Nonetheless, it did not focus on the study of the viewers participating to the online live streams. The current body of research on online live streaming platforms utilizing Grounded Theory is limited. This suggests a need for further research employing this approach to study the viewers of online live streams. This would allow for a more comprehensive understanding of the various participants, elements, and interactions taking place in online live streaming platforms. This supports the potential of the present work. Indeed, the present research is mainly focusing on the viewers. It is also focusing on the real time interactions between users. This

positions this work as different type of study. Therefore, our study can potentially contribute to the knowledge in the study of online live streaming.

In addition to the research on social media and the research on video game online live streaming, the more general research on online live streaming that is not necessarily related video game supports the large domination of quantitative methods and the use of a few qualitative methods such as Netnography (Y. shen Wang, 2019), interviews and case studies (Apablaza-Campos & Codina, 2018; Leijen et al., 2009).

To summarize it, the qualitative research either it belongs to the field of social media, online game live streaming or non-gaming online live streaming is limited in number of studies, but it is still relatively diverse. Within these fields the most used methods are, primarily, Ethnography and Netnography. Interviews and case studies also represent an important part of this research. Grounded Theory has been used as well, in a significant number of studies, particularly in online game live streaming (S. L. R. Anderson, 2017; Andreotta et al., 2019; Bingham, 2020; Diwanji et al., 2020; M. R. Johnson & Woodcock, 2019; Lessel et al., 2017; Pellicone & Ahn, 2017). Our investigation of the use of qualitative methods in the literature allows us to build a better understanding of its implications for our research on waiting and positive waiting using the qualitative methodological approach of Grounded Theory (J. Corbin & Strauss, 2008; Glaser & Strauss, 1967).

The first important conclusion we could draw is that there is a large reliance on quantitative methods and that qualitative methods are under-used (Y. Li et al., 2020). As explained earlier, this is problematic and very limiting for the advancement of knowledge. Indeed, every methodological approach presents its own advantages and limitations. The excessive reliance on quantitative methods in online lives streaming subjects the area of research to the limitations of quantitative methodological approaches. Therefore, the overriding use of quantitative methods limits the research to the response to closed research questions based on previously defined hypothesis. This leaves little space for exploration, framework proposition or theory building (Gibson & Webb, 2012; Webb & Wang, 2013). Therefore, there is a real need for research relying on qualitative approaches in the study of online live steaming.

The second noticeable aspect of the literature is that, even when qualitative methods are used, they are more often based on Ethnography/Netnography, interviews or case studies (Y. Li et al., 2020; Y. Zhang & Leung, 2015). On the one hand, this confirms the diversity in the approaches used and the potential and relevance of the use of qualitative methods in the area. On the other hand, it demonstrates that Grounded Theory is not as present in this field of research as some other qualitative approaches. This has many implications for the research on online live streaming. Indeed, the strong reliance on ethnography and case studies at the expense of Grounded Theory limits the ways of framing the research questions in online live streaming to the frames imposed by

ethnography and case studies. Concretely, the limited use of Grounded Theory deprives the research on online live streaming from its exploratory potential. Consequently, this undermines the development of new frameworks, theories and research avenues (Gibson & Webb, 2012; Glaser & Strauss, 1967; Webb & Wang, 2013). Moreover, grounded theory is particularly adapted to cases where little is known about a phenomenon (Gibson & Webb, 2012). Online live streaming is a very recent subject of study. Therefore, there is limited knowledge in this body of knowledge. Therefore, the limited use of Grounded Theory means that the study of online live streaming is not sufficiently using the methodological approach that is, in fact, the most adapted to the level of knowledge in the area of research. Indeed, Grounded Theory is used, to a certain extent. Nonetheless, a greater use of this approach can be beneficial to the area of research. This is important for our research because we are using Grounded Theory for the investigation of online live streaming. The limited use of Grounded Theory combined with its potential for the investigation of online live streaming, confirms our methodological choices.

The third important conclusion is that, even when Grounded Theory is used in the literature, it is concentrated in the field of video game online live streaming (Harpstead et al., 2019). Indeed, in our literature review of online live streaming, we have found three articles using Grounded Theory. All these articles study video game online live streaming. Conversely, no article using Grounded Theory has been found in the study of non-game online live steaming. Nonetheless, online game live streaming, despite its importance, is

only a part of the more englobing subjects of research of online live streaming and social media. We have no real answer to why there is such a concentration of the use of Grounded Theory in such a specific subject of research. We can only assume, based on our readings, that the pioneering role of the study of online live game streaming puts it one step ahead of the rest of the literature (Hu et al., 2017). Therefore, it would only be the natural next step to "catch up" through the study of regular, non-gaming online live streaming using Grounded Theory. Indeed, the study of online live streaming shows a clear trend. The early research relies on streaming platform connection logs and user data (Harpstead et al., 2019). The research on online live steaming then evolves to include quantitative studies using surveys and questionnaires. After that, researchers start using qualitative methods. Therefore, there is a clear evolution of the study of online live streaming from the most quantitative approaches to the most qualitative ones over time. Moreover, the study of online live streaming has moved from the understanding of how online live streaming platforms work to exploring what can be done with them (Harpstead et al., 2019). Based on this evolution, we can see a trend suggesting that the research on online live streaming is evolving from the most concrete and elementary research questions to the most complex and abstract ones. Therefore, the study of online live streaming shows an evolution from concrete, elementary and quantitative investigation to complex, abstract and qualitative research. Because of its deductive and exploratory nature, Grounded Theory can be seen as one of the most abstract qualitative methods. Therefore, in a continuum going from the

most concrete quantitative approach to the most abstract qualitative method, Grounded Theory would probably be at the extreme end while platform connection logs and user data would be at the other. Since the research on video game online live streaming is a pioneering area in the study of online live streaming, we can assume that it is more advanced than the more recent research on non-gaming online live streaming. We can infer that the study of video game online live streaming has evolved, over time, from the use of the most elementary, concrete and quantitative research methods to the use of the most abstract and qualitative approaches. This could explain why, the study of video game online live streaming uses Grounded Theory while non-gaming online live streaming doesn't. Based on the analysis of this trend, we can deduce that, when the research on non-gaming online live streaming reaches is as advanced as the research on video game online live streaming, we might see the emergence of Grounded Theory articles on non-video game online live streaming.

The fourth major conclusion we can draw from this investigation of the literature is that there is great potential in the study of waiting on social media using qualitative methods. There is also a real need for deeper and more specific research on the subject, especially regarding online live streaming.

In relation to the object and context of our research, that is, social media, waiting, and the positive aspects of waiting, a specific study has drawn our attention (Mahmud & Rumman, 2020). Not only does it examine a subject that is related to our own, it also does

so by using a qualitative method. More specifically, it treats the specific subject of positive waiting, in the specific context of social media through the relatively uncommon use of a qualitative methodology, namely, Netnography. This is important because of how close and similar this is to our theme of research. This is important to us because the present work is concerned with an extremely close subject, context, and approach, i.e., waiting and positive waiting, in online live streaming social media, and using a qualitative research method, that is, Grounded Theory. This is even more notable knowing that there are only a few papers on waiting online (Demoulin & Djelassi, 2013; Lin & Chang, 2011), and even less using qualitative approaches (Mahmud & Rumman, 2020; Ryan et al., 2015; Ryan & Valverde, 2003, 2005).

This article is important for two reasons. First of all, due to its similarity to our research it can provide interesting insights to our work. In fact, this article came with some impactful findings. For instance, it confirms that waiting in online related situations can be negative, but it can also be positive. It has also identified 13 online related waiting behaviors. These behaviors can be useful to the effort of conceptualization that will be conducted in this work. Secondly, this article is important because it can call into question the interest of our work. Indeed, if the main questions we ask have been answered, using similar methods, there is no use in conducting our investigation.

Nonetheless, nothing could be further from the truth. In fact, there are many aspects that make a huge difference between this article and our research. First of all, in terms of

methodology, it is true that this article, like our work, uses a qualitative method. Nonetheless, it relies on an ethnographic approach. This approach is, in fact, very different from the method we are adoption, i.e., Grounded Theory. Indeed, ethnography doesn't pursue the same goal of theoretical framework and theory building as that of Grounded Theory. Secondly, the media studied by this research is very different from the one we investigate in this work. This study investigates Facebook exchanges while our research studies online live streaming. Our work considers online live streaming and not just the general field of social media studied in the previous work (Mahmud & Rumman, 2020). This is important because online live streaming is much more recent and novel than the regular social media considered in the previous research. Thirdly, besides its novelty, online live streaming, as social media, holds characteristics that are of key importance to the study of waiting online, such as its instantaneity (Ryan et al., 2015). Indeed, Facebook (which is the media used in Mahmud & Rumman's study) is an asynchronous media while online live streaming (which is the media used in the present work) is synchronous. This difference is substantial when we consider the importance of instantaneity in online live steaming. Indeed, one of the defining features of online live streaming is the fact that it is instantaneous (Harpstead et al., 2019). Moreover, the instantaneity of online live steams opens new possibilities of investigation. In fact, because it is instantaneous, online live streaming make new forms of data available to researchers. Streamers make their activity publicly visible, hence available for analysis. This is of great interest for the study of

waiting. Indeed, many aspects of waiting are difficult to assess (J.-C. Chebat & Filiatrault, 1993). Nonetheless, the study of the stream of instantaneous interactions occurring during an online live stream allows us to observe and make sense of aspects of waiting that could not have been studied otherwise.

### *4.5.1. Characteristics and particularities of the qualitative study of social media*

Social media in general, and online live streaming in particular present several characteristics that make them different from habitual, more traditional types of data used in qualitative research. Before diving into the specificities of online live streaming as a source of qualitative data, we will start by highlighting the unique characteristics of its parent field of research: social media. Indeed, online live streaming being, by definition, a category of social media, these unique characteristics obviously apply to it and define it.

#### 4.5.1.1. Advantages of using social media in qualitative research

The first differentiating characteristic is that social media gives access to more abundant and richer qualitative information than traditional qualitative sources of data. Indeed, the literature shows that, "to qualitative researchers, social media offers a novel opportunity to harvest a massive and diverse range of content" (Andreotta et al., 2019, p. 1766). It also gives access to an equally massive and diverse range of individuals (Andreotta et al., 2019).

Therefore, we can break down the differentiating aspect of social media in comparison to traditional sources of qualitative data to the fact that social media provide a

much more (1) "massive" source of information, in comparison to the traditional sources of qualitative data gathered through interviews, semi-directive interviews, focus groups…etc. Additionally, social media are (2) a more diverse source of qualitative data in comparison to the traditional sources used in qualitative research (Gudivada et al., 2015; S. Yin & Kaynak, 2015). This abundance and diversity (Gudivada et al., 2015; S. Yin & Kaynak, 2015) applies not only to the information and data that can be used but also the individuals taking part in it. It also allows access to voices that "may not be otherwise heard through more traditional approach semi-structured interviews and Internet surveys with open-ended question" (Andreotta et al., 2019, p. 1767).

Moreover, corroborating this richness of information of social media compared to traditional sources of qualitative data, most researchers acknowledge the high concentration of user-generated data across social media platforms (Kapoor et al., 2018). This diversity and richness don't apply only to the information or the individuals but also to the contexts it makes available. Indeed, it allows access to large numbers and extremely diverse situations, places, events and moments (Denef et al., 2013; Procter et al., 2013), times and topics (Hoppe, 2009; Sharma et al., 2017).

Besides these qualities, social media present even more interesting properties that are of great relevance for qualitative research. On the one hand, the use of social media allows us to minimize the intrusiveness of the research. On the other hand, social media can provide more practical and efficient solutions in comparison to the traditionally used

intensive qualitative data collection procedures (Andreotta et al., 2019). For instance, it doesn't necessitate the long interviewing sessions and the tedious effort of transcription usually associated with traditional qualitative data collection.

Lastly, in comparison to other qualitative approaches, social media based qualitative analysis may present higher ecological validity. Indeed, the analysis' based on social media don't emerge from artificial contexts but rather from real-world social contexts where the participants are unconstrained by researchers' behavior and prompting.

#### 4.5.1.2. Difficulties related to using social media in qualitative research

Social media are not without challenges for qualitative researchers (Parker et al., 2011). The interactive nature of social media translates into lengthy exchanges, a multiplicity of users and a lack of structure. For instance, in Facebook groups, it is possible to have 20 people arguing in chat at the same time. It is easy to get lost and to lose track on who is talking to who. This is a problem that researchers don't face when using traditional qualitative sources of data. Indeed, the more traditional qualitative approaches allow for more focused and concise interactions facilitated by the intervention of the researcher as a moderator and a set schedule as we can find in interviews and focus groups. The traditional qualitative methods also allow to better control the number of participants/respondents in the recruitment phase while the number of active participants in social media can hardly be controlled or limited. Traditional qualitative methods also allow for more structured exchanges, through interview guides such as in semi-directive

interviews or through the structuring role of the interviewers in other types of interviews. Conversely, in social media, the interactions between users follow a more natural and unconstrained flow which makes them very difficult to manage and structure.

Another difficulty posed by social media content is that it changes, morphs and only lasts for short moments. It is both Dynamic and ephemeral (D. Boyd & Crawford, 2012; Parker et al., 2011; Weinberg & Pehlivan, 2011). For instance, within the span of a few minutes it is possible to have 40 comments that will immediately appear and disappear from the tread of a chat conversation.

Finally, the downside of the massive (Andreotta et al., 2019) volume of data available is that large amounts of information can accumulate quickly and yet, be unrelated to the object of research. In traditional qualitative methods such as interviews or focus groups, the interaction will always revolve, to a certain extent, around the subject of research treated. Nonetheless, in social media, it is common for the exchanges to go in unexpected directions. This can result in long chunks of data that are not related to the subject of research.

### *4.5.2. Characteristics and particularities of the qualitative study of online live streaming*

In addition to the aspects of social media that have an impact on qualitative investigation, there are some others that are unique to online live streaming as a specific type of social media. We will consider the more important ones (Scheibe et al., 2016; Zimmer et al., 2018) in what follows.

#### 4.5.2.1. Advantages of using online live streaming in qualitative research

Firstly, online live streaming, as a social media platform, is synchronous. The fact that it is instantaneous makes a large difference between online live streaming and most of social media as well as traditional sources of qualitative information (Harpstead et al., 2019). The main interest of the instantaneous nature of online live streaming is that it makes the activity of steamers and users available, in real time, public and observable. This allows researchers to analyze the situations while they occur and/or exactly as they occurred. This is important because online live streaming, being instantaneous, allows researchers to gain a deep and clear understanding of the phenomenon studied and provides possibilities that are not allowed by many traditional qualitative methods (DeLongis et al., 1992; Toms & Duff, 2002). Moreover, by giving access to unobservable events, in their natural setting, online live streaming provides immediacy and avoids retrospective errors. An example of retrospective error in traditional qualitative research is recall error. For instance, a respondent will remember some events in a biased manner. For example, the respondent could remember the waiting time as longer than experienced during the waiting situation. In online live streaming platforms retrospective errors such as recall error are impossible because the researcher is observing or taking part in the waiting situation as it unfolds. Consequently, researchers don't need to solicitate participants' memory, thus avoiding such retrospective errors.

Secondly, online live streaming is social by nature. As previously discussed, it is interactive and conducive to socialization. This makes it a source of qualitative data that is particularly adapted to the study of social interactions and shared experiences (S. Lim et al., 2012). For this reason, it is adapted to the study of the eminently social phenomenon that is waiting (Fagundes, 2017; Mann, 1969; Schmitt et al., 1992).

Additionally, as previously discussed, online live streaming supports mechanisms of gamification (Woodcock & Johnson, 2018). Through these mechanisms, the interaction can be moderated by gift sending, reward, etc. (Z. Zhu et al., 2017). Therefore, this type of data would allow the qualitative investigation not only of verbal interactions but also social, emotional and financial transaction. This could translate into richer analysis and a deeper understanding of the phenomena at hand.

#### 4.5.2.2. Difficulties related to using online live streaming in qualitative research

On the downside, online live streaming presents a number of difficulties and challenges relative to qualitative investigation. The main difficulties faced when using online live streaming stem from the particularities of the communication in these platforms which condition the nature of the data and its structure.

To begin with, the cross-modality of the online live streaming platforms creates different communicative practices. On the one hand, the broadcaster provides a few, elaborate responses all along the stream. On the other hand, the viewers write quick, brief,

single turn messages (Recktenwald, 2017). While the first one is easily manageable. The second one is much more problematic. We can easily see how difficult such type of messages and communication can make, the transcription, reading, interpretation and analysis of qualitative inputs. This is even more important knowing that the comments of the broadcaster represent an extremely thin portion of the interaction. This implies that the researcher ends up with vast amounts of data, such as short, one or two word comments, often accompanied by emojis, that are difficult to interpret or that add little to the analysis.

Secondly, besides the messages being brief and quick they present particular characteristics. In fact, they have many features traditionally associated with oral, high involvement styles of chat such as the use of abbreviations, repetitions and capitalization (Recktenwald, 2017; Rintel & Pittam, 1997; Tannen, 2007). This makes the messages hard to read and to interpret which makes the analysis of the data more difficult for the researcher.

Thirdly, unlike in traditional communication, the viewers are free to come and go in a very particular way. Indeed, the viewers can join the online live stream chat and as leave it as they please. This is problematic because the number of participants keeps changing. Moreover, as a result, the interactions lack consistency. For instance, a viewer might ask a question on the online live stream chat, by the time someone answers he might have left already. In the meantime, another viewer might have joined the live stream and started discussing the subject raised by the viewer that isn't connect to the online live

stream anymore. The streamer's communication can be just as problematic that of the viewer. The streamers can use text, speak, or alter their behavior related to the content being produced (particularly in video games). This makes the study of the interactions between the streamer and his audience significantly more difficult (Harpstead et al., 2019).

Another difficulty is caused by the nature of online live streaming as a media. The interactions take place within "complex sub-cultures" (Harpstead et al., 2019, p. 115). These subcultures can be unique to each online live streaming channel. It is arguable that each channel has its own references and codes. Thus, in order to qualitatively analyze the interactions of the participants of an online live streaming channel, the research needs to understand the language, codes and social norms of the streaming channel. For instance, the participants of a live stream might heavily rely on memes, inside jokes and references that make sense only to them. Any uninformed interpretation of such heavily codified interactions might mislead the researcher. This adds an additional layer of difficulty to the interpretation and analysis of the online live streaming data.

In addition to all the points raised above, the huge amount of data (Andreotta et al., 2019) of online live stream and the large number of observed interactions, combined with the constraints discussed above, multiplies the difficulty of the qualitative investigation of online live streaming data. A more metaphorical way to illustrate this is that, when it loses its conventional nature (Recktenwald, 2017), the communication during online live streaming has been compared to "something like the roar of a crowd in a stadium"

(Hamilton et al., 2014, p. 1320). Nonetheless, we defend that, in our case, we are given the opportunity to hear every single voice of that crowd separately, and all of these voices speaking together. This is a possibility that can only be allowed by social media such as online live streaming, hence, the interest and importance for qualitative research in online live streaming.

Outside of the difficulties related to language and communication, online live streaming also brings technical and technological challenges. From a technical perspective, a key difficulty faced in the study of online live streaming is related to the collection of data. Considering the large amount of information to be gathered when it comes to the qualitative analysis of social media information, one of the most common, and sometimes necessary tools are web scrappers and the use of APIs (Batrinca & Treleaven, 2014; Churchill & Xu, 2016). Web scraping, also called web extraction or web harvesting, has been defined as "a technique to extract data from the World Wide Web (WWW) and save it to a file system or database for later retrieval or analysis" (B. Zhao, 2017, p. 1). As for APIs, it refers to Application Programming Interfaces. APIs are used as "an approach to computational social sciences and digital sociology based on the extraction of records from the datasets made available by online platforms" (Venturini & Rogers, 2019, p. 532). Both those tools allow for the collection of detailed information on very large numbers of users in an automatized fashion. For most online content it is possible to use web scrapping solutions to collect textual and other types of data from sources such as forums (Batrinca

& Treleaven, 2014; Legewie & Nassauer, 2018). Nonetheless, when it comes to streaming, the interfaces used are often proprietary and federated (Harpstead et al., 2019). This makes the totality or parts of the data unavailable for scrapping. This is the case for platforms such as Twitch and YouTube (Apablaza-Campos et al., 2020; Apablaza-Campos & Codina, 2018; Churchill & Xu, 2016; Pires & Simon, 2015). Knowing how massive the information can be in online streaming, this multiplies the time and effort necessary to undertake research on those subjects and in these platforms.

Finally, the use of online live streaming in qualitative research raises a number of ethical challenges. Many questions arise that are related to privacy, user protection and information protection. As put by Harpstead et al. (2019), "How should new members be introduced to the study? What if a new viewer is a minor or a member of some other protected class? How, if at all, should users be made aware when messages are being collected at-scale (Seering et al., 2017)? How should participants be handled when the treatment of their data may be subject to different laws depending on their country of origin?".

All these difficulties and barriers make it difficult to conduct qualitative study on online live streaming. Nonetheless online live streaming platforms provide more advantages, possibilities, and opportunities than difficulties. We believe that the opportunities presented by online live steaming for qualitative research largely outweigh

the disadvantages of these platforms. This supports the necessity of overcoming the barriers faced while investigation online live streaming.

### *4.5.3. Towards an optimal use of online live streaming*

In order to make the most out of online live streaming in qualitative research, it is necessary to tackle the difficulties detailed earlier. Every methodological approach has its own strengths and weaknesses. The same goes for the different types of data. Some constraints are inherent to certain types of data. Nonetheless, it is possible to overcome these difficulties. In what follows we consider the best ways to tackle the difficulties faced when using online live streaming data. This should allow us to make the most of the data while bringing down the risk, the time, and the resources allocated to the collection, treatment and analysis of online lives streaming data (Recktenwald, 2017).

As previously discussed (Harpstead et al., 2019; Recktenwald, 2017), the communication structure and characteristics of online live streaming can make the qualitative content ambiguous for the participants and for the researchers. Recktenwald (2017) suggests that this ambiguity can be faced with maximal neutrality in transcribing. The transcription must be as neutral as possible, without taking sides or imposing values of aesthetics or skill. This would allow for the transcription to be the pure product of the interaction between the users. In the present study, we didn't conduce the typical form of transcription, that is, collecting the responses with a recording device, writing down the responses…etc. This is because we are using an online live stream where the data is shared

directly in the live chat. Nonetheless, we had to manually collect all the interactions of the live stream, to transfer them to our own data files, to order, structure and clean them. This took a substantial amount of time and effort. We propose that this work is the online live streaming equivalent of transcription in traditional qualitative techniques.

We suggest that another way to face the ambiguity of the data encountered in online live streaming platforms is to rigorously adopt and follow strictly mapped methodological approaches. In our case, we are following a Grounded Theory method that allows for such a structured and rigorous work. For instance, one of the key approaches of Grounded Theory to data analysis is constant comparison. According to this approach, data analysis follows a process of consistent comparison of new data with the categories which have emerged. Constant comparison is a rigorous and extensive process designed to maintain and further saturate, modify or discard the categories identified during the analysis of the data (Glaser & Strauss, 1967; Goulding, 1999). Besides constant comparison, we can rely on some of the main tenets of Grounded Theory. For instance, we can define procedures (Glaser & Strauss, 1967) or guidelines on how to carry out the research process, including coding procedures, memoing, as well as how to move from coding to theory development. These guidelines and procedures were later formalized into the widely known processes of open, axial and selective coding (J. M. Corbin & Strauss, 1990; J. Corbin & Strauss, 2008). Therefore, the use of the processes of open, axial, and selective coding should allow for a

rigorous treatment and analysis of the qualitative data gathered in online live streaming platforms.

Moreover, Grounded Theory makes available a number of tools that allow us to insure the validity and reliability of the end result of the qualitative analysis. Its approach to theory assessment is based on some key aspects of the process of theory development. This includes checking emerging ideas with further observations and making systematic comparison between observations. Grounded theory also relies on variety of canons of verification (Charmaz, 1983) such as logical consistency, clarity, parsimony, density, scope, integration, theory fit (Glaser & Strauss, 1967) and ability to work…etc. We propose that this approach will allow us, not only to achieve initial objectives of Grounded Theory but also to balance the difficulties caused by the specificities of online live streaming qualitative data.

### 4.6. Use of online live streaming in consumer behavior research

Now that we have conducted an in-depth review of various aspects of online live streaming in relation to the many fields where it is used, we will try, in this section to focus on its use in our field of research, marketing, and more particularly in consumer behavior. Over the last years, social media has gained a broad recognition (Alalwan et al., 2017) in marketing and consumer behavior. It plays a paramount role in the success of products, services and businesses (Fitzpatrick & Munby, 2013; Hawkins & Vel, 2013). Over 90% of companies use Social Media Marketing (SMM) (Anne Whiting & Deshpande, 2016) and

about 95% of brand managers admit to using Social Media Marketing in their marketing mix. Moreover, more than 80% of them consider it a strategic imperative for a business (Buzzetto-More, 2013). Sure enough, Social Media Marketing has drawn significant interest from researchers. This gave birth to a huge body of literature on Social Media Marketing across a variety of disciplines (Fitzpatrick & Munby, 2013; Anne Whiting & Deshpande, 2016). It is used and studied for many purposes and subjects in consumer behavior (Constantinides et al., 2013; Naylor et al., 2012; Schlagwein & Hu, 2017; Weerasinghe & Hindagolla, 2018) and marketing.

As for today, online live streaming is growing in importance in the field of marketing (C. Y. Lu et al., 2020). Online live streaming, as an emerging form of social media is, indeed, increasingly studied in the field of marketing but also in behavioral studies and consumer behavior (Cai et al., 2018).

### *4.6.1. Subjects of research related to online live streaming in the field of consumer behavior*

The study of online live streaming is primarily focused on the viewer, the broadcaster and the streaming platform and the interactions between them (Scheibe et al., 2016; Zimmer, 2018). Within this research, the study of the users, their profiles, their behavior and their motivations is one of the main subjects of concern (Scheibe et al., 2016). When it comes to marketing and consumer behavior, the research considers, to a certain extent, the characteristics of the consumers (Ying, 2017). Nonetheless, the research mainly

tries to understand the reasons that makes the consumer watch (Kaytoue et al., 2012; Y. Li et al., 2020; Song, 2016), or engage in purchase (Sjöblom et al., 2017) live streaming shopping (Cai et al., 2018) or gift giving (Z. Zhu et al., 2017), and more general the reasons behind the popularity of such platforms but also the viewer's intention to continue watching (Hu et al., 2017). In that sense, the research studies consumer's beliefs, attitudes, intentions and actual behavior (F. D. Davis et al., 1989).

Another factor of consumption studied is the consumer's type of consumption (Ying, 2017). Beyond the intention and behaviors of watching live streams, scholars also studied the acts of online shopping relying on online live streaming platforms with an emphasis on the influencing factors encouraging the act of online shopping (Kao, 2009) as well as the online shopping behaviors influenced by online live streaming, such as mobile payment (Bailey et al., 2017).

#### *4.6.2. Online live streaming influence on consumer behavior*

The results of these different studies show the different ways in which online live streaming impacts and is impacted by consumer's behavior. Many studies agree on the fact that the social dimension (Song, 2016) is a key factor in online live streaming. It's the main reason attracting the consumers to watch a live stream (Churchill & Xu, 2016; Ma & Mei, 2019). This social dimension is even more important knowing that being connected is the only motivational aspect that compels viewers to pay in order to subscribe to a broadcaster's channel in such platforms (Sjöblom & Hamari, 2017). More than that, this

socialization is significant (more than other factors such as information and entertainment) for paid subscription but also donations (Gros et al., 2017). More research confirms this crucial role of the social aspects of online live streaming. Indeed, a key motivation is the identification with the broadcaster's audience groups and the co-experience between users (Hu et al., 2017). It is particularly impactful in the intention of the viewer to continue watching (Hu et al., 2017).

Other research highlights the key importance of the online live stream content in attracting the consumer (Gandolfi, 2016; Spilker et al., 2020), in terms of quality but also in terms of structure (Sjöblom et al., 2017). Moreover, researchers have defined more motivating factors for the use of online live streaming platforms such as the satisfaction of consumer's needs related to their desire for entertainment (Song, 2016), for "passing the time" or to access knowledge. Additionally, a number of papers are concerned with the financial transactions taking place in the context of online live streaming (Gros et al., 2017; Sjöblom & Hamari, 2017) such as the motives for donation to a streamer and paid subscription to a streamer's channel, mobile payment (Bailey et al., 2017), intention to give online gifts to the streamer (S. Kim et al., 2016), attitudes towards online shopping (Kao, 2009) and ultimately, consumer decision.

The literature has identified many influencing factors impacting behaviors related to financial transactions in online live streaming contexts. Perceived security, perceived sociality, perceived entertainment (Bailey et al., 2017), friendly feelings towards the

streamer (S. Kim et al., 2016), perceived trust, perceived ease of use and usefulness of consumer perception (Kao, 2009) are the main ones. Moreover, related to financial interactions, some interesting patterns have been identified by researchers. For instance, (Z. Zhu et al., 2017) found that only a small number of viewers send the majority of the rewards sent to the streamer via the streaming platform. Also, after observing their peers' gift-giving behavior, the users are motivated to do the same.

Finally, other general motivating factors influencing consumer behavior in online live streaming have been identified in the literature. The most important factors are consumption types, i.e., impulsive, convenience, self-occupied, trendy and personalized consumption (Ying, 2017), as well as other social and psychological motives such as the release of pressure from work, the soothing of psychic trauma or the gain of recognition (Song, 2016).

### *4.6.3. Methodological approaches to the study of online live streaming in consumer behavior*

The study of online live streaming in marketing and consumer behavior relies strongly on quantitative methods. In comparison to the more general research on online live streaming (that is not related to marketing and consumer behavior) the research on online live streaming in marketing and consumer behavior relies even more on quantitative approaches and has even fewer qualitative articles. The major part of the literature uses online surveys (Bailey et al., 2017; Cai et al., 2018; Hu et al., 2017; Scheibe et al., 2018;

Sjöblom et al., 2017), regular surveys (Gandolfi, 2016; Kao, 2009; C. Y. Lu et al., 2020), and questionnaires (Gros et al., 2017; Ma & Mei, 2019; Sjöblom & Hamari, 2017). Some of the quantitative studies rely on crawled data (Kaytoue et al., 2012; Z. Zhu et al., 2017) and use a variety of data analysis and graph construction methods based on other sources of information such as API (Churchill & Xu, 2016; Yu et al., 2018). As for the qualitative methods used in the study of online live streaming in marketing and consumer behavior (K. J. Fietkiewicz et al., 2018; Zimmer, 2018). In terms of methods, the research relies on in depth interviews, analysis of records, or means end chain laddering (C. Y. Lu et al., 2020; Recktenwald, 2017; Spilker et al., 2020). The methodological approaches used in this context support the necessity of reducing the over representation of quantitative studies in the study of online live streaming in marketing and consumer behavior. It also supports the introduction of more diversity in the qualitative research used.

Our work will address those two necessities. Not only are we proposing a qualitative approach, but we are also aiming to use Grounded Theory. This will contribute, indeed, to the diversity within the qualitative research led in this area. In fact, to our knowledge, no Grounded Theory study has been realized so far in the research treating online live streaming in marketing and consumer behavior.

### 4.7. Summary

All the literature examined in the different parts of this section show clearly the benefit and added value of the study of social media and specifically online live streaming.

The interest and importance of such research is even stronger in the field of marketing and consumer behavior. Grounded Theory, the qualitative approach we propose has shown to be particularly adapted and responds to a real necessity of diversity and depth in terms of methodology in this area of research. Finally, all the epistemological and methodological choices made, the context of study retained, and the research methods chosen align and converge towards the study of online waiting in a way that, we believe, will allow us to reach our research objectives while maximizing our contributions.

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# Chapter 5. Research Design

## 5.0. Introduction

In the previous chapter, we presented the different epistemological and methodological decisions that were taken in the present thesis.

As explained in the previous chapter, the qualitative investigation of online live streaming content and interactions was found to be the most suitable method of data collection in regard to the characteristics and objectives of the current project. The previous chapter (Chapter 4) highlights the decisions taken in terms of epistemology, research methodology, and research methods. As for the present chapter, it highlights the aims, choices, and means implemented for the actual design of this research.

The research design aims to articulate the way in which the researcher proceeds to devise the research project. Indeed, the choice of a particular research design is primarily dictated by its ability to answer the research questions of the study. After having chosen a methodology for the research project, the researcher's task is to build a design that will allow us to answer these research questions while taking into consideration the limits of the study in terms of resources, budget, time, scope…etc.

This chapter presents the research design used in this study. It highlights the choices made and tools employed for the collection, treatment, and analysis of the data used in this project. It also aims to detail the reasons behind these choices. Firstly, the chapter presents the general approach used for the research design of the study. Secondly, it details the

sampling method employed. Thirdly, it highlights the control tools and processes used to guarantee a rigorous process. Fourthly, it details the process employed for the collection of the data used in this research. Finally, it describes the analysis carried out in order to investigate the collected data.

## 5.1. Context of the study

In what follows, we focus on the global context and characteristics of our sample. First, we start by giving an overview of the context and environment in which the sample was formed. Secondly, we explain with more precision the conditions of the sample's formation and the waiting situation under study.

### *5.1.1. General context: Industry and actors*

In order to get a grasp of the nature of the context of this research it is necessary to better understand the specific context in which it was conducted. Indeed, the extent and meaning of the study can be best understood by examining its particular environment. To address this necessity, we elaborate on the size, importance, and role of the video game industry. We also identify the main companies that have an influence on the situation under investigation.

#### 5.1.1.1. Entertainment and video game industry

Entertainment is one of the most important industries worldwide. In 2019, the size of the market was estimated at 2.1 trillion USD (Watson, 2020). Cinema, Tv and music are the more visible branches of this industry, and they have, indeed, represented the largest

part of the entertainment industry for decades. Nonetheless, video games have taken over the industry. In effect, in 2019 alone, the video game business has generated an estimate of 152.1 billion USD. In comparison, 2019's cinema box office has generated about 41.7 billion USD while the incomes of the music industry represented about 20 billion USD (News, 2021). In other words, the video game industry represents more than double that of the cinema and music industry combined. Moreover, the video game market counts with an extremely large base of consumers estimated to about 2.5 billion users (News, 2021). For the reasons given above, the investigation of the video game industry is of great interest for both researchers and marketing practitioners. Moreover, the video game industry provides the researcher with a vivid, lively, and rich context of investigation.

#### 5.1.1.2. Fortnite: A video game giant

This investigation explores a situation experienced by the consumers of the product/service Fortnite. Indeed, the whole waiting situation experienced by the participants to the online live stream under investigation is related to the game Fortnite being temporarily shut down.

Fortnite is one of the most successful video games of the last few years. As of May 2020, Fortnite cumulated about 350 million users. Every month, more than 2 million new users download the game (Business of Apps, 2021). This huge consumer base makes of the game one of the most lucrative video games ever made. Indeed, in 2020 Fortnite generated 5.1 billion USD in gross revenue (Clark, 2021). In 2018, Fortnite made an

average income of about 2 million USD per day. The present description of Fortnite supports the importance and interest of the study of related consumer behavior. Moreover, it helps us better situate the context of the research. Indeed, Fortnite is the product/Service that is the object of the waiting situation under investigation in this work.

#### 5.1.1.3. Epic Games: The mothership

Epic Games is the company that created, launched, and that operates the game Fortnite. Epic Games is a leading entertainment company. Besides the development of video games, Epic Games provides 3D engineering technology to a variety of industries such as game development, film, television, automotive, architecture, manufacturing…etc. In the area of 3D engineering, its main product is the game engine Unreal Engine. By acquiring a better knowledge about the company behind the video game Fortnite, we are able to better situate the waiting situation under study. Indeed, many of the elements of the waiting event investigated are the direct result of the strategy adopted and the actions led by the company. Moreover, it is important for us to know and understand the role of the company because it has an important impact on the consumers implicated in the situation under study. Indeed, a preliminary overview of the data gathered shows that the consumers are aware of the company's corporate brand and relates to it in many ways.

#### 5.1.1.4. IGN Entertainment: A reliable and impactful streaming actor

For the present study, we were faced with the necessity of selecting an online live stream broadcasting channel to serve us as a source of information. The choice was made to use the IGN YouTube Channel managed by IGN Entertainment.

There are many online live streaming broadcasters treating a variety of subjects. When it comes to the video game industry, IGN Entertainment is without a doubt one of the most influential (if not the most influential) actor. Three reasons make it so IGN surpasses, in our opinion, the many streamers specialized in video games on the various streaming platforms. Firstly, IGN has much expertise and experience in video game information (IGN, 2022; E. Johnson, 2019). Indeed, while many online live streaming broadcasters are individuals with variable levels of knowledge about the video game industry, IGN is a leading global media brand that has been operating in entertainment and video game information since 1996. Thus, IGN's experience and expertise goes way back, even before the emergence of YouTube channels and online live streaming platforms as communication media (Geddes, 2008). Consequently, IGN demonstrates experience and expertise that are difficult to match.

Secondly, because of its history and expertise in entertainment and media IGN has become a trusted source of information in the world of video game (Hernandez, 2015; Insider, 2016; Kain, 2019). This is important because it makes of IGN's Channel an important source of information for the users and viewers in search of information related

to video games. Moreover, IGN's trustworthiness makes of it a more reliable source of information for the researcher in comparison to other small or obscure broadcasters that cannot guarantee the same quality of information (Göbel & Gutjahr, 2011; B. S. Greenberg et al., 2008; Paredes Otero, 2021; H. Wang et al., 2009).

Thirdly, one of IGN's main strengths is its reach. Indeed, IGN entertainment reaches more than 254 million users per month worldwide. It counts more than 21 million subscribers on its YouTube channels and 49 million subscribers in all platforms (IGN, 2022). The large number of IGN's viewers is an indicator of its importance for users/consumers. Moreover, because of the size of its audience, IGN's platform is able to provide us with the diversity and richness in audience and situations that is necessary for our qualitative investigation.

For all the reasons listed above, we have opted for IGN Entertainment's YouTube channel as a source of information for the online live streaming waiting situation investigated in this work.

### *5.1.2. Sample context: Fortnite, the black hole of waiting*

The previous section provided us with information about the key actors and the general context of the study. In what follows, we go in more detail to describe the online live streaming event under study in this project.

From Sunday October 13$^{th}$ to Tuesday 15$^{th}$ 2019 the hundreds of millions of players of the game Fortnite were faced with an unpreceded event. All the services of the game

were completely shut down. When attempting to access the game, either through console, computer, or phone, the users would find nothing but a black screen that resembled a black hole (See Figure 5.1). The players were faced with two choices, either to exit the game or to keep waiting while staring at the uneventful black hole screen. Consequently, the 'black hole' has put Fortnite's consumers in an unexpected, unexplained, and long-lasting waiting situation. The waiting situation was even more intense because all the content of Fortnite's social media (Twitter, Instagram…etc.) has been removed. Instead, it was replaced by images of the black hole screen. All the content shared by Fortnite was replaced by the black hole empty screen. Moreover, no further information was given via any media by Epic Games, the company owning Fortnite and managing its services.


Figure 5.1. Illustrative image of the black hole blank screen displayed by Epic Games in the player's devices screen while the Game Fortnite was down. Adapted from: IGN (2019). "Fortnite Season 11 Livestream - Monitoring the Blackhole" [YouTube live stream]. Retrieved from https://www.youtube.com/watch?v=_g0DPyisc2I, by IGN, 2019.

It is important to highlight that the shut-down of the services of the video game Fortnite was not the result of an error or technical difficulties. Instead, it was the result of a premeditated marketing action conscientiously planned by Epic Games. For this marketing action the company deliberately chose to shut down all services and information channels without prior notice of any kind. This marketing choice was not without consequences or risk for Epic games. Indeed, as already explained, Fortnite Generates about 2 million USD each day. Therefore, by cutting the game's services for 2 days the company was facing a shortfall of about 4 million USD with little guarantees about the return on investment of the action carried out. This is of particular interest for the researcher concerned with waiting and positive waiting. Indeed, we are presented with a case where the company bets on the positive aspects of waiting to support its strategy and goals.

Rapidly, online live streaming broadcasters started covering the "event". Very quickly, a large number of viewers gathered in the online live streams created to that effect. Ultimately, during two full days, millions of Fortnite users experimented an unpreceded waiting situation. Hundreds of thousands of these Fortnite users (as well as non-users of the game) spent hours on end waiting in online live streaming platforms on the Internet.

To conclude, the waiting situation initiated by Fortnite's shut down of its services provided us with an exceptional opportunity to investigate many aspects that are of great interest to our research on waiting, waiting online.

## 5.2. Research design following the principles of Grounded Theory

Grounded Theory is characterized by the close interaction between data collection and data analysis. Indeed, one of the key features of Grounded Theory, as a methodology, is that it relies on a constant comparative analysis. This constant comparative procedure aims to develop a theory that is grounded in the data being analyzed (Glaser & Strauss, 1967; Rennie, 2007).

Concretely, the constant comparison analysis is a "procedure in which each line of data is compared with identified (coded) content" (Rennie, 2007, p. 60). The content being analyzed either receives a previously identified code or is given a new one. In the same way, categories are developed from the codes, and a core category is built that englobes all the others. As a result, theory building, in Grounded Theory, is an ongoing process. The data is constantly compared with the categories generated.

Moreover, Grounded Theory is characterized by one of its key tenets, i.e., theoretical sampling (Breckenridge & Jones, 2009; J. Corbin & Strauss, 2008; Glaser & Strauss, 1967). It has been defined as "the process of data collection for generating theory whereby the analyst jointly collects, codes, and analyzes his data and decides what data to collect next and where to find them, in order to develop his theory as it emerges" (Glaser & Strauss, 1967, p. 45). Following this approach, the concepts and ideas emerging from the analysis influence the collection process. In other words, the researcher relies on his analysis of the data gathered to further orient his data collection efforts.

As a result, in practice, the process of theory building takes the form of successive iterations where the researcher goes back and forth between the collection of the data and its analysis.

Those characteristics of Grounded Theory impact the research design of the investigation itself (Creswell, 1998). The research design, in this context, is not a hermetically pre-established roadmap. Instead, it is a continuous process. At each stage of the field work the research design of the next stage is redefined and adapted based on the information gathered and analyzed at that point (J. M. Corbin & Strauss, 1990; Locke, 2001). For instance, the choice can be made to include a new category of respondents, to incorporate new questions in the study or to choose an additional data collection method to complement the research (Breckenridge & Jones, 2009; Denzin & Lincoln, 2006).

The research design, when it comes to Grounded Theory, differs largely from the research design usually employed in positivist approaches and generally used in quantitative studies (J. Corbin & Strauss, 2008; Creswell, 1998). Indeed, the typical approach in positivist research is to define the research design of the study prior to the implementation of the field work and before the data collection phase. All the choices, in terms of research design, are definitive at that stage. It is then followed by the data collection as a separate and distinct phase. Conversely, in Grounded Theory, the researchers do, indeed, define a general framework for the research design. Nonetheless,

the research design is refined continuously at each successive stage of the investigation (Breckenridge & Jones, 2009; Denzin & Lincoln, 2006).

As we can see, the constructivist positioning of this work and its methodological approach, Grounded theory, present many particularities. These particularities strongly impacted our work. Consequently, this section has been formalized in a way that differs from that of traditionally constructivist theses. Initially, we presented the basic elements of the research design of the project. Nonetheless, the chapter has been formalized alongside the realization of the data collection, treatment, and analysis.

To illustrate this evolution of the research design through the course of this work, we can highlight some of the choices made during this phase. Initially, our investigation was focused on the exchanges between the viewers taking part in the online live stream under study. The analysis only considered the written interactions between the viewers in the chat section of the online live stream. Nonetheless, the progress of the investigation made it obvious that it was necessary to take into account the role of the broadcaster of the online live stream as well as the content of the live stream. As a result, we incorporated in our analysis the key occurrences and events in the live stream content as well as the verbal and written interactions of the streamer with the viewers.

## 5.3. Sampling decisions and outcomes

### *5.3.1. Observation Unit*

The choice of the observation unit is closely linked to the general design of the research. It is the direct result of the research questions and objectives defined for the study. Therefore, the choice of the observation unit is of key importance for the present research.

In comparable studies investigating consumer behavior, the individual is often the main object of the research. In this case, the consumer or the user is identified as the unit of observation. This choice is the more adequate when the research question revolves around the individual and the specific factors related to its behavior.

Nonetheless, this is not the case for our study. Indeed, the objective of this work is to conduct an in-depth exploration of waiting on the Internet (in online live streaming platforms), as a whole. This puts the present work in a more holistic perspective. Based on the research questions, the key focus of the current thesis is waiting on the Internet, and more specifically waiting in online live streaming platforms. Thus, for this project, the observation unit is the waiting situation.

The difference should be made between observation unit and sampling unit (Morse, 1991; Neergaard & Ulhøi, 2007; Smit & Onwuegbuzie, 2018). The waiting situation, which is the observation unit, defines the necessary boundaries of our exploration of the phenomenon under study. Nonetheless, it is not sufficient. Indeed, the waiting situation, doesn’t provide us, in itself, with information that could be analyzed. It is the individuals

(sampling unit) experiencing the waiting situation that are, in fact, the source of information. Only this information produced by the individuals can inform us about the waiting situation under investigation. Therefore, it is necessary to rely on the individuals, i.e., the sample unit, to produce the information related to unit of observation, that is, the waiting situation (J. M. Corbin & Strauss, 1990; Morse, 1991).

### *5.3.2. Sampling decisions and outcomes*

The decisions related to the sampling are contingent upon the most fundamental choices made in any research. This is also the case for the present thesis. They are the result of the research questions and objectives of the study as well as the epistemological positioning, the methodological approach and the research methods used. Additionally, the sampling choices are strongly influenced by the subject of research and, to a large extent, by the state of the art on that subject (J. M. Corbin & Strauss, 1990; Creswell, 1998; V. Janesick, 1994; Morse, 1991; Neergaard & Ulhøi, 2007).

For the present work, it is important to consider the fact that this investigation is novel in several ways. Indeed, as highlighted in the last chapter, the research exploring online live streaming is very recent. Moreover, there are very little qualitative studies on the subject. Furthermore, there is only a handful of studies using Grounded Theory in online live streaming contexts. This has many implications on our research design.

Because of the novelty of the investigation and the use of Grounded Theory in online live streaming, we are facing many unpreceded challenges in terms of research

design. Indeed, the traditional sampling approaches don't directly apply to our research. This is because the sampling in traditional qualitative research usually relies on data collected through traditional means such as interviews, focus groups, diaries…etc. These techniques rely on samples that are stable in terms of size, composition, and respondent characteristics. In contrast, qualitative data from online live streaming platforms provides us with data that corresponds to real-time interactions, fluid content, and dynamic user participation. Therefore, the samples from online live streaming platforms are less stable than the ones used in more traditional contexts. This challenger the researcher's approach to sampling and calls for an important effort of adaptation and innovation in terms of sampling. Therefore, the sampling choices made in this section don't strictly fit within the typical sampling process used in Grounded Theory. We discuss these differences and particularities in more detail in what follows.

Additionally, as previously explained, one of the main advantages of the use of social media in general and online live streaming in particular, is that it gives us access to new types of information. It allows for the observation of new situations with a depth and richness that couldn't be reached by other means. The present research leveraged one of the main advantages provided by online live streaming, namely, the fact that it allows the qualitative researcher to have comprehensive access to the studied situation. Indeed, the live stream under study allowed us to observe the entire waiting situation from start to finish. Moreover, in this study, we were able to explore the waiting situation (the

observation unit) while hearing the voices of all the individuals (sampling unit) taking part in it. Having access to all the participants engaged in the situation, we did not have the need to form a sample of individuals. Instead, we investigated the interactions between all the individuals with all the richness, depth, and diversity it allows. As a result, our use of sampling method diverges, to a certain extent, from the sampling strategies usually used in Grounded Theory. We develop our approach to sampling in more detail in what follows.

### *5.3.3. Sampling unit*

As explained in the previous part, the sampling unit is the source of information from which the fieldwork data is obtained. The main aim of this study is to understand how the individuals react to the wait on the Internet, in online live streaming platforms. This makes of the individual the focal point of the investigation. Thus, the individual is, indeed, our main source of information. Therefore, in this work, the sampling unit retained is the individual. More specifically, the sampling unit is the individuals participating in the online live stream.

In this research, the individuals studied assume a variety of roles. In regard to the online live stream, they are users, viewers, or the streamer. In respect to the product/service that is the object of the wait they are consumers. From the perspective of our study, they assume the role traditionally attributed to participants or respondents. Consequently, in this work, the individuals making the sample unit can be interchangeably referred to as users, viewers/streamer, consumers, respondents, or participants.

### *5.3.4. Sampling method*

#### 5.3.4.1. Sampling in qualitative research

In qualitative research, the concept of sampling as well as its objectives differ largely from those of quantitative research. In quantitative studies the main goal is to achieve representativity. In other words, the researcher aims to constitute a sample of the population. This sample is meant to be representative in a way that would allow the generalization of the results to the general population under study. Thus, the sample in quantitative studies usually involves a relatively large number of respondents that are selected random (Neuman, 2011; Patton, 2002).

As for qualitative research, the goal is not to extrapolate the results of the sample to a larger group of reference. Instead, its main purpose is to achieve information-richness. Indeed, the main imperative in qualitative research is to collect information that is rich enough to provide sufficient insight into the subject under study. Therefore, the sampling in qualitative research is aimed at obtaining rich and in-depth data and insight in line with the objectives research of the study. Rather than seeking general representativeness, the focus is on gaining sufficient insight into the subject of study. Thus, the sampling in qualitative studies generally relies on the principle of purposeful sampling, that is, sampling that is guided by the purpose of the study in search of richness and depth in information. As a result, the samples in qualitative research are purposeful instead of

random. They are also usually small unlike the large samples used in quantitative investigation. (Miles & Huberman, 1994; Patton, 2002).

#### 5.3.4.2. Particularities of the sampling used in the thesis

In this work, the research question and objectives, the epistemological stance, the methodology and the research method retained all converge toward a qualitative investigation of the situation under study. Therefore, one could expect the sampling method used in this research to fit exactly within the sampling approach typically used in qualitative research. Indeed, from a purely theoretical perspective the present work should be purposeful and could, if needed, rely on a small sample of respondents.

This work does present, to a large extent, the characteristics of a typically used pure naturalistic-qualitative strategy in terms of sampling. Nonetheless, there are differences that automatically stand out.

There are important differences between our sampling approach and the habitual sampling approach used in qualitative research. In this regard, there are two main differences that need to be highlighted, namely, the nature of the sample and the size of the sample. We discuss these point in more detail in what follows.

##### *5.3.4.2.1. Purposefulness and nature of the "sample"*

First, the main difference between our approach and a typical naturalistic-qualitative strategy resides in the nature of the sample. In fact, in this research, we are considering the totality of the individuals participating in the online live streaming event

under study. We are not collecting data from part of the users or questioning a limited number of participants. Nonetheless, sampling is indeed, an approach that is designed for the study of part of the individuals experiencing the phenomenon under investigation.

Despite these differences, the concept of sampling is essential to our investigation because it serves as a fundamental component of qualitative research and plays a vital role in achieving the intentional and purposeful nature that characterizes Grounded Theory methodology. In the present work, we apply the principles traditionally used in the literature for a limited sample to the object of our study which is the entirety of participants involved in the online live stream under study. In Grounded Theory research, this usually achieved by nuancing and qualifying the sample through theoretical sampling (J. M. Corbin & Strauss, 1990; Glaser & Strauss, 1967). That is, new participants or cases based on recent theoretical insights are selected in an iterative way, so as to capture diversity of perspectives and variations within the phenomenon (Breckenridge & Jones, 2009).

Nonetheless, in the present work, our approach is limited because of the use of online live streaming platforms and the nature of the subject matter, namely, waiting. On one hand, unlike in traditional methods, the utilization of online live streaming platforms largely pre-defines the number characteristics of the participants. On the other hand, because of the significance of temporal progression in understanding waiting, it is crucial to comprehensively investigate the online live stream, covering the entire waiting experience from beginning to end. Consequently, we are subject to a minimum sample size

that imposed on us and that corresponds to the whole waiting period. Nevertheless, in line with our qualitative approach, we reserve the right to incorporate variations or contextual conditions to the sample through nuancing or qualifying choices if necessary. Indeed, as explained earlier, the sampling in qualitative research is purposive. Therefore, the only real imperative for the qualitative researcher is to build a sample that is oriented toward the achievements of the goals of the investigation while maximizing the richness of the data collected and analyzed.

In this study, the main aim is to understand, in the most detailed way, the waiting experience of the users taking part in the online live streaming event under study. Having access to the whole experience with all the interactions of the participants is a unique opportunity to achieve this goal. Indeed, considering the entire waiting situation studied allows us to acquire a holistic view of the waiting situation taking place. It also allows us to gather particularly rich data and to acquire particularly deep insights. Moreover, it allows us to consider a large variety of profiles and behaviors. Additionally, by analyzing the whole waiting experience, we are able to build a clearer vision of the evolution of the wait over time. This is of particular importance to our work because time is a fundamental concept and a key factor in the study of waiting (Bielen & Demoulin, 2007; R. A. Feinberg & Smith, 1989; Heineke & Davis, 1998).

Therefore, the fact that we are considering the entire situation investigated does not go against the principles of sampling in qualitative research and Grounded Theory. On the

contrary, this choice is in fact guided, by the principles of theoretical sampling that is characteristic of Grounded Theory.

In the present study, we will refer to the total of the users studied as the sample. Indeed, all the participants experiencing the situation studied don't form a sample in the strict sense of this term. Nonetheless, we could consider that the sample covers the totality of the population studied. This choice in terms of nomenclature is justified by theoretical and methodological reasons.

Indeed, from a theoretical perspective, this research relies on an approach that is typically used in qualitative research for samples of respondents. By using the term "sample" we are able to preserve the link between the research design of our study and the current literature on research design in qualitative research. Thus, this allows us the keep this work embedded in the state of the art on research design in qualitative research and Grounded theory.

#### *5.3.4.2.2. Purposefulness and sample size*

The size of the sample is a feature that usually allows differentiating between quantitative and qualitative investigation. On the one hand, quantitative studies rely on large numbers of respondents. On the other hand, qualitative research usually uses small samples and investigates a handful of respondents. (Benoot et al., 2016; J. Corbin & Strauss, 2008; Morse, 1991).

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This project presents an important particularity in terms of sample size. Indeed, this work consists of a qualitative investigation based on the principles of Grounded Theory. Therefore, a priori, the size of our sample is more likely to be small. Nonetheless, this is not the case. In fact, the sample used in the present study is composed of a very large number of respondents.

Based on this difference between the theory on qualitative research and our study one could assume that our research does not comply with the conditions of a qualitative study. Nonetheless, this is not the case. Indeed, the qualitative approach to defining the size of the sample is fundamentally purposeful. In Grounded Theory, the sampling approach used is theoretical sampling. It consists of the collection of data in order to generate theory. The analysis of the data decides which information to collect next and its sources. This process of data collection is guided by the emerging theory (Glaser, 1978). Theoretical sampling is purposeful (Patton, 2002) because "all qualitative sampling is purposeful sampling" (Coyne, 1997, p. 625). In this context, the size of the sample is essentially defined through theoretical saturation. That is, the continuous collection until the data collection doesn't generate any new leads (Breckenridge & Jones, 2009; Glaser & Strauss, 1967).

The present research does, in fact, follow the principles of purposeful sampling. The large size of the sample is dictated by the imperative of purposefulness. Indeed, the main goal of this investigation is to understand waiting in online live streaming from a

holistic perspective by considering all the diversity and richness in participants and interactions involved while considering the evolution in time of the waiting situation. In our case, these goals could only be reached through the analysis of the large sample used in this study.

Moreover, in qualitative research and Grounded Theory there is no limitation to the size of the sample. As put by Patton (2002), "there are no rules for sample size in qualitative enquiry" (p. 244). The right sample size is the size that allows the researcher to reach the purpose of the study, to get answers to their questions and to provide credible results. If the size of the sample can be reduced to a few respondents when this fits the purpose of the research, then we should be able to stretch it to englobe the whole participants in a situation if this is what is needed. Therefore, we defend that our sampling choice of a sample composed of all the users of the online live stream studied is the most adapted choice for our research. Indeed, in a different context, it could have been possible to study a sample composed of only parts of the online live streaming (depending on the particular goals of its theoretical sampling). Nonetheless, in this work, our aim is to achieve maximal richness of data allowing for the development of a comprehensive theoretical framework on waiting in contemporary online settings. To accomplish this, it was necessary for us to continue the sampling until the end of the online live streaming event.

It is important to highlight that the principle that really guided us in terms of limiting or expending the number of individuals questioned is the concept of the theoretical

saturation (Glaser & Strauss, 1967). Indeed, rather than aiming for a number of respondents, we conducted a constant comparison analysis. In line with this approach the collection and analysis of data continued as long as the data wasn't redundant and kept adding value to the development of the categories that have been identified. This is because theoretical saturation is of greater importance to the amount of data collected and number of respondents questioned than a pre-set sample size. Nevertheless, we had to define the minimum size of the sample as the entirety of the waiting situation taking place on the online live streaming platform.

Concretely, the decision was made to continue our sampling until saturation is reach, but to include, nevertheless, the remaining interactions between participants of the live stream until its end. We kept as an option the possibility to extend the sample in the best fitting ways, should the saturation not be reached by the end of the waiting event. Thus, in this work, we have continued the data collection and analysis until reaching saturation in all the categories defined. The continuous apparition of new events and new categories all along the live stream made it so that we have reached saturation, in all the categories only around the end of the situation studied. Moreover, we needed to consider the evolution of many categories over time to monitor the evolution of the waiting situation. This too made us continue the analysis until the end of the waiting situation. Consequently, the size of our sample covered all the participants of the online live stream across its entire span.

#### 5.3.4.3. Sampling strategy: Mixed purposeful sampling

The choice of a sampling strategy was influenced by the main decisions made in terms of epistemology, methodology and research method. Indeed, the constructivist stance of research, the use of the Grounded Theory methodological approach and the study of the users experiencing waiting in an online live streaming platform converge toward the sampling strategy developed in this section. As explained earlier, we are following a purposeful sampling approach. Nonetheless, there is a variety of purposeful sampling strategies. Each one of these strategies comes with its own strengths and weaknesses. Therefore, every purposeful sampling method is more adapted to specific contexts and objectives.

Before operating the choice of the purposeful sampling strategy that best fits the objectives of our research, we start by presenting the classification of the different purposeful sampling strategies alongside with their main characteristics.

Table 5.1. Sampling strategies

| Type | Purpose |
|---|---|
| Purposeful sampling | Select information-rich cases strategically and purposefully; specific type and number of cases selected depends on study purpose and resources |
| Extreme or deviant case (outlier) sampling | Learning from unusual manifestations of the phenomenon of interest, for example, outstanding successes/notable failures; top of the class/dropouts; exotic events; crises |

| | |
|---|---|
| Intensity sampling | Information-rich cases that manifest the phenomenon intensely, but not extremely, for example, good students/poor students; above average/Below average. |
| Maximum variation sampling – purposefully picking a wider range of cases to get a variation on dimensions of interest | Document unique or diverse variations that have emerged in adapting to different conditions. Identify important common patterns that cut across variations ( cut through the noise of variation). |
| Homogeneous sampling | Focus; reduce variation; simplify analysis; facilitate group interviewing |
| Typical case sampling | Illustrate or highlight what is typical, normal, average. |
| Critical case sampling | Permits logical generalization and maximum application of information to other cases because if it's true of this one case, it's likely to be true of all other cases. |
| Snowball or chain sampling | Identify cases of interest from sampling people who know people who know people who know what cases are information rich; that is, good examples for study, good interview participants. |
| Criterion sampling | Picking all cases that meet some criterion; for example, all children abused in a treatment facility. Quality assurance. |
| Theory-based sampling, operational construct sampling, or theoretical sampling | Finding manifestations of a theoretical construct of interest so as to elaborate and examine the construct and its variations. |
| Confirming and disconfirming cases | Elaborating and deepening initial analysis; seeking exceptions; testing variations. |
| Stratified purposeful sampling | Illustrate characteristics of particular subgroups of interest; facilitate comparisons. |

| | |
|---|---|
| Opportunistic or emergent sampling | Follow new leads during fieldwork; taking advantage of the unexpected; flexibility. |
| Purposeful random sampling (still small sample size) | Add credibility when potential purposeful sample is larger than one can handle. Reduces bias within a purposeful category. (Not for generalization or representativeness.) |
| Sampling politically important cases | Attract attention to the study (or avoid attracting undesired attention by purposefully eliminating from the sample politically sensitive cases). |
| Convenience sampling | Do what's easy to save time, money and effort. Poorest rationale; lowest credibility. Yields information-poor cases). |
| Combination or mixed purposeful sampling | Triangulation; flexibility; meet multiple interests and needs |

Source: (Patton, 2002)

In this work, our presentation of the sampling strategy is retrospective. Indeed, the sample being constituted of an online live streaming platform, its properties are largely imposed on us. Nonetheless, it is important for us to understand the particularities of our sample and how it fits within the literature on sampling in Grounded Theory. Thus, we have analyzed the sample, with the advantage of hindsight, to identify the specific sampling strategies to which the use of our online live stream corresponds.

The present research uses a mixed purposeful sampling also known as combination purposeful sampling. Indeed, this work's approach to sampling doesn't fit within one of the generic sampling strategies detailed above. Instead, it relies on many of these strategies.

Our approach borrows elements from many of the approaches detailed in Table 5.1 to build a sampling method that perfectly aligns with the objectives, needs and constraints of the present work.

The choice of a mixed purposeful sampling strategy was indeed influenced by the constraints imposed by the waiting situation under study. Nonetheless, it was also thoroughly guided by the objectives, research questions, methodological positioning, and context of the study. Surely, there is no one strategy from the standard approaches defined in the literature that could allow us to reach our goals. Thus, a more flexible and adaptive approach was needed. Fortunately, the literature shows that mixed sampling strategies allow for the flexibility that is necessary for the realization of this project.

The mixed purposeful sampling method used consists of a combination of 3 of the qualitative purposeful strategies listed in Table 5.1. Those 3 strategies are the following.

- Intensity sampling
- Criterion sampling
- Opportunistic or emergent sampling

In what follows, how our approach uses some aspects of each of the strategies retained.

#### *5.3.4.3.1. Intensity sampling*

The sampling strategy used in this work presents many aspects of the intensity sampling approach. In effect, the main goal of the intensity sampling strategy is to identify

respondents that manifest the phenomenon under study intensely, but not extremely. (Kramer & Burns, 2008; Palinkas et al., 2015; Patton, 2002).

In the present research, the sample is composed of rich examples of individuals that use online live streaming platforms on the Internet and that have a significative experience of waiting. Their use of the online live streaming platform is intense enough to allow for the collection of data that is sufficiently rich to permit a deep qualitative analysis of the data collected. Their experience of waiting on the Internet is also intense enough to allow for the collection and analysis of rich qualitative data.

More concretely, the sample used provides us with an intense experience in terms of use of online live streaming platforms as well as in terms of waiting. This is because it is composed of the users of an online live streaming platform that are waiting for the outcome of the unexplained disappearance of a product/service, which is the video game Fortnite. The waiting situation lasted for more than two days, and the users spent prolonged periods of time in the online live streaming platform. The prolonged period of the situation under study is an important indicator of the intensity of the participants' use of the online live streaming platform and experience of the waiting situation investigated. Therefore, it is clear that the sample presents the high intensity that is necessary for the collection and analysis of rich data about both waiting and online live streaming platforms.

Nevertheless, intensity sampling is not the only purposeful technique that focuses on respondents that significantly vary from the norm. Extreme sampling is another

technique that does so. Because of these similarities, it is possible to conflate the two sampling approaches. Thus, in order to support the use of intensity sampling in the present thesis, it is important to highlight the differences between extreme and intensity sampling and to show why it is, in fact, an intensity approach that is used in this work.

Extreme or deviant sampling has been defined as a technique that illustrates a context in terms of outstanding successes or failures (Patton, 2002). It focuses on unusual and atypical manifestations of a phenomenon of interest (Palinkas et al., 2015; Patton, 2002). As an illustration, in the study of students grades in a class, an extreme sampling approach would consist of focusing solely on the students who received either the topmost or the lowermost grades in the class. As for intensity sampling, it is a technique that focuses on selecting samples that are rich, or excellent examples of the phenomenon under study (Patton, 2002). It is used in situations where a sample that is too mild may not offer adequate information for the researchers to achieve the objectives of their study (Shaheen et al., 2018). Nonetheless, unlike extreme sampling, the intensity sampling technique selects participants who have experienced the phenomenon to a significant degree of intensity, but not to the greatest degree possible. To illustrate this, the study of students grades in a class using an intensity sampling approach would consist of focusing on the students who received either very good, or very bad grades rather than exclusively focusing on the highest-scoring and the lowest-scoring students.

We can see that there are similarities between intensity sampling and extreme sampling. Indeed, neither technique relies on mild manifestations of the phenomenon under study. Nevertheless, the two approaches are different. In extreme sampling, the expression of the phenomenon of interest is significantly more intense and more focused on the extremes than in intensity sampling. Indeed, while intensity sampling seeks to investigate rich manifestations of the object of enquiry, extreme sampling explores manifestations that are very peculiar and might diverge from it (Shaheen et al., 2018).

Based on the definitions provided above, we can conclude that the sampling technique used in the online live streaming waiting situation of interest is intensity sampling. This is because the focus of the study is on the waiting experience of users showing a high level of engagement and involvement with the wait in the online live streaming platform. Nonetheless, while the participants were likely to have spent a significant amount of time waiting during the event, they have not experienced the most extreme waiting situations, such as waiting for the entire duration of the event without breaks.

To sum it up, intensity sampling is the technique used in this study because the focus was on participants that were intensely engaged with the event, without being outliers experiencing the most extreme manifestations of waiting.

#### *5.3.4.3.2. Criterion sampling*

The sampling approach used in this project bears significative similarities with one of the main purposeful sampling strategies define in the literature, that is, criterion sampling. In criterion sampling, the researcher picks all the cases that meet a criterion (Palinkas et al., 2015; Patton, 2002). An example from the literature is the selection of consultant trainers and program leaders at study sites (Marshall et al., 2008). As we can see, the criterion used is a specific combination of conditions that need be met for the respondent to be considered for the study. In the previous example, the respondents must be a consultant trainer or a program leader in a specific location/context, that is, a study site.

As for the present research, it does come with a number of conditions that are necessary for the respondents to be fit for the study. Indeed, the investigated individuals must be online live streaming users. They need to experience waiting in the online live streaming platform. Moreover, because of the instantaneous nature of the waiting situation studied and the instantaneous nature of interactions in online live streams, the participants must be taking part in the online live streaming waiting situation in real time, at the moment of its recording. The waiting in the online live streaming platform must also be related to the same product service, in this case, the game Fortnite. Finally, because of the importance of the interactions between users in waiting in online live streaming, the participants must be participating in the same online live stream.

Therefore, this research uses a criterion purposeful sampling strategy. It consists of the selection of online live streaming platform users that are experiencing a waiting situation in real time, together, in the same online live steaming platform.

#### *5.3.4.3.3. Opportunistic sampling*

This present research also uses elements of the opportunistic sampling strategy. The main characteristic of the opportunistic sampling strategy is that it takes advantage of the situations encountered. It can do so in many ways, either by using the opportunities offered by unpredicted events, following emerging field work possibilities, or collecting unexpected data. Opportunistic sampling strategy is a highly flexible approach that leverages the circumstances to further advance the objectives of the study (Patton, 2002).

This research follows an opportunistic approach in the sense that it takes advantage of the data that came to the knowledge of the researcher and that showed to particularly fit within the objectives of the study. It also fits with many of the unanswered questions in the waiting literature.

On October 13$^{th}$, 2019, the video game Fortnite shut down all its services without any further information. Overnight, the millions of consumers that use the game on a daily basis found themselves unable to use the game. Instead, all they could do was watch an almost empty screen where nothing seemed to happen. This massive waiting situation lasted for no less than 2 full days.

In response to this situation, hundreds of thousands of users of the game gathered in YouTube live channels where they spent hours wait together while observing the apparent emptiness of the looping waiting screen. Not only did these channels live broadcast the "event", but they also used embedded live chats that allowed the participants to comment the incidence and discuss it in real time while waiting online.

The occurrence described above raised the interest of the researcher who saw it as a unique opportunity to study waiting in online environments, in groups. Indeed, this waiting event provided an opportunity for the study of many unexplored aspects of waiting and to address many of the limitations of the literature such as (1) the difficulty to observe the complex and elusive phenomenon that is waiting (J.-C. Chebat & Filiatrault, 1993), (2) the habitual reliance on declarative methods inducing a number of biases (e.g., recall bias, response acquiescence bias…etc.) (Kam & Meyer, 2015; Paulhus, 1991; Podsakoff et al., 2003; Schriesheim & Hill, 1981; Schwarz, 1999) and (3) the limited research on new and contemporary waiting contexts.

The use of the online live streaming platform under study allowed us to address the limitations listed above in many different ways. First, the online live streaming data is characterized by the instantaneity of its interactions (See chapter 5. Section 1.5.3.). This instantaneity reduces the biases usually associated with declarative methods (Kam & Meyer, 2015; Paulhus, 1991; Podsakoff et al., 2003; Schriesheim & Hill, 1981; Schwarz, 1999) which positively impacts the ecological validity and the unobtrusiveness of the study

(Lerner & Schmid Callina, 2014; Lietz & Zayas, 2010; Onwuegbuzie et al., 2009; Quinan et al., 2015; Smit & Onwuegbuzie, 2018). Moreover, the instantaneity of the online live streaming allows for the investigation of phenomena that couldn't be observed in any other way with an unpreceded level of detail, precision, and richness. Moreover, the online live stream provides us with the opportunity to study a novel and contemporary environment that differs from the usually studied in-person waiting situations.

As explained above, the waiting that took place in the online live streaming platform at the occasion of the shutdown of the game Fortnite presents many advantages for the study of waiting. One of the key choices made in this research was to take advantage of the potential of the encountered waiting situation. In that sense, the use of the online live streaming platform under study as the foundation of our qualitative data is an opportunistic sampling choice.

### *5.3.5. Characteristics and size of the sample*

Having situated the sample used in this study in its general context, we will focus, in this section, on the size and the characteristics of the sample.

To begin with, it is important to highlight that the present research is taking place in a context that varies largely from typical qualitative studies such as interviews, in-depth interviews, focus groups, diaries…etc. Indeed, this study is investigating a novel and contemporary situation. Because of this novelty, the investigation of the situation calls for the adaptation of the methods traditionally used in qualitative research. As a result, this

study presents important particularities. These particularities have, indeed, an impact on both the characteristics and the size of the sample used in this work.

#### 5.3.5.1. Distinctive characteristics of the sample

As previously explained (See 5.3.4.2.1), the use of an online live stream as a source of our qualitative data imposes some limitations on our sampling process. Indeed, we did not build a sample constituted of a limited number of recruited respondents (as this is usually the case when relying on interviews, focus groups, diaries…etc.). Instead, our sample had necessarily to be taken from the online live streaming platform. Thus, it was composed of users of the online live streaming platform. We adopted a purposive approach guided by theoretical saturation, in line with the Grounded Theory methodology used. Nonetheless, given the unique characteristics of the waiting situation under study, our research objectives, and the nature of the subject of interest (i.e., waiting it was imperative to comprehensively investigate the entire waiting situation. As a result, the sample ultimately included all the users involved in the wait taking place in the online live streaming platform.

Secondly, as we have explained above, all users of the online live streaming platform were included for investigation in this project. Therefore, in order to form a sample, the researcher did not have to recruit respondents.as is usually the case in traditional qualitative studies. Instead, the participants of the online live stream played the role usually attributed to the respondents that are recruited for a qualitative study.

One of the main implications of these sampling choice is that the researcher has limited agency over the composition of the sample. Indeed, in the sampling approaches usually used in qualitative research, the researcher is able to choose, with great precision, the characteristics and profiles of the respondents. Nevertheless, because of the reasons given above, it was simply not possible to choose specific profiles. Instead, the composition of the sample was imposed by the data.

However, the particularities detailed above (i.e., the fact that the sample includes all the individuals participating to the online live stream and the absence of respondents' recruitment) don't interfere with the objective of the study and don't undermine its rigor in any way. This is because this work has adopted a purposive approach to sampling. Therefore, the main necessity for the sample is to allow for the achievement of the goals of the research through rich and insightful data. In fact, by considering all the users of the online live stream we were able to maximize the richness and diversity of the information gathered in a way that is the most in line with the objectives of this work. Thus, the constitution of a sample consisting of specific cases and the recruitment of respondents, which are typically used in qualitative projects was not applicable or relevant for the present study.

#### 5.3.5.2. Particularities of the sample size

The particularities of the present work also have an important impact on the size of the sample used in this research. As explained in 5.3.4.2.2, the size of the sample studied

in this project is very large. This large size is the result of the choices made in terms of sample structure, i.e., the choice of a sample that covers all the users of the online live streaming platform. Indeed, as previously discussed, the large size of the sample differs from the typical approach followed in qualitative research, that is characterized by small samples (Patton, 2002).

The sampling choices made in this work have some additional implications regarding the sample size. Indeed, because the size of the sample corresponds to the total number of users participating in the online live streaming event studied. Nonetheless, as previously explained this is not the case in this study. Instead, the size of the sample is imposed by the size of the data gathered from the online live stream studied.

Nonetheless, there is no set rule for the determination of the sample size in qualitative research besides the imperative of purposefulness (Palinkas et al., 2015; Patton, 2002). Moreover, the current study was conducted according to the principle of theoretical saturation. Thus, the most important aspect of the sample was the saturation of the data rather than a set number of respondents.

#### 5.3.5.3. Sample size

As detailed in the last section, the sample of this study is composed of all the users participating to the online live stream event investigated. Because of that, the sample presents two important particularities that impact the way in which we can approach and present the size of the sample. First, the large size of the sample makes it difficult to

measure accurately the number of participants. Secondly, the online live stream users join and leave the online live stream as they please. Therefore, it is difficult to keep track of them entering and exiting of the interaction taking place on the online live streaming platform.

Nonetheless, the collection, analysis, and treatment of the qualitative data of the online live stream followed the principle of theoretical saturation. Therefore, greater relevance is placed on questions such as, if the data was redundant for the categories generated rather than how large the sample is. Therefore, the exact measure of the sample's size is of little relevance to this work. For these reasons, in this section, we will not present the exact size of the online live stream studied in terms of participants.

Nonetheless, it is important for us to get a sense of the volume of data analyzed and a view at the diversity of information provided by the online live stream under investigation. Therefore, in what follows, we present indicators of size of the sample. We will start by presenting the online live streaming channel's metrics. Secondly, we will the present the main information related to the volume of the data gathered.

#### *5.3.5.3.1. Online live stream YouTube Metrics*

The live stream's YouTube page metrics allow us to get an idea of the frequentation of the online live stream and the users' engagement.

Table 5.2. YouTube metrics of the online live streaming channel studied

| | Views | Likes | Dislikes |
|---|---|---|---|
| Day1 (13/10/19) | 355.488 | 4.700 | 673 |
| Day2 (14/10/19) | 204.927 | 3.300 | 693 |
| Total | 560.415 | 8.000 | 1.366 |

Source: IGN's Youtube page.

Retrieved from https://www.youtube.com/watch?v=_g0DPyisc2I, by IGN, 2019.

On the first day, the streaming channel broadcasted the "event", that is, the empty black hole screen appearing on all users' devices while Fortnite was down. More than 355 thousand people visited the online live stream YouTube page of the broadcaster IGN. On the second day of broadcasting, almost 205 thousand viewers entered the live stream. In total, more than 560 thousand people accessed IGN's online live streaming webpage broadcasting Fortnite's empty black hole screen.

In terms of sampling, the 560 thousand visitors of the online live streaming event represent the maximum of participants that have potentially interreacted with the online live stream. Indeed, not all the visitors of online live streaming page engage with it at the same level. Some viewers would spend no more than a few seconds on the stream and then leave. Other viewers could stay minutes or hours on the platform. Also, some users would

interreact with the other viewers and the broadcaster via the online live stream's live chat while others might adopt a more passive stance and not interact with anyone.

In this study, only the participants that interacted with the stream's live chat can be considered as part of our sample. Indeed, only the users that expressed themselves can provide us with the qualitative data and the insights that are necessary to our analysis.

Therefore, 560 thousand participants is not the size of our sample. Instead, it represents the upper limit of the sample's size. In other words, we can say that our sample is constituted, at the most, of 560 thousand participants.

Nonetheless, the number of visitors of the online live stream's platform gives us important information about the sample. Indeed, the number of visitors of the online live stream (i.e., 560 thousand users) shows a very high attendance. Thus, we can legitimately infer that the sample is very large. The large number of visitors on the online live streaming platform supports the richness and diversity of the data generated. This is because the large attendance encourages the participation of a wide range of individuals, each bringing their unique experiences, perceptions, and perspectives to the study. It also encourages the comprehensive observation and analysis of a large variety of rich social interactions and shared experiences (S. Lim et al., 2012).

The metrics of the online live streaming YouTube page also provide us with indicators that are of interest for the study. Indeed, the YouTube platforms allows us to see the number of viewers who liked or disliked the content of the channel. This is of interest

to our research because it allows us to get a sense of the level of engagement of the viewers with the online live stream and its content.

During the two days of broadcasting, the online live streaming collected a total of 8.000 likes and 1.366 dislikes form the viewers. This show that a large number of users engaged with the online live stream and decided to take a stance in regard to its content (Lonkila & Eranti, 2015). A total of 9.366 viewers engaged either positively or negatively with the online live streaming event. This is a significant number of viewers and interaction particularly if compared with sizes and structure of the samples normally used in qualitative research. Therefore, we suggest that the sample used in this research presents a high level of engagement. This further supports the arguments previously made about the richness and diversity of the data collected.

#### *5.3.5.3.2. Data volume indicators*

Following the shutdown of Fortnite's services, the users were forced to wait for two full days. During that time, the online live streaming broadcaster aired the empty Fortnite's blackhole screen for extensive periods of time. In the first day, the online live stream broadcasted the waiting event for about 3 hours and 20 minutes. In the second day, the online live stream broadcaster showed almost 5 hours of Fortnite's black hole screen. As a reminder, the broadcaster is the streamer of the online live stream (2.8.1.1.). They upload the real-time video and audio content (Hu et al., 2017), manage and supervise the comments made in the live chat by the other users of the live streaming platform (i.e., the

audience). In the present study, the broadcaster is the IGN Entertainment streamer who live streams the waiting event on the IGN YouTube channel. (See 5.1.1.4.).

In total, the online live stream represents about 8 hours and 10 minutes of recorded time where the broadcaster interacts (essentially by talking to the viewers while broadcasting and reading their chat messages) with thousands of the online live streaming platform users.

Table 5.3. Indicators of size of the sample: Duration and data volume.

| | Total duration | Entries | Lines | Words | Pages |
|---|---|---|---|---|---|
| Day1 (13/10/19) | 03h18mn16s | 15.801 | 31.829 | 72.129 | 541 |
| Day2 (14/10/19) | 04h51mn15s | 12.560 | 25.627 | 65.320 | 437 |
| | | | | | |
| | 08h09mn31s | 28.361 | 57.456 | 137.449 | 978 |

As we can see, the online live streaming channel did not record 24/7. Indeed, the broadcaster enforced daily down periods. These unrecorded periods were taken for practical and technical reasons. The streaming was limited to certain hours because the presence of the streamer is necessary to maintain a link between broadcaster and audience, to monitor the content of the online live stream, and to manage the interactions between the viewers. Therefore, in the online live stream under study, the streaming time was tied to the presence of the streamer. The choice made by the broadcaster was to limit the

streaming time to certain periods. Indeed, we can imagine that it is difficult for the broadcaster to maintain a relatively interactive online live streaming session 24/7, for two days straight. For these reasons, as explained earlier, the online live streaming data collected correspond to broadcasting periods of about 3 to 5 hours a day for two days.

Nonetheless, the fact that the online live streaming of the waiting event was limited to certain hours of the day, instead of being uninterruptedly, doesn't have a significative impact on our research. Indeed, the 8 hours and 10 minutes spent by the respondents in the online live streaming platform represents a long waiting period. Surely, in the context of waiting, very few studies have approached such a large duration. Indeed, most of the studies on waiting focus on short occurrences, usually taking place in a queue (Adan et al., 2001; J. Baker & Cameron, 1996; Koo & Fishbach, 2010). To our knowledge, there is no previous work that observed a waiting situation for such a long period, particularly for a real time waiting situation. Therefore, we suggest that the sample used in this study provides us with a long duration of observation. The length of the waiting situation observed, in terms of time, is important to our work because, on the one hand, it allows us to gather extremely rich and diverse data, while on the other hand, it permits the analysis of the evolution of the situation over time, which is a key element for the study of waiting.

Additionally, in terms of the duration of the online live stream event studied, we are given the opportunity to observe uninterrupted waiting occurrences for long periods of time. Indeed, on the first day of waiting, we are facing a continuous waiting experience

that lasts more than 3 hours. On the second day, the waiting in the online live streaming platform lasts for a little less than 5 hours without interruption. This also contributes to the richness and diversity of the data gathered. Furthermore, it allows for the study of the evolution of the wait over time.

Besides the time duration of the online live streaming event studied, there are many other ways to measure the volume of the data of our sample. In effect, except from the streamer's few spoken interventions, all of the interactions of the users are taking place in a written form, on the stream's live chat section. Therefore, the most adapted way to measure the volume of data gathered, treated and analyzed is to measure verbal units composing the text of the live chat interactions.

As we can see in Table 5.3, the online live stream investigated counts for more than 28.000 entries. This corresponds to a length of more than 137.000 words. In a standard text page, the total of the users' comments would represent more than 57.456 lines of text. Thus, the total volume of data of the sample corresponds to about 978 pages of text. The indicators of size of the textual data gathered presented in this section serve, overall, to help the reader and the researcher build a global view of the sample in terms of the volume of the data.

Nonetheless, the most telling indicator is probably the number of entries in the online live streaming live chat section. Indeed, each entry on the live chat corresponds to a comment. Therefore, the number of entries in the online live streaming permits an accurate

estimation of the comments made by the online live streaming platform users composing our sample.

Therefore, in total the participants to the online live stream platform made more than 28.000 comments (See Table 5.3). On the first day of the waiting situation under study the users made almost 16.000 comments. As for the second day of waiting, the users made a little more than 12.500 comments.

As we can see, we are presented with a huge volume of data. Nonetheless, it is important to keep in mind that the size of the sample used in this study is not important in itself. In other words, the approach used in this work is not to pursue volume of information. Surely, large sizes of data are usually pursued in quantitative research for purposes of representativity and generalization.

In this work, the main objective followed by the researcher is to constitute a sample that provides data that is rich and diverse enough to permit an insightful qualitative analysis. We believe that has been clearly achieved.

### 5.4. The data collection process

The collection of the information started one week after the diffusion of the online live streaming event, that is, on the October 21st, 2019. It ended on January 13th, 2020. Thus, the data collection took place over an overall period of 3 months. The extended duration of the data collection process can be attributed to several factors. These include (1) the substantial sample size comprised of the participants of the online live streaming

platform, (2) the voluminous and dense nature of the data generated by the participants (several messages simultaneously shared every few seconds by the users of the online live streaming platform) (5.3.5.3.), (3) the resort to the manual collection of data because of the inability to use automated data collection solutions on YouTube streaming live chats (5.4.2.), (4), the simultaneous data collection and analysis approach adopted, in line with the principles of Grounded Theory (Glaser & Strauss, 1967), (5) and the recognized time-intensive nature of data collection in qualitative research in general (Morse, 1994). Indeed, the process of collecting qualitative data involves careful planning, coordination, and substantial time investment. Thus, the data collection often requires significantly more time than the actual data itself (Miles & Huberman, 1994). This section explains the design and the process of data collection used in this project.

### *5.4.1. Nature of the data collected*

The data used in this research was collected from, one of the main streaming online live stream channel on YouTube, i.e., the channel of IGN Entertainment (See 5.1.1.4.). Two types of data were collected. First of all, we collected the verbal interactions of the broadcaster with his audience. Secondly, the main events occurring in the live stream content were collected. Indeed, a variety of events occurred in the initially blank screen of the black hole broadcast. Such events include the streamer putting on music, pointing and hoovering with the mouse to explain something, performing activities to pass the time…etc. We collected the streaming channel's live chat where the viewers wrote, in real

time their impressions, ideas, thoughts and interacted among themselves and with the streamer (See Figure 5.2).

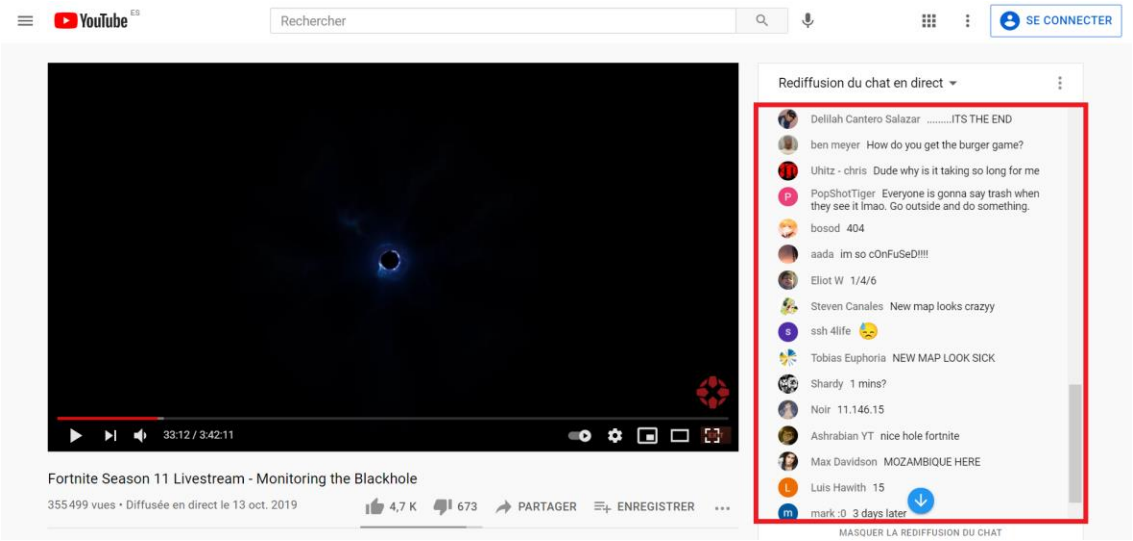



Figure 5.2. Live chat of the online live streaming channel of IGN, broadcasting Fortnite's black hole event. Adapted from Fortnite Season 11 Livestream - Monitoring the Blackhole [Video], https://www.youtube.com/watch?v=_g0DPyisc2I, by IGN, 2019.

The live chat section of the live stream is, by far, the most important source of information in this study. Indeed, in terms of volume, the comments of the broadcaster and the events occurring in the broadcast video screen are almost negligible. Conversely, the data shared by the online live stream users on the live chat represent the overwhelming majority of data collected.

Consequently, an extremely small part of the collection of data consisted of the transcription and the description of verbal speech and occurring events. The collection process carried out essentially consisted of the gathering of written text.

### *5.4.2. Data collection*

One of the main difficulties faced in this research is related to the data collection phase. When it comes to the qualitative study of social media, the researchers are faced with very large amounts of information. In order to collect all this information, the most common approach is to use web scrapping tools and APIs (Batrinca & Treleaven, 2014; Churchill & Xu, 2016).

Web scrapping is a data harvesting technique used to extract information from the Internet, it is used to collect enormous amounts of data that cannot be gathered through other means (Bar-Ilan, 2001; Mooney et al., 2015). Web scrappers are usually used to collect data from web pages through a browser (B. Zhao, 2017). Nonetheless, in many cases, web scrappers alone are not sufficient. This is the case when the datasets needed for the research is owned by online platforms. In those cases, the data collection can only be done through those platforms' application programming interfaces (or APIs) (Venturini & Rogers, 2019). Indeed, in most cases it is possible to collect the needed data using a web scrapping solution alone. This is the case when the data is collected from forums for instance. Nonetheless, in other cases, the data needed for the research "belongs" to the online platform. This is the case for Twitter, YouTube, Twitch…etc. Certain platforms like

twitter allow for the use of their data through their API. Other platforms such as Twitch and YouTube are more hermetic. In the case of YouTube, the interface is proprietary and federated. This makes it impossible to scrap live chat of the online live stream to collect the data automatically.

Being unable to use data scrapping tools and APIs, we made the choice of conducting the data collection manually. Concretely, the data needed was manually copied and re-formatted in text files in order to be used later in a Computer Aided Qualitative Data Analysis Software (CAQDAS). This difficulty forced the researcher to undergo a lengthy and tedious process of data collection, that lasted for three months.

Nonetheless, the nature of the present study allowed us to take advantage of this forced manual data collection process. Indeed, the methodological approach adopted for this project is Grounded Theory. According to its principles, the data collection and data analysis are intimately linked and are conducted in tandem (Glaser & Strauss, 1967; Rennie, 2007).Therefore, we started our analysis of the data simultaneously with its collection. Thus, being forced to conduct the data collection manually allowed us to immerse ourselves in the data from the early stages of the project. Moreover, the simultaneous data analysis and data collection helped us transform a long, tedious, a priori unproductive data collection phase into a fruitful analysis process. Therefore, we suggest that the (forced) choice of conducting the data collection manually served and strengthened our research in line with the principles of Grounded Theory.

### *5.4.3. Particularities of the data collection*

It is worth noting that the data collection in this research differs, in many regards, from the data collection as it is usually carried out in qualitative studies. Indeed, as previously explained, the data collection from an online live streaming platform is very different from the data collection using other sources such as interviews, in-depth interviews, focus groups, diaries…etc. As a result, many of the data collection tools habitually employed in qualitative studies were not used in this work.

One of the main differences between this research and the typical qualitative studies is that the researcher did not recruit respondents, nor did he administrate any type of support or conduct any in-person interaction. Instead, the researcher didn't perform any intrusive action and maintained a high ecological validity. Consequently, there was no use of the tools that characterize qualitative research such as interview guides, instructions, administration support material, follow-up procedures…etc.

## 5.5. Data Analysis

Qualitative research typically results in a large amount of disorganized and disorderly data (Patton, 2002). Analyzing such large volumes of unorganized information can be very challenging for the researcher. In order to overcome the difficulties caused by the nature and the volume of the qualitative data collected, it is necessary for the researcher to follow a number of strategies and procedures.

In what follows, we explain our choice of software assisted data analysis instead of manual one. Secondly, we detail the approach followed to prepare the online live streaming data collected for the qualitative analysis. Thirdly, we explain the data analysis process used in Grounded Theory and how it was carried out in this research. Finally, we explain the approach that guided our data analysis process.

### *5.5.1. Data Analysis with the support of Computer Assisted Qualitative Data Analysis Software*

One of the first choices that must be made by the researcher is whether to opt for a manual analysis of the data collected or to rely on a computer assisted qualitative data analysis software.

The manual analysis of qualitative data traditionally consists of analysis without the support of any software. In this case, the researcher literally conducts the analysis manually (Denzin, N. K. & Lincoln, 2000) using hand-written text, pen, markers, notes, post-its, boards and any other physical tool that might be of support.

As for the Computer Assister Qualitative Data Analysis, it relies on the support of software to assist and enhance the researcher in their task. The use of qualitative data analysis software presents many advantages. It facilitates the whole analysis process, reduces the risk of errors and keeps the data organized (Easterby-Smith et al., 2002; Welsh, 2002). Moreover, as detailed in 5.5.1, the use of qualitative data analysis software improves

the process in terms of speed, conceptualization (Rambaree, 2007) and overall rigor of the qualitative research.

Nonetheless, it is important to highlight that qualitative data analysis software don't actually perform any kind of analysis. Indeed, their only function is to assist the qualitative researcher in its task and to help them manage their data and their analysis tools (Bringer et al., 2006; Richards & Richards, 1994). In fact, while being extremely helpful, qualitative analysis software are not necessary for the realization of qualitative analysis (Basit, 2003; Bourdon, 2002; Denzin, N. K. & Lincoln, 2000; Edwards-Jones, 2014; G. R. Gibbs, 2002). The tasks that are assisted by the software can always be done manually. Ultimately, with or without the support of software the qualitative analysis of data is an intellectual process (Basit, 2003) by the researcher.

For the reasons listed above, the decision was made to conduct a software qualitative data analysis. Furthermore, one of the key reasons for the decision to use a qualitative data analysis software is the large size of our sample. Indeed, in this project we were presented with a huge volume of data. In that context, qualitative analysis software was a hugely valuable tool.

For this work, the assisted data analysis software used is NVivo 12 Pro. Indeed, NVivo is a recognized solution in qualitative data analysis that has been used in a large variety of qualitative studies (Diwanji et al., 2020; Edwards-Jones, 2014; Ye & Yu, 2018). Besides that, many reasons encouraged us to use NVivo in this study.

First of all, we had access to the latest version of the NVivo Software last version (i.e., NVivo 12 Pro) as well as the support documentation and manuals. This is important because, on the one hand, it allowed us to use the latest version of the software, enhanced by the latest technological advances, user-friendly, and intuitive interface. On the other hand, it is worth noting that analysis software are costly solutions to which the researcher doesn't always have access. Therefore, we took advantage of the possibilities offered by the software to strengthen and consolidate our work.

Secondly, the choice of NVivo was largely motivated by its particular fit for Grounded Theory. Indeed, the very design of NVivo was influenced by the principles of Grounded Theory. As a result, NVivo provides many features and functionalities that support the use of Grounded Theory (Coffey & Atkinson, 1996; G. R. Gibbs, 2002). It supports the iterative process that is characteristic of Grounded Theory (Elliott & Lazenbatt, 2005; Hutchison et al., 2013; Hutchisona et al., 2010; Seale, 1999). It is also particularly adapted to the codification process according to the Grounded Theory principles (J. M. Corbin & Strauss, 1990; G. Gibbs, 2012; G. R. Gibbs, 2002).

Finally, NVivo perfectly responds to the very specific needs of the present work. NVivo lets the researcher code the smallest units. Thus, it is possible to code, a few words, or one word down to one single character. Many other solutions don't allow such a thing. For instance, in the competing software NUD*IST the smallest possible coding unit is the paragraph (Drisko, 1998; G. R. Gibbs, 2002). This is of key importance to this project

because the comments made by the users of the online live stream under study were at times very short. Indeed, a typical comment is of one sentence or two, but also often consists of only one or two words, as show in Figure 5.3, and sometimes very short one or two-letter acronyms (see Chapter 4, 4.5.3.1.2.).

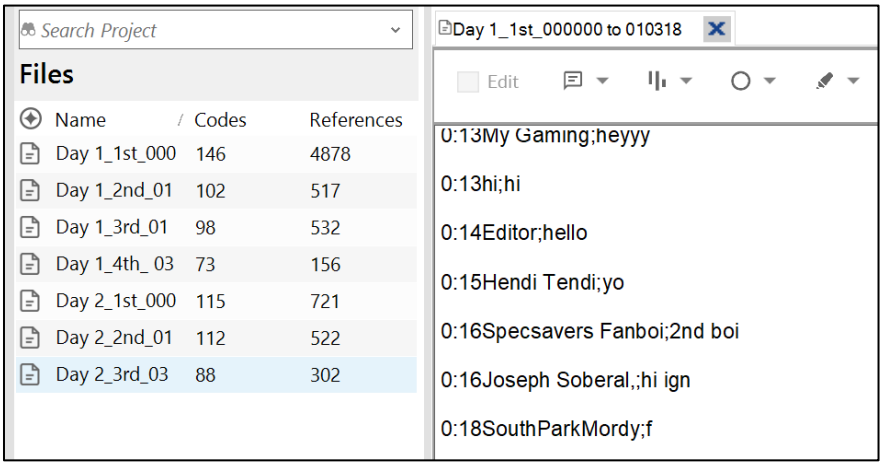



Figure 5.3. Example of short comments coded in Nvivo12 Pro.

Another feature of NVivo that is particularly adapted to the need of our study is the option ‘Highlight’. This feature allows to highlight in the text the coded word, sentence or comment. It is possible to highlight all the all the coded text or to highlight the coded text by criteria, for instance, the coded text corresponding to a given category as illustrated in Figure 5.4.

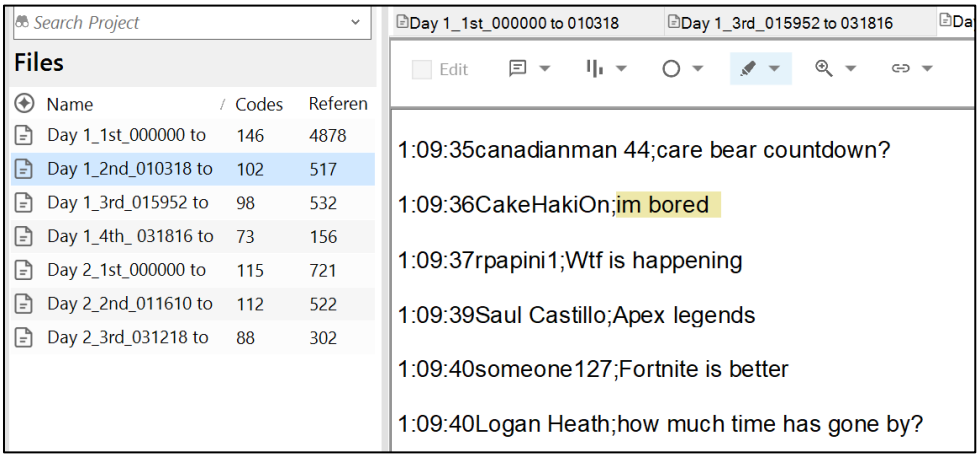



Figure 5.4. Illustrative example of the "Highlight" functionality of Nvivo12 Pro.

### *5.5.2. Preparation of the online live streaming data*

After the collection of the qualitative information, it is often necessary to prepare the data in order for it to be analyzed.

In this research, the preparation of the data was straight forward. Indeed, we had previously collected the data from the online live stream. The information collected was formalized in seven different text files. The text files were automatically exported to the NVivo Software to be analyzed.

The reasons that facilitated the preparation of the data are as follows. First, the data collected was already relatively organized in the source of information, that is, the online live streaming live chat. Indeed, even before being transcribed, the information is presented in the online live streaming following a standardized and organized structure. The information always follows the same sequence. Every comment starts with a timestamp.

The timestamp is followed by the name of the user. Then, the user's name is followed by their comment. The fact that the initial data presented such an organized structure largely helped with the transcription and preparation of the information gathered. Second, the initial data collection was made manually. Therefore, we were able to insure the formalization of structured and organized transcripts (Recktenwald, 2017) at that stage of the research. Finally, the features of NVivo 12 Pro allowed for an easy and simple import of the transcripts to the software. Indeed, some software are not compatible with all the types of text document. In these cases, it might be difficult to migrate the data collected. Nonetheless, in this project, NVivo 12 Pro allowed for a seamless conversion and import of the data to the software.

### *5.5.3. Coding according to the principles of the Grounded Theory*

In qualitative research, coding is the process used to identify and record passages of a text or other types of data in a way that translates the same theoretical or descriptive idea (Charmaz & Thornberg, 2021; G. R. Gibbs, 2002). Coding allows the researcher to reduce (Creswell, 1998) and to make sense of the data collected (J. M. Corbin & Strauss, 1990).

In qualitative research and Grounded Theory, coding is a continuous process that takes places all throughout the data analysis. On the contrary, with coding in quantitative research, the codes are defined a priori, before the data collection and data analysis take place.

Coding is an essential analytical process of Grounded Theory (J. M. Corbin & Strauss, 1990; G. R. Gibbs, 2002). Three essential phases constitute the backbone of coding as a process. These different phases are open coding, axial coding, and selective coding (J. M. Corbin & Strauss, 1990; J. Corbin & Strauss, 2008). These three phases are presented in a chronological sequence, suggesting that open coding comes first, followed by axial coding and selective coding. Nonetheless, the use of these types of coding is not strictly linear and many of those coding tasks might take place simultaneously or at different moments depending of the evolution of the analysis process (J. Corbin & Strauss, 2008). In what follows, we have a more detailed look at the particularities of each type of coding.

#### 5.5.3.1. Open coding

In the open coding phase, the researcher reads the text reflexively, from an open standpoint, in order to identify relevant categories (J. Corbin & Strauss, 2008; G. R. Gibbs, 2002). This entails a line-by-line reading of the text, involving the comparisons and the identification of noteworthy information and categories (Creswell, 1998; G. R. Gibbs, 2002; A. L. Strauss, 1987). This process results in identification and labelling of the main categories. Two approaches to labeling are described in the literature. The first one consists of providing a descriptive label that reflects the researcher's overall understanding of the category (Gibbs, 2002).

The second type of identification is referred to as in vivo labelling. It consists of the use of the exact terms employed by the respondents. For instance, in the present study,

many respondents would express their intention to leave the waiting situation in the same way. The respondents would say 'I'm out'. In response to this situation, we have created a node (i.e., the term used in the software Nvivo to describe a category) that we have labelled "I'm out'.

| Name | Files | Reference |
|---|---|---|
| Hole jokes | 6 | 31 |
| How dare they | 3 | 4 |
| How long have you been waiting | 5 | 5 |
| How long will we wait | 2 | 60 |
| huge impact | 7 | 85 |
| Hurry up | 7 | 44 |
| I can't wait anymore | 7 | 25 |
| I don't even play fortnite | 7 | 49 |
| I don't want things to change | 3 | 4 |
| I hope something happens | 5 | 16 |
| I prefer it that way | 7 | 45 |
| I want the new game (Purchase intention) | 3 | 7 |
| I'm exited | 6 | 25 |
| I'll wait | 5 | 13 |
| I'm back | 6 | 11 |
| I'm confused | 3 | 14 |

Figure 5.5. Example of open coding in Nvivo12 Pro.

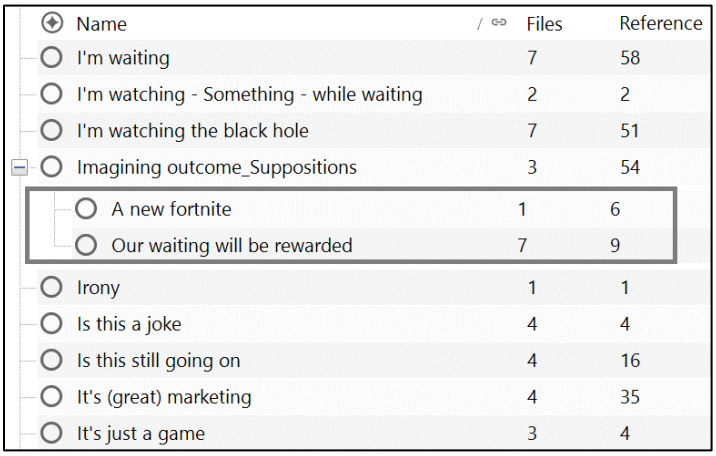
**5.5.3.2. Axial coding**

The axial coding consists of refining, developing, and linking the categories that are related. This phase starts when the researcher has identified the categories that are the

most salient (J. M. Corbin & Strauss, 1990; G. R. Gibbs, 2002). The goal pursued by the researcher at this stage is to understand the links and relationships between concepts.

To illustrate the Grounded Theory approach to coding we will give an example from our study. When the game Fortnite shut down its services, many users gathered in the online live stream platform studied in this project. One of the many reactions of the waiting users is to claim that they will be rewarded by the brand for the time they have spent waiting. Another reaction of the waiting consumers is to profess that the waiting would end and that there will be a new Fortnite instead of the old one. Therefore, we have created two different nodes for each one of these categories. The first category was labelled “Our waiting will be rewarded”, and the second one was labelled “A new Fortnite”.

Moving forward with our analysis, we came to the realization that those two different categories present many similarities and fulfill the same function for the participants to the online live streaming event. Indeed, either the user claims a future reward or the apparition of new game after the wait, in both cases he is projecting himself in the future and imagining consequences that have no existence yet. As a result, we have put the two categories together in a new, englobing node that captures the meaning of both of them. We have labelled this node “Imagining outcome_Suppositions” (See Figure 5.6).



| Name | Files | Reference |
|---|---|---|
| I'm waiting | 7 | 58 |
| I'm watching - Something - while waiting | 2 | 2 |
| I'm watching the black hole | 7 | 51 |
| Imagining outcome_Suppositions | 3 | 54 |
| A new fortnite | 1 | 6 |
| Our waiting will be rewarded | 7 | 9 |
| Irony | 1 | 1 |
| Is this a joke | 4 | 4 |
| Is this still going on | 4 | 16 |
| It's (great) marketing | 4 | 35 |
| It's just a game | 3 | 4 |

Figure 5.6. Example of axial coding in Nvivo12 Pro.

#### 5.5.3.3. Selective coding

Selective coding is the final stage of Grounded Theory. It involves connecting categories to a core category. This core category is the nucleus of the data and constitutes the foundation of the proposed theory (J. Corbin & Strauss, 2008; Denzin & Lincoln, 2006; Moghaddam, 2006).

The selective coding approach consists of systematically selecting, validating, and integrating relevant categories (J. Corbin & Strauss, 2008) in order to explore the relationship between them and the theory proposed (Stamp, 1999). These relationships converge towards the core category identified. This category represents the central phenomenon of this theory and acts as its focal point, while the other categories are linked to it as subsidiary categories (J. Corbin & Strauss, 2008).

From a practical perspective, when conducing selective coding, the researcher refines and expands the categories identified in earlier stages (i.e., open and axial coding) with the aim of integrating them into a coherent theoretical framework (J. Corbin & Strauss, 2008). This integration is accomplished through the construction of a narrative that illustrates the relationships between the core category and the subsidiary categories (Strauss & Corbin, 1990). This allows the researcher to encapsulates the essence of the phenomenon under study (J. Corbin & Strauss, 2008; Pandit, 1996; Rennie, 2007).

In the present thesis, as we will see in Chapter 6 and 7, we have based our selective coding process on the categories identified in the open coding phase and aggregated in the axial coding phase. This resulted in integrated holistic theoretical proposition revolving around the most fundamental manifestation of consumers' response to the wait on the Internet, in online live streaming platforms. The results of this process and the conclusions they allowed us to draw are further in the subsequent chapters of this thesis.

### 5.6. Ensuring rigor & canons of verification

Qualitative research and Grounded Theory vary largely from quantitative research when it comes to ensuring the quality of the academic work produced. Indeed, positivist approaches and quantitative research's main goal is to achieve reliability and validity (Branthwaite & Patterson, 2011; Charmaz, 1983; Sikolia et al., 2013). Nonetheless (Bong, 2002; Welsh, 2002) an important part of the literature suggest that the concepts of validity and reliability cannot apply to qualitative research (Brink, 1993; V. J. Janesick, 2001). For

this reason, researchers have proposed tenets that are more adapted to qualitative research. The two main concepts developed in this regard are the concept of "quality" and the concept of "Rigor". Moreover, the literature on qualitative research also suggests that the concepts of objectivity, reliability, generalizability, internal and external validity used in quantitative research don't apply to qualitative research (V. Janesick, 1994; V. J. Janesick, 2001). Instead, qualitative tenets are proposed such as credibility, transferability, dependability, and confirmability. In addition to the measures of rigor proposed for qualitative research, the literature (Glaser & Strauss, 1967) came with measures that are specific to Grounded Theory. In what follow we will briefly detail the methods used to insure rigor, first, in Grounded Theory, and secondly in qualitative research in general.

In Grounded Theory, the tenets of rigor originally proposed are fit, understandability, generality and control. We detail these approaches in what follows.

- Fit: The theory and data must "dovetail together" (Locke, 2001 p. 59). The theory proposed must fit within the situation under study. It needs to be linked to the daily reality of its area, in our case, the daily reality of online live streaming users.
- Understandability: The theory generated must be clearly understandable by the stakeholders, individuals and actors behaving or working in the type of social situation under study. In the present research, the aim would be to achieve a high understandability for online live streaming viewers, broadcasters, consumer behavior analysts and marketers.

- Generality: The theory needs to be general enough, so it applies to a large range of situations and conditions related to the subject under study. In order to achieve this goal, the theory should be build using a large array of contexts and situations.
- Control: The theory built must provide the person that is to use it with sufficient control over the everyday situations they are likely to encounter. That way, the user is able to adapt and change the theory in order to better approach the reality being observed (Glaser & Strauss, 1967; Locke, 2001).

The rigor measures listed above have been developed specifically for Grounded Theory. Nonetheless, there is a number of rigor tenets that have been proposed for all types of qualitative research. They do, indeed, apply to Grounded Theory. Therefore, they are useful tools to shed the light on our research and to orient our research design. Some of the most important rigor tenets used in qualitative research are presented in what follows:

- Adequacy: The principle of adequacy is for the researcher to continue collecting data until reaching the point where no additional data could add new insight and new categories. When this point is reached, saturation is achieved. Therefore, in order to comply with the measure of adequacy, the researcher must collect a sufficient amount of data, in a way that would permit to reach saturation.
- Credibility: The concept of credibility is a trustworthiness concept (Sikolia et al., 2013) that is the qualitative equivalent of the quantitative concept of internal validity (Brink, 1993; Guba & Lincoln, 1994). When aiming for credibility, the

researcher attempts to understand the extent to which the data reflects the multiple realities of the phenomenon under study. Credibility can be reached, for instance, through a prolonged engagement with the participants to see if the theory represents the reality of the participants.

- Transferability: Like "Credibility", the concept of transferability is a trustworthiness concept. It is the qualitative equivalent of the concept of external validity in quantitative research. It refers to the applicability of research findings to other settings (Sikolia et al., 2013). The clarity of the description of the research, its methodology, its results is a key factor in improving the transferability of a qualitative work.
- Dependability: is the qualitative equivalent of the concept of reliability. In order to be dependable, the data should represent the changing conditions of the phenomenon under investigation. Therefore, it should be consistent across time, with changing analysis techniques and researchers.
- Teamwork qualitative analysis: "A Grounded Theorist Need Not Work Alone" say J. M. Corbin & Strauss (1990, p. 11), in one of the main articles on Grounded Theory canons. The importance of teamwork also applies to different types of qualitative research. The main advantage of this type of approach is that the insights of one researcher triggers and responds to the insights of the other team members.

An example of this type of approach is the increasingly used Multicounty Team Approach in international projects (Milford et al., 2017).

- Triangulation: It is one of the most important tools used to guarantee the rigor of qualitative investigation. Triangulation consists of the use of different sources of information, researchers, methods and theories in order to improve the results of the research (Bryman & Bell, 2007; Flick, 2002; Ritchie et al., 2003). There are 4 main ways to use the concept of triangulation (Flick, 2002; V. Janesick, 1994; Patton, 2002; Ritchie et al., 2003). First, the researcher can rely on the method of data triangulation by using information gathered from different sources. Secondly, the researcher can use methodological triangulation. In this case, the researcher would rely on two or more methodological approaches in the same study. Thirdly, the research can rely on researcher triangulation. This can be achieved by including more than one researcher in the collection/analysis of the data. Finally, the researcher can use theoretical triangulation. This approach consists of the use of different theoretical frameworks to read and interpret the information collected.
- Use of Computer Assisted Qualitative Data Analysis Software (CAQDAS): Researchers become more and more reliant on Computer Aided Qualitative Data Analysis Software (CAQDAS) to assist them in their qualitative working process. Indeed, the various software used allow faster, more elaborate analysis while encouraging more theoretical and conceptual thinking (Drisko, 1998; Rambaree,

2007). Nonetheless, qualitative analysis software do way more than that. In fact, they are an effective tool to guarantee the rigor of the qualitative work through the reduction of human error, the increased accuracy in data searching…etc.

In order to ensure that our investigation is as rigorous as possible, a series of tools and approaches have been used in this project. The criteria that we have employed to uphold rigor in the present study are (1) “Fit”, adequacy (2), as well as including (3) team work to our workflow and using (4) specialized software (CAQDAS).

Regarding the concept of "Fit", as explained in the first part of this section, it consists of establishing close connection between the theory and the data, aligning them with the daily reality of the research area. In the present thesis, the sample used provided us with an ideal opportunity to achieve this close link. Indeed, the sample used, i.e., the online live streaming platform under study, represents an unaltered and unchanged real-life situation, resulting in data that is strongly linked to the daily reality of online live stream users.

As for the concept of adequacy, it aims to ensure that the dataset used in the research is extensive enough to capture a wide range of experiences, perspectives, and variations related to the phenomenon under investigation. In the present study, the use of the online live streaming platform as a source of qualitative data significantly contributed to the achievement of this goal. Indeed, the online live streaming situation provided us with a

substantial amount of data. Furthermore, the data collected encompasses a wide variety of situations and participants. As a result, the chosen sample offered data that was voluminous, rich, and diverse. This allowed for an extensive analysis and improved understanding of consumers' reactions to the wait in online live streaming platforms through a saturation of categories that was reached close to the end of the live stream.

As for teamwork, as previously discussed in this section, it is an established means to ensure rigor in Grounded Theory methodology. In the present work, a teamwork approach was included in the project's workflow. Several group sessions were conducted, covering a significant portion of the coding process. During these sessions, two members of the research team worked simultaneously on coding, interpreting, and analyzing the data gathered at that stage of the research. This collaborative effort enhanced the comprehensiveness and accuracy of the analysis.

Finally, the use of specialized software, i.e., Computer-Aided Qualitative Data Analysis Software (CAQDAS) goes beyond mere facilitation of the researcher's workflow. As previously discussed, it reduces human error, increased accuracy and ultimately significantly bolsters the rigor of qualitative research. In the present work, the qualitative data analysis software used is NVivo 12 Pro. It was included in all the aspects of the qualitative investigation conducted in this project (i.e., data collection, coding, analysis, conceptualization…etc.). This contributed to a reduced risk of error, an increased accuracy of the researchers and an improved rigor of the present research.

Chapter 5

In conclusion, the combined use of the various tools detailed above has been instrumental in upholding the rigor of this investigation. By closely aligning theory and data, collecting diverse and rich information, promoting collaborative efforts, and leveraging advanced software, this study has demonstrated a commitment to ensuring methodological integrity and enhancing the validity of its findings.

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# Chapter 6. Main results of the research

## 6.0. Introduction

In this chapter, we will present the results of the empirical work conduced for this research. First, the chapter presents the process followed in the analysis of the data. Secondly, the chapter presents the main codes and categories formed thorough the analysis. Finally, the chapter presents a detailed description of the theoretical framework built through the analysis of the data.

## 6.1. Data analysis process

In the present work, we are following a Grounded Theory approach. As explained in the previous chapter (5.5.), The analysis conducted in the present thesis relies on the process of coding (J. M. Corbin & Strauss, 1990; Glaser & Strauss, 1967). Indeed, in this work the researchers have attempted to reduce the qualitative data collected and to make sense of it through the attribution of categories according to the Grounded Theory approach (Charmaz, 1995; Charmaz & Thornberg, 2021; Creswell, 1998; G. R. Gibbs, 2002). Thus, the three essential phases of the coding process were followed, that is, open coding, axial coding, and selective coding (J. M. Corbin & Strauss, 1990; J. Corbin & Strauss, 2008).

### *6.1.1. Open coding*

To begin with, the researchers realized open coding. In order to do so, a line by line reading and categorization of the qualitative data gathered has was conducted (J. Corbin & Strauss, 2008; Creswell, 1998; G. R. Gibbs, 2002). This interpretative process allowed us to gather the viewers' comments that are conceptually similar (J. M. Corbin & Strauss, 1990). At the end of this phase, **194 Categories** were identified**.**

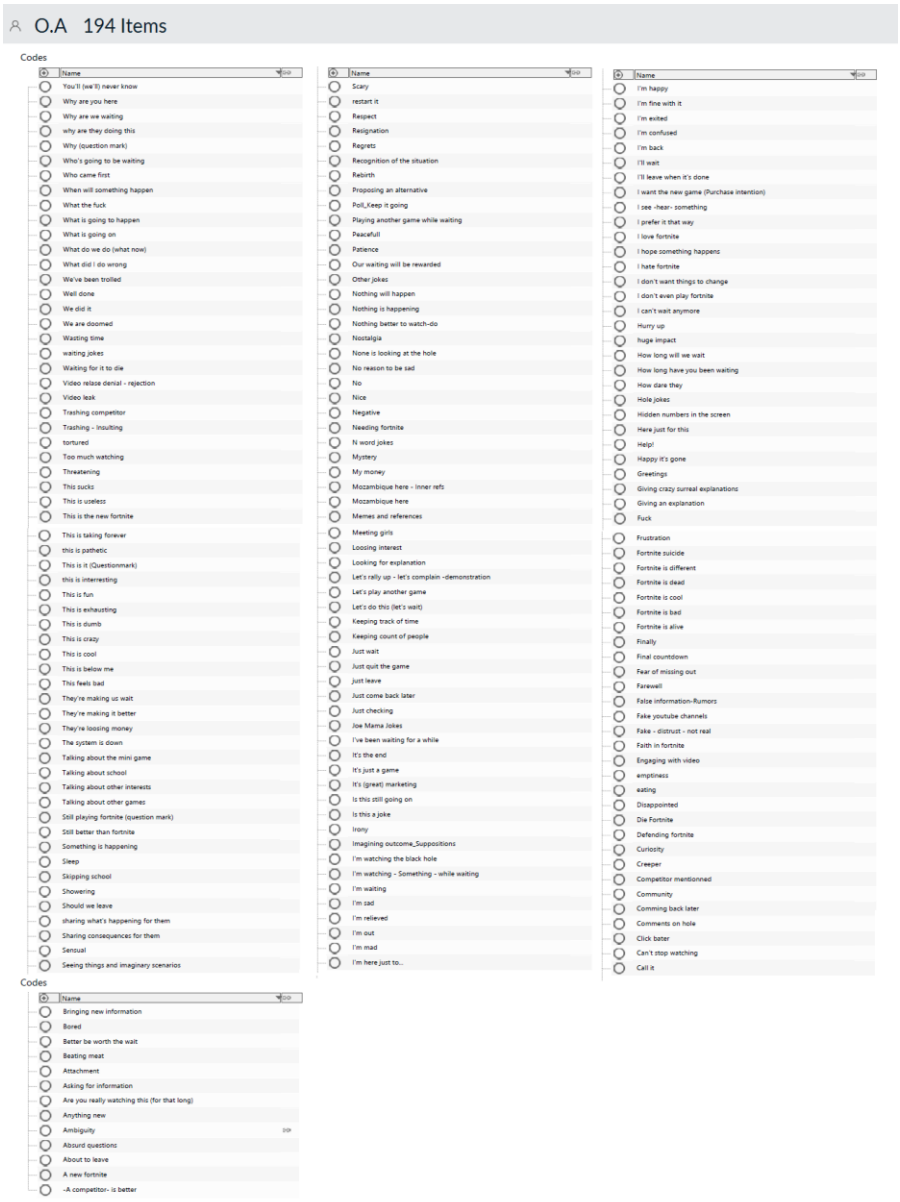


Figure 6.1. NVivo output capture of the total number of nodes identified in the open coding phase.

### *6.1.2. Axial coding*

After the open coding (Locke, 2001). The researchers undertook axial coding (Beech, 2000; J. M. Corbin & Strauss, 1990). At that stage, the researchers identified the relationships between

the different categories that had been defined in the open coding phase. Additionally, new codes and categories kept emerging as the data collection and analysis progressed. As a result, the categories identified during the open coding phase alongside the new categories that have emerged during the axial coding constituted 3 large categories (i.e., "Behavior", "Cognition" and "Emotion"). Each of these categories is constituted of 4 subcategories that correspond broadly to "Positive", "Negative", "Neutral" and "Ambiguous/Ambivalent" reactions to the wait as shown in Figure 6.2.

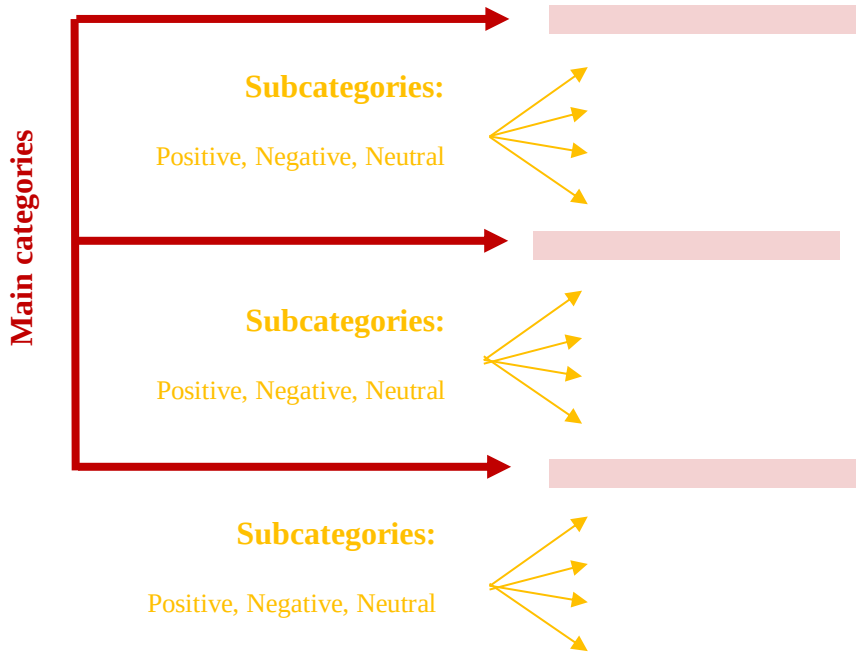


Figure 6.2. NVivo output capture of the main categories and subcategories identified during the axial coding phase.

Nonetheless, the large categories and subcategories detailed above don't reflect, alone, the depth and richness of the analysis conducted during the axial coding phase. Indeed, each one of

these categories is the result of the successive grouping of categories that are connected and show significant conceptual similarities.

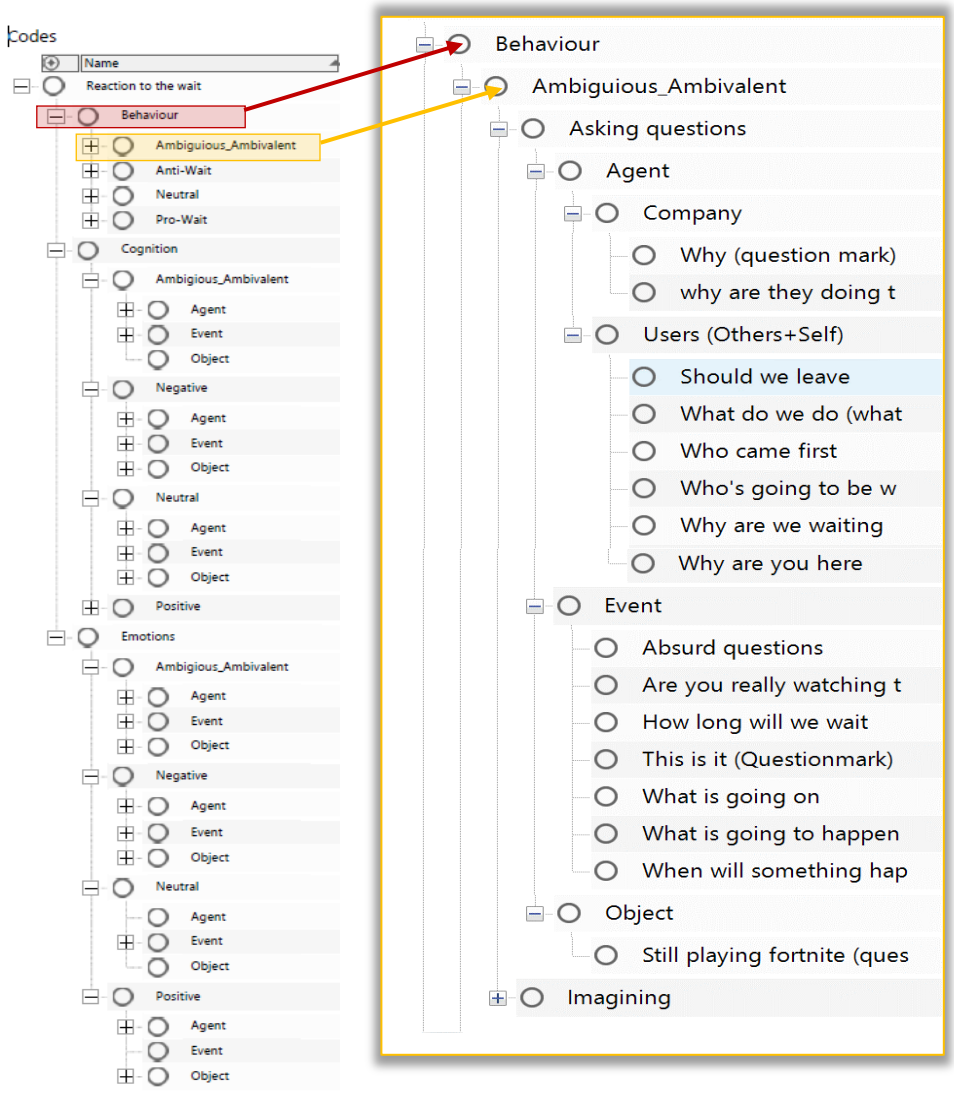


Figure 6.3. NVivo output capture illustrating the detailed hierarchy of categories and subcategories identified during the axial coding phase.

Figure 6.3 illustrates how each category is constituted of many, conceptually related subcategories. The example made in Figure 6.3 is that of the node "Ambiguous/Ambivalent" that is a subcategory of the node "Behavior".

The present section gives us a global understanding of the axial coding and the categories identified during this phase. Nonetheless, this is far from being sufficient to fully understand the analysis undertaken at that stage. In what follows we present the detailed analysis of the categories identified during the axial coding phase and that is the basis of our effort of theory building in accordance with the principles of Grounded Theory.

### *6.1.3. Selective coding*

As previously explained in Chapter 5, selective coding is the final stage of Grounded Theory. At this stage, all the categories identified in the open and axial coding phases are connected to one central category that englobes them all. This category is the core of the proposed theory (J. Corbin & Strauss, 2008; Denzin & Lincoln, 2006; Moghaddam, 2006; Pandit, 1996; Rennie, 2007).

In the present thesis, the 194 categories identified in the open coding phase were subjected to a systematic selection, validating, and integrating. This process resulted in the identification of 3 main categories (See figure 6.2). These are "Emotions", "Cognitions", and "Behaviors". The thorough scrutiny of the relationships between these main categories and their subsidiaries allowed us to build the narrative (J. M. Corbin & Strauss, 1990) that brings all the components of our theory together. "Emotions", "Cognitions", and "behaviors" converge in that they are all ways in which the consumer reacts to the wait. Thus, "Reactions to the wait" is the keystone that binds the pillars

of our conceptual framework together. Therefore, consumers' reactions to the wait are, indeed, the most essential component of the conceptual framework proposed in this thesis.

## 6.2. Emotional reaction to the wait

As explained in the last section, the analysis allowed us to identify three main types of reactions to the wait. Indeed, the results suggest that, faced with a waiting situation, the user can either have an emotional, a cognitive or a behavioral reaction. In this section, we focus on the emotional reactions of the participants to the online live steam. The category corresponding to the emotional reactions is constituted of the positive reactions (6.2.1.), the neutral reactions (6.2.2.), the negative reactions (6.2.3.) and the Ambiguous/Ambivalent ones (The particularities of this category are further discussed in 6.2.4.). We will see each of these categories in detail in the following sections.

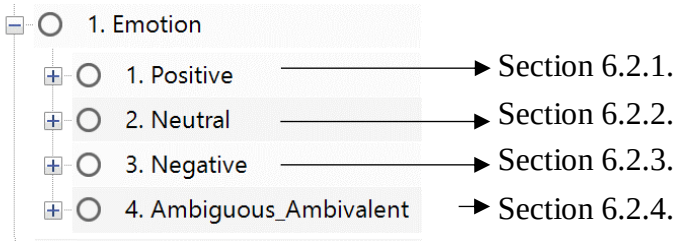


Figure 6.4. NVivo output capture. Category: "Emotions"

### *6.2.1. Positive emotional reaction to the wait*

The analysis of the data has allowed us to identify 3 types of positive emotional reactions to the wait. Indeed, the positive emotions can vary in that they can be oriented towards the event, the agent, or the object of the wait. These 3 subcategories of emotional reaction to the wait have been identified with the help of key concepts and theories from the literature on human emotions

(Clore & Ortony, 1988; Dewey, 1895; Ortony et al., 1988; Ortony, 1988; Plutchick et al., 1966; Plutchik, 1980, 1994; Steunebrink et al., 2009) in accordance with the principle of theoretical sensitivity of Grounded Theory. An important body of knowledge on emotions (Clore & Ortony, 1988; Dewey, 1895; Ortony et al., 1988; Ortony, 1988; Plutchick et al., 1966; Plutchik, 1980, 1994; Steunebrink et al., 2009), and particularly the influential work of (Ortony et al., 1988) has allowed us to identify the 3 types of emotional reactions listed above, that is, emotional reaction towards the event, towards the agent, and towards the object.

This theoretical background has been very helpful in aiding our effort of conceptualization. Indeed, we have previously been able to show that the user, faced with a waiting situation, can show positive emotions. Nonetheless, a question remained. Who and what do the users have positive emotions about? For instance, the consumers can have a positive emotion about the object of their wait, that is, the game Fortnite. Nonetheless, this doesn't mean they have the same positive emotions for the company that is making them wait (i.e., Epic Games), or for the event taking place and that forces them to wait for a certain period. Ortony, Clore & Collins's theory of emotions allowed us to tackle this problem. Indeed, their work has identified 3 fundamental categories of emotions based on what the individual is focusing on. As put by Ben-Ze'ev (1990): "The basic division of emotions is made in light of what the authors (Ortony, Clore and Collins, 1988) believe to be three major aspects of the world on which one can focus, events, agents and objects" (p. 308). Thus, based on this conceptual framework, we were able to add 3 categories to our NVivo qualitative analysis. These categories are positive emotional reactions towards the "Event", positive emotional reactions towards the "Agent" and positive emotional reactions towards the "Object".

In what follows, we will develop the analysis of these categories in more detail.

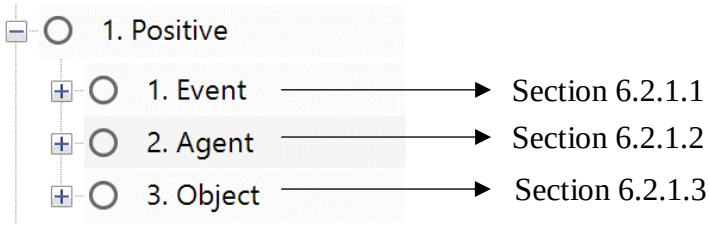


Figure 6.5. NVivo output capture. Emotions categories: Positive "Event", "Agent", and "Object".

#### 6.2.1.1. Event

As for the consumers' positive reaction to the wait, one feeling has emerged from the data, i.e., peacefulness (Node, "peaceful"). In effect, many users have described the waiting situation as calming, relaxing and overall peaceful, as the following examples illustrate.

> It's very peaceful.
>
> it's so peaceful.
>
> Most peaceful time Fortnite has been.
>
> How silent earth would be if everyone just stares at this black hole on their console or pc.
>
> Someone make a loop of this because this is really relaxing.
>
> Am I the only one that finds it so relaxing?
>
> Man, I could actually sleep to this.

Nonetheless, the data suggests that the peaceful, calming, and relaxing quality of the waiting situation may not be attributed to the wait alone. Indeed, some comments have highlighted the role of the environment in creating the peaceful feelings experienced.

*I do love the ambience*

*These sounds are relaxing*

Indeed, the black hole screen displayed during the waiting event seems empty at first sight. Nonetheless, there are slight environmental elements that contribute to the atmosphere of the waiting. Indeed, the screen displayed in users' consoles, PCs and online live stream channel shows a black screen with a black hole in the middle. If we pay more attention to the black hole at the center of the screen, we can notice slight movements and a slow swirling. Moreover, if we listen carefully, we can perceive a subtle background ambient sound.

These results make us think that waiting can induce positive feeling of relaxation, calm and peace. Nonetheless, the auditive and visual elements of the environment might play a role in helping the emergence of such emotions. Nevertheless, whatever the reason, this suggests that the environmental context can be manipulated to make a wait feel more comfortable, calm, and peaceful.

#### 6.2.1.2. Agent

The users of the online live stream have shown some positive emotions in regard to two types of agents: "Company" and "Self".

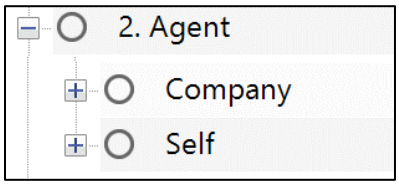


Figure 6.6. NVivo output capture. Positive emotions category. Agent: "Company" & "Self".

#### *6.2.1.2.1. Company*

The category "Company" is about the positive emotions displayed by the users of the online live stream in relation to the service provider. In our case, the company providing the service is Epic Games. Indeed, Epic Games is the videogame and software developer and publisher behind the creation and the exploitation of the video game Fortnite. The one emotion displayed by the online live stream users about the service provider, Epic Games is "Respect". Indeed, different respondents have express different levels of respect to the company. Some respondents gave concrete explanations illustrating how the waiting situation called for feelings of respect for the service provider.

> I don't like Fortnite, but I think it was awesome how they blew the map up midgame. mad respect.

Other respondents just bluntly stated their respect by using expressions such as *Respects* or *man, respect.* Additionally, some comments didn't only express their authors respect for the company. Instead, they have asked confirmation from the other participants. Indeed, these comments asked the users to show respect.

> Press K to show respect.

This injunction was met with some positive feedback since some users of the live stream responded with a short "K" as a message. By doing so, they have expressed their validation, agreement, and overall respect for the company behind the service, that is, Epic Games.

#### *6.2.1.2.2. Self*

As for the category "Self" it refers to the respondents' positive emotions about themselves. It expresses their emotions, that are internal and not oriented towards any other external agent. In

this case, the agent that is the focus of the online live streaming user is the user itself. In this context, the users have expressed 2 main positive emotions they experienced during the waiting situation under study: Happiness and excitement.

To express their happiness the participants have used expressions such as *"I'm soooo happy"* and *"happy day for me"*.

As for the excitement, it is one of the most common positive emotion exhibited by the participants to the online live stream. "Excited" and "Hyped" are the two words used mainly to express said emotion. To express their excitement the participants has used expressions such as "*I'm excited"*, *"very exciting"*, or *"how exciting"*. Some respondents have also shown very high levels of excitement.

> This is the biggest and most exciting update I've ever seen.

To express their "hype" the participant to the online live stream used many expressions with variable levels of enthusiasm and intensity.

> I'm hype.
>
> Here we go... just three more minutes! I'm hyped.
>
> HYPE FOR BLACK HOLE MONDAY!!!!!
>
> I'm soo hype for tomorrow!!!
>
> IS COMING OUT TODAY IM SO HYPE AHHHHH.

the participant also used very personal ways to express how excited and hyped they were.

> I can't wait for something really cool to happen then I can say "Holy Moley!" and it will be a really sick pun usage

Moreover, some responses didn't only state a high level of hype and excitement. In fact, they went a step further and implied that the excitement was so strong that it could bring back persons that have stopped playing the game or attract new players.

> Wait... type "yh" if anyone here stopped playing Fortnite but this hype as got your excited again.
>
> I don't like Fornite but when I see there will be Fornite 2 why I'm Hyped?

This is important for our research because it suggests that the wait doesn't only create positive emotions in the form of excitement and hype. More than that, the excitement and hype can play a role in customers retention and in attracting new customers.

#### 6.2.1.3. Object

The category "Object" is about the goods, services, or experiences object of the wait. If the customers were waiting for the delivery of a product, the object of the wait would be said product. If the customers were waiting to have dinner in a restaurant, the object of the wait would be the meal and the accompanying services of restauration that go with it. In our case, the customers are waiting for the game to be available so they can play it. Thus, the object of the wait is the game, Fortnite.

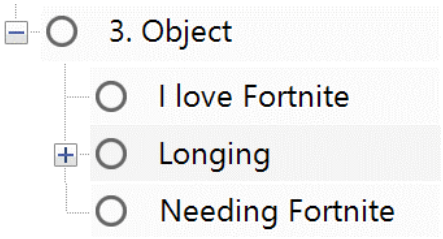


Figure 6.7. NVivo output capture. Positive emotions category: Object.

The consumers participating in the online live streaming displayed several positive emotions towards the object of the wait, that is, Fortnite. Many users stated their love for Fortnite as we can see in the node "I love Fortnite". Users also expressed their "Longing" for the game, which reflects their positive emotions for the game. Finally, in the node "Needing Fortnite" many users said that they needed the game. In what follows are some examples illustrating these positive emotions.

| *Emotion* | *Example* |
|---|---|
| I love Fortnite | I love fortnight. |
| | But love Fortnite. |
| | I love you. |
| | I love it losers. |
| | S means you love Fortnite. |
| | we love Fortnite. |
| | Fortnite is love. |
| | Say yes if u like Fortnite. |
| | I don't hate Fortnite I LOVE FORTNITE!! |
| | EVERYBODY LIKE Fortnite. |
| | WE LIKE FORTNITE WE LIKE FORTNITE. |
| | We like Fortnite. |
| Needing Fortnite | Need to play Fortnite. |
| | Because I can't wait, I need to play Fortnite so much. |
| | IM HAVING FORTNITE WITHDRAWLS. |
| | I never realized how much I relied on Fortnite. |
| | WE NEED FORTNITE. |

| | |
|---|---|
| Longing | EVERYBODY NEEDS FORTNITE. |
| | We all relie on Fortnite. |
| | U r all Fortnite addicts. |
| | Fortnite addicted people are literally crying, and I love it. |
| | I just want to play some Fortnite. |
| | I want to play Fortnite. |
| | I, WANT, TO, PLAY FORTNIIIIIIIIIIIIIIIIIITE!!!!!!!!! |
| | Hate Fortnite but I still want to play chapter 2. |
| | For someone who stopped playing right after season 7…I kind of want to play it again, after all this. |

### *6.2.2. Neutral emotional reaction to the wait*

The neutral emotions about the wait are emotions that are neither positive nor negative. Nonetheless, neutral emotions don't equate to the absence of emotions as highlighted in the literature "In many cases Internet users expressed neither negative nor positive feelings. However, this did not necessarily imply the absence of feeling or emotion." (Ryan et al., 2015, p. 268).

In this section, we will focus on users' neutral emotional responses to the wait. As for the positive emotions detailed in the previous section (6.2.1.), neutral emotions can be subdivided into three main categories. This subdivision is made based on the aspects of the world on which individuals can focus, i.e., events, agents, and objects (Ben-Ze'ev, 1990; Ortony et al., 1988). Thus, users' neutral emotional reaction to the wait are either oriented towards the event of the wait, the agents influencing it or the object of the wait which is, in our case, the game Fortnite.

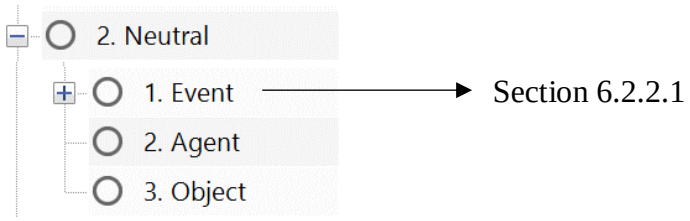

Figure 6.8. NVivo output capture. Categories: Neutral emotions “Event”, “Agent”, and “Object”.

As we can see in Figure 6.8, the only type of neutral emotions that emerged from the data is related to the event. Indeed, the qualitative analysis conducted has allowed us to group several codes into the neutral emotion category “Event”. Nonetheless, no neutral emotions about the “Agent” or the “Object” of the wait were identified. Therefore, in the following sections we will only detail the one neutral emotions category that has emerged, that is “Event”.

#### 6.2.2.1. Event

A wide variety of neutral emotions towards the event emerged from the qualitative analysis of the data. As shown in Figure 6.9, 4 categories were identified: “I’m fine with it”, “No reason to be sad”, “Patience” and “Resignation”.

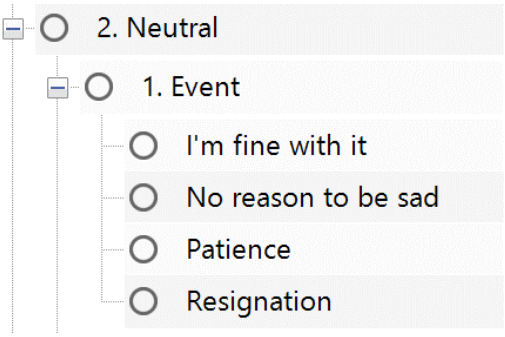


Figure 6.9. NVivo output capture. Neutral emotions category: Event.

Some of the categories express a certain level of indifference. This is the case for the categories "I'm fine with it" and "No reason to be sad". The category "Patience" reflects one of the users' ways to deal and cope with the wait. As for the category "Resignation", it shows accepting reactions to the wait.

| *Emotion* | *Example* |
|---|---|
| I'm fine with it | It's no annoying. |
| | I can stare to this for days. |
| No reason to be sad | There's no reason you should be sad about this. |
| | Why are u crying. |
| Patience | Patience. |
| | just be patient something will happen. |
| | Fortnite is going back on 10 hours. Please Be Patient. |
| | 5 minutes only just be patient. |
| Resignation | Yes, this is Fortnite now |
| | ITS NEW FORTNITE |
| | We have to wait another 1 |
| | It's just gonna last until the end of the season |

### *6.2.3. Negative emotional reaction to the wait*

Like positive (6.2.1.) and neutral emotions (6.2.2.), negative emotions can be subdivided into three main categories based on consumers' focus (Ben-Ze'ev, 1990; Ortony et al., 1988). Indeed, negative emotional reactions to the wait in online live streaming can take the form of

negative emotions towards the event, negative emotions towards the agents, and negative emotions about the object of the wait, i.e., the game Fortnite.

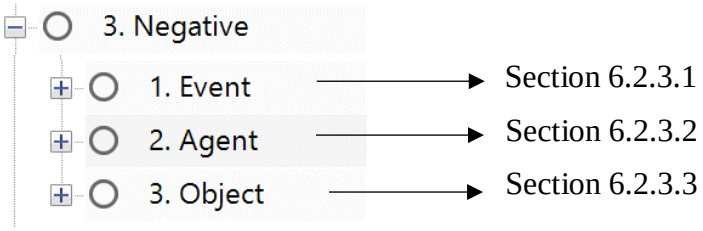


Figure 6.10. NVivo output capture. Categories: Negative emotions "Event", "Agent", and "Object".

It is worth noting that negative emotions were expressed more than their positive and neutral counterparts in terms of occurrences and repetition. Moreover, the qualitative analysis produced a wide and diverse range of negative emotions. This range of emotions is larger and more diverse than that found within the positive and neutral emotional responses categories. This is important because it suggests that negative emotions are significant occurrences in waiting situation. This confirms the importance of the negative aspects attached to waiting identified in the traditional (offline) literature on waiting in services (Dubé et al., 1991; Pruyn & Smidts, 1998; G. M. Rose et al., 2008).

In what follows, we will have a detailed view of the online live stream users' negative emotional reactions to the wait oriented towards the event, the agent and the object.

#### 6.2.3.1. Event

The negative reactions composing this category present an important variety in terms of intensity of the impact of the waiting on the users of the online live stream. First, the participants express negative emotions towards the wait. Nonetheless, their comments are characterized by a certain level of detachment. We have labelled this category: “Disdain”. Withing this category, respondents express their negative feelings. Nonetheless, they add nuance to their implication by saying that they are in the online live chat for other reasons (I’m here just to), by default because they have nothing better to do (“Nothing better to watch/do). In the same sense, some respondents explained that they were participating in the online live streaming event. Nonetheless, they insisted that fact they were above the interaction and actions taking place (“This is below me”).

Secondly, we identified a category that translates negative emotions to the wait while acknowledging a higher level of implication of the users in the waiting situation. In this category, the users recognize the “bad” emotions caused by the wait. This category has been labelled “This feels bad”.

Thirdly, we have identified a category that shows higher levels of implication, more negative and more specific negative emotions. In this category, the users’ comments reflected their frustration. This category has been labelled “Frustration”.

Finally, we identified a fourth category that we have labelled “Impatience”. We believe this category to show more implication in the waiting situation and more intense reactions than the three categories listed above (“Disdain”, “This feels bad”, “Frustration”). Indeed, we defend that, by expressing their impatience, the users show a higher level of distress and urgency.

Below is a detailed view of the online live stream users' negative emotional reactions to the wait listed above.

| *Emotion* | *Example* |
|---|---|
| Disdain | I'm here just to… |
| | I am here just so I can chat. |
| | Raise your hand if you're here for the comments. |
| | I came here to witness all the kids crying today. |
| | Just here to make fun of you 10-year-olds. |
| | I didn't search this up, it was in my recommended. |
| | Nothing better to watch/do |
| | I'm watching because I have nothing to watch in the morning. |
| | Nothing else to play. |
| | I have nothing else to do. Fortnite is all I play honestly. |
| | Ik but I'm just saying, there's nothing to do. I play Fortnite all the time. |
| | just high school dropouts who have nothing else better to do. |
| | I'm just bored. |
| | This is below me |
| | I really don't care about Fortnite. |
| | I don't care for any battle royale games, I find them boring. |
| | I could care less about this game. I just got word that This happened and now I'm really curious. |
| | Am I the only one that doesn't care about this game. |
| | Al the kiddies crying. |
| | I came here to witness all the kids crying today. |

| | |
|---|---|
| | Noob gaming. |
| This feels bad | Feels bad. |
| | This is terrible. |
| | This is painful. |
| | Are we here just to suffer!!!??? |
| | I never really liked Fortnite but man I feel bad for not being in the game that was the most unique experience in a game, the world ending and everyone together to see it. |
| Frustration | this is so annoying it's 2 am. |
| | SO ANNOYING. |
| | This is pretty annoying already. |
| | Annoying how we have to wait to play. |
| | this lowkey the greatest idea Fortnite came up with but its still annoying. |
| | This is pissing me off. |
| | I'm going to explode like a creeper. |
| | I'm literally shaking and crying. |
| | Can we point out how we quite literally got blue balled by epic. |
| Impatience (This is taking too long) | This is taking too damn long. |
| | too long... |
| | When will this thing start ... why is it taking so long. |
| | This is ridiculous been waiting well over an hour haha |
| | 4 hours later ... |
| | 3000 years later. |
| | Y so long :( |
| | An hour and it hasn't changed ooooooooof. |

IVE BEEN WAITING FOR 2 hours already, WHAT DA.

it's almost been 3 hours looking at this screen fml.

We are here since 24h it's very crazy.

Do you know how long I've been waiting?

ITS GONNA BE 8769 YEARS TO BE DONE DOWNLOADING.

#### 6.2.3.2. Agent

The users of the online live stream showed some negative emotions regarding two types of agents: "Self" and "Users".

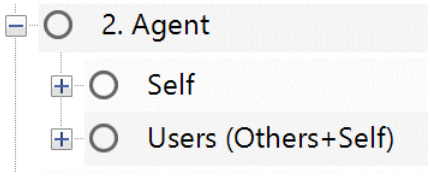


Figure 6.11. NVivo output capture. Negative Category. Agent: "Self" and "Users"

##### *6.2.3.2.1. Self*

The category "Self" is about respondents' negative emotions about themselves. It refers to their expression of their emotions, that are internal and not oriented towards external agents. Within this category, the users have expressed an extremely wide array negative emotions as we can see in Figure 6.12.

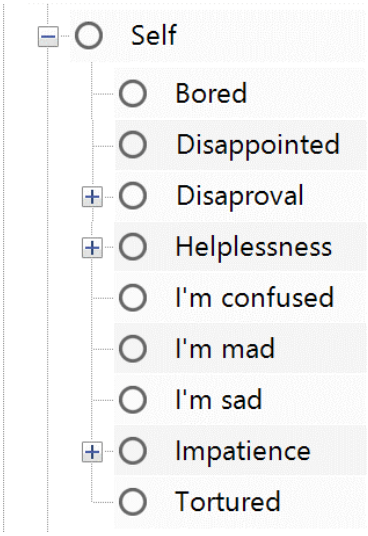


Figure 6.12. NVivo output capture. Negative emotions category: Self.

The negative emotions experienced by the users of the online live stream ranged from boredom (Bored)to disappointment (disappointed), “Disapproval”, “Helplessness”, Confusion (I'm confused), anger (I'm mad), Sadness (I'm sad) and “Impatience”. Respondents have also reported feeling “Tortured”. The variety of negative emotions confirms and supports the importance of negative reactions to the wait in the literature investigating waiting. The variety in negative emotions that emerged from the data also provide us with an opportunity to contribute to the literature through a detailed and refined analysis of consumers’ negative emotional reactions to the wait.

In what follows, we present some examples illustrating each of the categories listed above.

| *Emotion* | *Example* |
|---|---|
| Bored | Boring. |
| | this is boring. |
| | #boring. |

| | |
|---|---|
| | *yawn*. |
| | Zzzzzz. |
| | BORTNITE. |
| | BORING BORING BORING SOOOOOOOOOOOO BORING....4. |
| | I'm bored,I'm bored,I'm bored,I'm bored,I'm bored,I'm bored,im bored,I'm bored. |
| | Why are all you sad people watching this boring rubbish. |
| | Is this like endless boring time loop? |
| disappointed | I'm disappointed. |
| | Well this is underwhelming. |
| | I thought I would be enjoying season 11 today :( |
| Disapproval | NOO. |
| | Noooooooooooo. |
| | Nooooo. |
| Helplessness | Help. |
| | Help me. |
| | SAVE US FORNITE. |
| | MUMMY! |
| | Help, FORTNITE IS GONE. |
| I'm confused | I'm so confused |
| | This is confusing |
| | so cOnFuSeD!!!! |
| | this is disturbing |
| | I dont get this? |
| | i dont understand |
| | what even is this |

| | |
|---|---|
| | F in chat if you are confused |
| I'm mad | I'm so mad. |
| | She's upset as we are lol. |
| | I'm actually really, really mad because of the fact that it has been over 4 hours now. C'mon epic! JUST START THE NEW SEASON! |
| | Y'all mad that Fortnite got deleted. |
| I'm sad | So sad. |
| | so so sad. |
| | I hate Fortnite but he's death is sad. |
| | This is so sad hahahahaha. |
| | Emotional? |
| | "This is getting really emotional". |
| | This is so depressing. |
| | I am crying. |
| | Teardrop in my eye. |
| | Come and wipe my tears away. |
| Impatience | I can't wait anymore |
| | I can't wait any longer I just want to play. |
| | How many more minutes daaaaaaaaaammmmmmmmmmm. |
| | I CAN'T STAND IT ANYMORE. |
| | Omg I am dying I have been waiting 3 hours. |
| | Com'on epic I'm dying here waiting waiting to give you my money for battle pass lmfao. |
| | Kill myself > wait longer. |
| | I am a fed. |

| | |
|---|---|
| I hope something happens | Please something happen. |
| | Something better happen. |
| | For f sake can they please do something. |
| | Come on...do something. |
| | I hope something jump out of it. |
| | Fortnight I will buy 2000 dolers of v-bucks if u do something anything... |
| | COME ON ALREADY JUST SHOW US SOMETHING ELSE THAN THAT FRIGGEN BLACK HOLE. |
| Tortured | This is torture. |
| | are we here just to suffer!!!??? |
| | This is one PAINFUL waiting game.... |
| | when does the pain end. |

#### *6.2.3.2.2. Users (Self and others)*

In the previous sections we unveiled several categories of agent such as "Self" (the user of the online live stream) and "Company" (The service provider, in our case Epic Games). In this section we introduce a new agent category, that is, "Users". This category refers to a combination between two types of agents, i.e., self and others. Indeed, withing the category "Self" the user of the online live steam usually makes a comment about themselves. The category others, on the other hand, corresponds to a comment of the user about the other users participating in the online live stream. The category "Users" includes both "Self" and "Others". Thus, the comments made in this category are generally inclusive and refer to all the participants to the online live stream. This category is dominated by the use of "we" to refer to everyone that is present in the live chat of the

online live streaming platform. "Well boys we did it. Fortnite is no more!" and "Houston we got a problem here ...!!" are some examples that illustrate the type of comments made in this category.

Within the category "Users", the participants to the online live stream expressed negative emotions on many occasions. The negative emotion that came up repeatedly is users' expression of their "Hopelessness". They would often speak, in a way or another, about being doomed as we can see in the following comments.

> We are doomed!!!!!!!!!!!!!!!!!
> We're all gonna DIE!!!!
> is this the end of time.
> what if the blackhole acted like the tape from the ring and we're all gonna die.
> Houston, we got a problem here...!! The final countdown - the world ends in...10
> So, this is how Humanity Ends.
> Doomsday.
> the end.

#### 6.2.3.3. Object

In the waiting experience taking place in the online live streaming platform, the game Fortnite is the object of the wait. The users did, indeed, express negative emotions toward Fortnite. All the negative emotions shared in the live chat express some form of hatred. Thus, all the comments fit within one category that we have labelled "I hate Fortnite".

> I hate Fortnite.
> I HATE FORNITE
> Man I hate this game.
> Yes, yes, I hate this game.
> I hate Fortnite but he's death is sad.

> WHO HATES FORNITE MORE THAN ME?
>
> FORTNITE FORTNITE WE HATE FORTNITE.
>
> Ok, Who hates fortnite? ME ME ME! I HATE FORTNITE I HATE FORTNITE I HATE FORTNITE!

### *6.2.4. Ambivalent and ambiguous emotional reaction to the wait*

Human emotions can be a complex, complicated, and elusive occurrence (Clore & Ortony, 2000; Ortony et al., 1988; Plutchik, 1980, 1994). This makes them particularly difficult to understand and grasp (Bucks et al., 2008; B. P. H. Lee et al., 2006; Lomas, 2017; Maksimainen et al., 2019; Mower et al., 2009). During our qualitative analysis, we came across may comments where the participants simultaneously share mixed and conficting emotions at the same time. These emotions have been labelled as "Ambiguous/Ambivalent" emotions.

The "Ambiguous/Ambivalent" emotions category is important because it provides an alternative to the 3 main emotional reactions to the wait identified in the literature on waiting, namely, positive (6.2.1.), negative (6.2.2.) and neutal emotions (6.2.3.). We defend that the "Ambiguous/Ambivalent" emotional reactions to the wait category is essential to fully understand waiting in online live streaming platforms, waiting on the Internet and waiting in general.

In the previous sections, the "Positive", "Neutral" and "Negative" emotions categories are subdivided into 3 subcategories based on consumers' focus (Ben-Ze'ev, 1990; Ortony et al., 1988). These subcategories are the "Event", the "Agent", and the "Object". The same can apply to the "Ambiguous/Ambivalent" category treated in this section. Thus, ambiguous and ambivalent reactions to the wait in online live streaming platforms can manifest as ambiguous/ambivalent emotions towards the event, ambiguous/ambivalent emotions towards the agents, and ambiguous/ambivalent emotions towards the object of the wait, that is, the game Fortnite.


Figure 6.13. NVivo output capture. Categories: Ambiguous/Ambivalent emotions "Event", "Agent", and "Object".

#### 6.2.4.1. Event

The ambiguous and ambivalent emotions about the event taking place took the form of two main reaction. The first reaction of the users is "Initial shock". This category is constituted of the online live stream users' first reaction, when they recognize that the situation doesn't go according to their expectations and that they will have to wait. The second reaction of the users participating to the online live stream is "relief". In this category corresponds to the users ambiguously explaining that they are somehow relieved that Fortnite isn't available due to the event taking place.

| *Emotion* | *Example* |
|---|---|
| Initial shock | Wtf is happening. |
| | what the hell. |
| | wtf is this. |
| | WHAT THE. |
| | Lmao anyone care to explain wtf just happened? |
| | Lmao tf is going on? |

| | |
|---|---|
| | f. |
| Relief | WHAT HAPPEND!??! FORNITE IS FINALLY DEAD? |
| | IS IT FINALLY OVER!?!?! |
| | Finallyyyyyy. |
| | yessss it finally ended. |
| | Fortnite ended finally |
| | finally going outside after many months |
| | Finally, now I can sleep. |
| | Finally, no more Fortnight. |
| | Is Fortnite finally Dying? |

"Initial shock" has been recognized as an "Ambiguous/ambivalent" category because it is unclear whether the reaction is positive or negative. Indeed, the most common expressions used (i.e., what the hell, wtf, f…etc.). Nonetheless, we did not define this category as ambiguous and ambivalent just because it seemed unclear to us. Instead, we believe that users reading the messages on the live chat will experience these comments as ambiguous. This is because these comments can be equally understood by the users of the online live streaming platform as positive or a negative. Based on this observation and a thorough analysis of user comments within this category, we concluded that, depending on the context, participants reactions could be understood as positive, negative or both.

As for the category "Relief". It has been identified as an "Ambiguous/ambivalent" category because it is constituted of many mixed and unsettling expressions of emotions. Indeed, consumers will use the word *"Finally"* as if they were expecting and hoping for the game Fortnite to be taken down. At the same, they would express their attachment to Fortnite and their extensive use and

reliance on the game, e.g., *"Finally, now I can sleep"* or *"finally going outside after many months"*. These conflicting and contradicting emotion make of "Relief" a very ambiguous and ambivalent category.

#### 6.2.4.2. Agent

The users of the online live stream showed ambiguous/ambivalent emotions regarding two types of agents: "Self" and "Company".


Figure 6.14. NVivo output capture. Ambiguous/Ambivalent Category. Agent: "Self" and "Company"

##### *6.2.4.2.1. Self*

The category "Self" relates to respondents' ambiguous and Ambivalent emotions about themselves. The most common emotion expressed by the online live streaming users in this category is their "Fear of missing out". Indeed, many comments made by the users fit within this category.

> *So, what is happening I've missed on all this.*
>
> *If I leave now, I bet the event will start.*
>
> *The minute you leave something will happen.*
>
> *Something should be happening any moment now.*
>
> *I just wanna see how they're gonna continue from this.*

> What I miss!?!
>
> I haven't missed anything, have I?
>
> Its 1:48 am in Switzerland I'm going to sleep now with voice on 100% so I wake up if something happens.

The category "Fear of missing out" is ambiguous/ambivalent because it expresses the coexistence of conflicting positive and negative emotions. In effect, the emotion expressed by the users in this category is fear. Fear is by definition a negative emotion. Nonetheless, in the "Fear of missing out" category, the fear is accompanied by positive emotions that make the participant to the online live stream anticipate, expect changes and ultimately stay in the waiting situation.

#### *6.2.4.2.2. Company*

"Company" is a category about online live streaming users' ambiguous and ambivalent emotions about the company/service provider. The service provider considered in this work is Epic Games, the company behind the game Fortnite.

An ambiguous/ambivalent emotions category has been defined in the present section. This category has been labelled "Well done". Some of the main comments come as follow: "so finally Fortnite does something neat", "Gg", "Ggggg". The expressions "Gg" stands for Good Game. To the effect of "Well played!", It is slang language used in video gaming spheres to compliment someone.

These comments have been considered as ambiguous/ambivalent because they are somewhat unclear and could be interpreted in many ways. This category was not defined as ambiguous/ambivalent just because it appeared unclear to us. It has been considered as ambiguous and ambivalent because it is likely that the viewers in the online live streaming platform will

experience these comments as ambiguous/ambivalent. Indeed, the point of view of the consumers is of key importance to the present work from a methodological perspective.

Moreover, expressions such as *"so finally Fortnite does something neat"*. Are both a compliment (The company did something *"neat"*) and a reproach (The *"finally"*, implies that the company could have and maybe should have done it before).

**6.2.4.3. Object**

As explained in the previous sections. The object of the wait in this study is the game Fortnite. Thus, users' Ambiguous/Ambivalent comments about the object correspond to the comments made by the online live streaming users' about Fortnite. All the emotions shared by the online live stream users in this category express how they are ambiguously rejoicing about the prospect of the end of Fortnite.

*Yey, no more Fortnite*
*I'm glad it's over*
*I'm so happy Fortnite ended.*
*I'm happy fort is dead*
*I'm here to see the downfall of it hahahahahaahahaha*
*Fortnite is dead a congratulations it's a celebration*
*FORTNITE IS OVER YEAAAAAAH*
*Fortnite is dead and I like it*

This category has been identified as an ambiguous/ambivalent one because the comments entail contradictory emotions. The emotions shared by the online live stream users express some sort of hatred (for Fortnite) mixed with feelings of happiness (about the game's possible disappearance). Moreover, it is difficult to interpret the emotions behind the users' comments and

to infer the motives behind them. This adds even more to the ambiguity of the comments of this category.

### 6.3. Cognitive reaction to the wait

As previously seen (6.1.2. Axial coding), the analysis of the qualitative data allowed us to identify three main types of reactions to the wait. In effect, the user can either have an emotional, a cognitive or a behavioral reaction to the waiting situation faced. The present section focuses on the cognitive reactions of the online live stream users.

The "cognition" category is subdivided into four main subcategories. These categories are positive cognitive reactions to the wait (6.3.1.), neutral cognitive reactions (6.3.2.), negative cognitive reactions (6.3.3.) and ambiguous/ambivalent cognitive reactions (6.3.4.). Each of these subcategories will be treated in detail in the following sections.

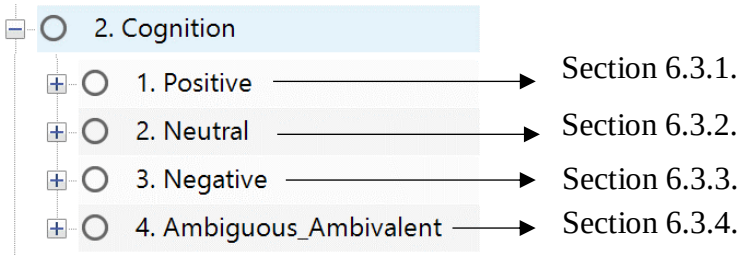


Figure 6.15. NVivo output capture. Category: "Cognitions".

#### *6.3.1. Positive cognitive reaction to the wait*

The study of emotional reactions to the wait (6.2. and 6.2.1.) has allowed us to identify three types of positive reactions to the wait based on their object of focus. These categories are positive emotional reactions to the wait toward the event, towards the agent, and towards the object. These categories have been defined based on an extensive and influential literature on

human emotions (Clore & Ortony, 1988; Dewey, 1895; Ortony et al., 1988; Ortony, 1988; Plutchick et al., 1966; Plutchik, 1980, 1994; Steunebrink et al., 2009).

In this section, we are not discussing emotional reactions to the wait. Instead, we are analysis the cognitive reactions to the wait that have emerged from the qualitative analysis of the online live stream. Nonetheless, we will be using the categories defined in the previous section (6.2. Emotional reactions to the wait), to conceptualize the cognitive reactions to the wait treated in this section. Indeed, we claim that the categories defined in the previous section, and that have permitted the analysis of emotions, can be put to use in the analysis of the cognitive reactions of the users of the online live stream users. In effect, we came to the conclusion that the categorization of positive, negative, neutral and ambivalent/ambiguous users' responses into reactions towards the event, the agent and the object is a useful and relevant way of conceptualizing the structure of cognitive reactions to the wait.

Three main reasons allow us to justify our claims. First, the categories used to label the different types of emotional responses (i.e., event, agent, and object) are not theoretically specific to emotions. Indeed, according to Ortony, Clore and Collins (1988), these categories correspond to the "major aspects of the world on which one can focus" (Ben-Ze'ev, 1990, p. 308). The aspects "on which one can focus" in the world is a very general and englobing concept. It goes far beyond emotions. Thus, it can reasonably be used to analyze consumers' cognitive reactions. Secondly, the frontier between emotions and cognitions is not strict and hermetic. From a conceptual perspective, cognitions and emotions are intimately linked. In effect, researchers claim that "emotions are basically cognitive/perceptual in origin" (Colby et al., 1989, p. 230). Moreover emotions and cognitions are often studied hand in hand (Clore & Ortony, 1988; Ortony et al.,

1988). Thirdly, the use of the three subcategories listed above (event, agent, and object) allows us to reach many of the theoretical goals of the present project. In effect, the use of the same subcategories for both manifestations of online live streaming users' reactions to the wait (i.e., cognitions and emotions) allows us to be consistent in our effort of conceptualization. Thus, it permits us to guarantee the coherence and integrity of the theory proposed in this work.

In what follows, we will develop in more detail the analysis of online live streaming users' positive cognitive reactions to waiting oriented towards the event, the agent, and the object of the wait.

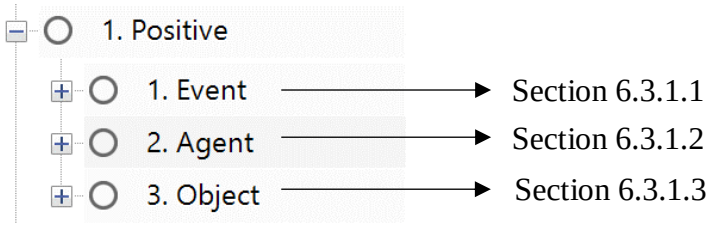


Figure 6.16. NVivo output capture. Cognition categories: Positive "Event", "Agent", and "Object".

#### 6.3.1.1. Event

The online live streaming platform users expressed a variety of positive cognitive reactions to the wait that are focused on the "event". The respondents stated that they found the event taking place "Interesting", "Nice", Cool ("This is cool"), and fun ("This is fun"). They also found the environment to sensorial environment to be pleasant ("Attitude towards the environment"). Finally, many respondents praised the event taking place and thought it was great marketing as coded in the node "It's (great) marketing (2)". Below is a detail presentation of the categories listed above.

| *Cognition* | *Example* |
|---|---|
| This is interesting | Interesting. |
| | This is interesting. |
| | Fascinating. |
| | This is the first time I'm interested in Fortnite. |
| | I think this is the first time I've actually been interested in Fortnite. |
| | This is legit interesting, but Fortnite bad. |
| | I don't play Fortnite, I'm a destiny fan, but this is interesting. |
| Nice | IGN nice way to pass the time. |
| | Nice. |
| | NICE. |
| | Nice nice nice. |
| This is cool | Cool! |
| | This cool. |
| | It's cool how this happened. |
| | I don't like Fortnite that much now, but this is acc cool asf. |
| | This is pretty cool even if i don't like the actual game anymore. |
| | The hole looks dope though. |
| | Golden experience. |
| | This Fortnite event is lit as fire. |
| | This is sick man. |
| | This event is so dope. |
| | This is really cool but what's going on with Fortnite. |
| This is fun | This is fun. |

| | | |
|---|---|---|
| | | I don't play Fortnite but damn that's fun. |
| | | Lmao y'all having fun ? |
| | | I'm high rn and this funny no cap. |
| | | This is hilarious, my boy cracking up, hahah. |
| | | I hope the game stay like that it is more fun. |
| | | So entertaining. |
| | | Isn't this fun. |
| | | This does put a smile on my face. |
| | | This is more entertaining than the game itself. |
| Attitude towards the environment (Sensual/Sensorial) | Sensorial | |
| | | Am I the only one that finds it so relaxing? |
| | | I'm falling asleep listening to this. |
| | | It's very peaceful. |
| | | Gonna try falling asleep to the music. It sounds angelic. |
| | | I do love the ambience. |
| | | Satisfying. |
| | | Isn't the ambient music a bit satisfying? |
| | | Guys this is the new asmr :))). |
| | | Asmr. |
| | | Say what you want, this is fantastic background noise. |
| | Sensual | |
| | | Am I the only one who gets turned on by this? |
| | | Yo yeah, this hole really gets me in the mood. |
| | | This is making me moist |
| | | Why my pp is hard? |
| | | Why my pp hard? |

| | |
|---|---|
| | Try beating off to the black hole. V fun. |
| | Has anyone tried to put it inside this hole? |
| It's (great) marketing (2) | Who ever thought of this need a raise brilliant idea and marketing. |
| | This is a very interesting marketing strategy. |
| | That's top tier marketing and entertainment... |
| | Lmao they figured out how to get kids playing again. |
| | Hate playing the game, love the amazing marketing. |
| | Okay...Fortnite isn't dead, they're just creating a new map and adding hype by making us watch a black hole. |
| | The best gaming pr stunt over. |
| | That is some publicity. |
| | This is so experimental and bold. |
| | Is this the new trend for delayed releases? |
| | Yeah, all the hype rn gonna make them money. |
| | Cambells soup. |
| Huge impact | Imagine the amount of kids freaking out over this. |
| | So many Fornight kids watching a blackhore all day. |
| | There will be tears in schools. |
| | This news will break the internet. |
| | Epic games just crashed the internet and made everyone lose their minds... Now that's top tier marketing and entertainment... |
| | Epic gamer moment. |
| | The streets won't forget. |
| | Epic is holding the world hostage. |

> This is gonna be a wonderful meme.
> For the people that say Fortnite is dead, imagine being the second most views in twitch and just to watch a black hole.
> APEX IS TRASH, THE BLACK HOLE GOT MORE VIEWERS IN 12H THAN THE WHOLE PLAYER COUNT ON APEX.
> What FN is doing here is legendary already. Hats off to them.
> Fortnite will forever go down in history.
> This thing is gonna burn a mark onto tvs and monitors worldwide lmfao.
> 110.000.000 Fortnite geeks see the Sun for the first time in years...

#### 6.3.1.2. Agent

The qualitative analysis identified just one type of agent's positive cognitive response to the wait. This category is "Self". The "Self" category refers to online live streaming users' thoughts, beliefs, opinions, and overall cognitions that they hold about themselves in a response to the waiting situation.

In this context, as a positive cognitive response to the wait, the participants recognized being attracted to the online live stream due to the waiting taking place. We have referred to this node as "Attracted by the wait". Within this category, the respondents explained their attraction to the wait "I don't even play Fortnite". They also gave the reason behind this attraction to the wait as we can see in the categories "Curiosity" and "Here just for this". In what follows we will have a more detailed look at these categories.

*Cognition* *Example*

| | |
|---|---|
| I don't even play Fortnite | I don't even play this game and I'm fascinated by this. |
| | Tf is going on I don't even play Fortnite. |
| | I don't play Fortnite, can anyone explain what is happening? |
| | Still never played this game. |
| | Half the fellas in the chat don't even play Fortnite haha... |
| | I think this is the first time I've actually been interested in Fortnite. |
| | I don't know why I'm watching this I don't play Fortnite, but I can't stop. |
| | I don't even play Fortnite and I'm watching this. |
| | I don't even play Fortnite, but I'm drawn to this.... My life have come to this... |
| | Why I am watching this. I don't even play Fortnite. |
| | I don't play Fortnite, I'm a destiny fan, but this is interesting. |
| | Yo I don't play this trash game but what's happening. |
| | I haven't played Fortnite in months & this blackout caught might attention. |
| Curiosity | Who else just wants to see what happens and doesn't care about Apex VS Fortnite? |
| | I just started playing the game I detest with a passion out of morbid and depressing curiosity for this? |
| | I wonder what's going to happen. |
| | I wanna knowwwwwwwwwwwwwwwwwwww. |
| | I'm curious to see if it's worth the wait. |
| Here just for this | I'm here for the hole. |
| | Lmfaoo who rlly came for the black hole tho? |

#### 6.3.1.3. Object

The qualitative analysis permitted the identification of one positive cognitive reaction to the object of the wait in the online live streaming platform: The game Fortnite. In effect, the positive reactions to the wait towards the game were to think that "Fortnite is cool". In this category, users used expressions such as "FORTNITE IS COOL", "that was a cool ending scene", and "MY FORTNUT IS COOL MY FORTNUT IS POPPIN".

### *6.3.2. Neutral cognitive reaction to the wait*

The neutral cognitive reactions to the wait are cognitions that are neither positive nor negative. Nevertheless, neutral cognition doesn't mean absence of emotions of cognitions. As for the categories discussed in the previous sections, neutral cognitive reactions to the wait can be divided into three subcategories depending on the user's focus. These three categories correspond to users' neutral cognitive responses about the "Event" of the wait, the "Agents" influencing it or its "Object", the game Fortnite.

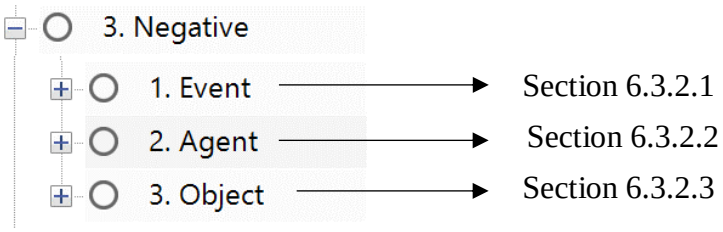


Figure 6.17. NVivo output capture. Cognition categories: Positive "Event", "Agent", and "Object".

#### 6.3.2.1. Event

The main neutral cognitive response to the wait, and that is focused on the event, is "uneventfulness". In other words, the online live streaming users reacted by acknowledging that nothing was going on. This expression of uneventfulness took 2 different forms. First, the participants would recognize that nothing was happening ("Nothing is happening"). Secondly, the participants would state that nothing was going to happen in the future neither ("Nothing will happen") . The detail of these categories come as follows:

| *Cognition* | *Example* |
|---|---|
| Nothing is happening | Nothing happens. |
| | I don't see nothin. |
| | There's not happening anything. |
| | What is the point, if it doesn't do anything? |
| | Nothing to see here lol. |
| | Look very close inside there's nothing there. |
| | Lol, it's still a black hole. |
| | There's literally nothing. |
| | Fortnothing 2. |
| | Are people just waiting for something to happen? |
| | I love watching paint dry. |
| | Well, we don't need internet to play anymore all we need is a picture of this loL. |
| | thanks for watching nothing for 3 hours. |
| | Nothing in the description no one can explain and yet were still sitting here watching... |
| | Have fun watching nothing happen for hours. |

| | | |
|---|---|---|
| Nothing happen | will | Nothings gonna happen.<br>Nothing is gonna happen.<br>You're literally counting down for no reason.<br>Friends leave this and wait until the Tuesday. Nothing is going to happen.<br>I think we're making a mistake expecting something to happen today.<br>All day baby.<br>Nothing's gonna happen here just like yesterday. |

#### 6.3.2.2. Agent

Participants in the online live stream had one main neutral cognitive reaction to the wait. These all expressed who they thought was responsible for the wait taking place. These comments were labelled under the category "Responsibility attribution". The responsibility attribution has focused on the some of the types of agents defined in the previous sections. These categories are "Company" and "Users". As a reminder, the category "Company" refers to the service provider, Epic Games. As for the category "Users", this category refers to a combination between two types of agents, i.e., self and others. It corresponds to the comments about all the users participating in the online live stream englobing both the user commenting and the other users of the online live streaming platform.

As a reaction to the wait, many participants in the online live stream attributed the responsibility of the wait to the company ("Company"). All these comments could be grouped into

one category that we have labelled “They're making us wait”. Below are some examples of the comments made.

> Epic games wanna play with are feelings huh.
>
> Epic is really overhyping this event.
>
> So glad I get to play fortnight on my day off.....thanks epic for all the suspense.
>
> Everything is going according to plan.
>
> Why would they do this and then let it work 5 minutes after doing it.
>
> I think they are gonna leave it a long time and let people speculate.
>
> This is just like that Pokémon steam again.
>
> There toying with all you.
>
> Psychology experiment.
>
> We are part of an experiment right now lol.
>
> They brainwashing us lmao.
>
> They tryna get the hype up an it’s clearly working.
>
> Epic did this so kids take a break with Fortnite for a while because they’re so addicted.

The users of the online live stream also attributed the wait to themselves and other users (“Users”). Their comments have been grouped into the category “We did it”. Below are some comments illustrating the respondent’s reactions.

> We did it boys.
>
> lol yep, we did it.
>
> Well boys we did it.
>
> BOIS GOT RID OF FORTNITE.
>
> WE KILLED FORTNITE.
>
> We did it boys Fortnite is No more.

we dididddddddddddddddddddd itttttttttttttttttt.

Alright boys... mission accomplished.

well gg my guys XD.

if you just use your IMAGINATION season 11 will start.

Yus Fortnite the beast has been slayed.

Well I guess we got what wanted.

We Have Ended Fortnite... GO OUTSIDE...OR READ A BOOK.

#### 6.3.2.3. Object

The neutral cognitive responses to the wait focused on the object of the wait (i.e., Fortnite) took two different forms. On the one hand, some respondents affirmed that Fortnite was dead. On the other hand, many respondents defended that Fortnite was alive. Therefore, users neutral reactions to the wait that are focused on the "Object" have been divided into two main categories. These two categories are: "Fortnite is alive" and "Fortnite is dead".

The comments of the category "Fortnite is alive" come as follows.

| *Cognition* | *Example* |
|---|---|
| Something is happening | Something is happening on the hour. |
| | It's getting bigger. |
| | It's doing something. |
| | Something happened!! |
| | Something is happening. |
| I see -hear- something | It's getting louder. |
| | A sound effect happened. |
| | It got brighter and went back to normal. |
| | I just heard a sound. |
| | I see something. |

| | |
|---|---|
| | The aura near it changed patterns... |
| | I heard voices when i put my ear against the speaker. |
| | If you stare at it long enough you start to see what it is. |
| This is the new Fortnite | That's the new Fortnite. |
| | This is it this is the actual game!! |
| | So is this what Fortnite has become. |
| | Fortnite has really evolved! |
| | This is season 11 now shut up lol. |
| | New space map. |
| | What if this is just Fortnite now? Forever. |
| Faith in Fortnite | Just stop and watch don't do anything bad and u gonna show a miracle. |
| | Ppl sit around for this like it's New Year's Eve. |
| | I think at 5:00 something will happen. |
| | The end of time and space of Fortnite. In a few hours the graphics will change, and everything will change. |
| | Fortnite is gonna turn into a bigger and maybe 200 players instead of 100. |
| | Fortnite will come back. |
| | Let's hope fortnight is not over everyone pray. |
| | It is not the end guys in the future it will come back. |
| | Fortnite is not dead and it will never will be. |
| Rebirth | Yeah, Fortnite is dead but is recreating itself. |
| | Well back to creative destruction. |
| | A new beginning. |
| | It's not dead its reviving. |

People are saying Fortnite is dead but really it isn't. Its starting something new lol.

Fortnite will come back, but I hope a whole new chapter, a whole new Fortnite.

The comments of the category "Fortnite is dead" come as follows.

| *Cognition* | *Example* |
|---|---|
| It's the end | The end. |
| | It's over it's over. |
| | Lmao is it over. |
| | Well that all folks. |
| | And this maybe the last of Fortnite. |
| | Fortnite expire. |
| | Fortnite vaulted. |
| | Fortnite is gone forever. |
| | Game over man, game over. |
| | Fortnite: Ima head out. |
| | Fortnite said aight bouta head out. |
| | Its the end. |
| | This is the end my friends. |
| Fortnite suicide | Fortnite committed suicide. |
| | Fortnite kill themselves. |
| | Fortnite knew they were bad and just ended it. |
| | Fortnite heard out cries and deleted itself. |
| | Fortnite committed seppuku. |

Fortnite committed alt+f4.

Fortnite committed self deletus.

### *6.3.3. Negative cognitive reaction to the wait*

Like positive and neutral cognitions negative emotions towards the wait can be subdivided into three main categories based on consumers' focus. In effect, negative cognitive reactions to the wait in online live streaming can manifest as negative cognitions about the event, negative cognitions about the agents, and negative cognitions about the object of the wait, i.e., Fortnite.

#### 6.3.3.1. Event

The negative reactions to the wait oriented towards the event took many forms. One of the first cognitive reactions when faced with the wait is users' "Disbelief" about the event. Indeed, at first, many participants to the online live stream thought it was a fake ("Fake - distrust - not real") or a joke ("Is this a joke"). Other reactions include the users thinking the event taking place was "Scary", dumb ("This is dumb"), exhausting ("This is exhausting"), pathetic ("this is pathetic"), useless, "This is useless" and bad "This sucks". Many respondents also considered the event as a waste of time ("Wasting time").

| *Cognition* | *Example* |
|---|---|
| Disbelief | Fake - distrust - not real |

Fake.
This video is fake.
This is fake.
I don't believe that.
This is fake, Fortnite is fixed now.

Is this a joke

Is this a spooktober joke?
Joking ha?

Is this a joke or what??? Fortnite is a trash dead game.

| | |
|---|---|
| Scary | I'm scared. |
| | Mom pick up am scared. |
| | This is creepy. |
| | It's kinda creepy. |
| | That black hole is so creepy. |
| | I'm going to be the blackhole for Halloween. |
| | Now all we need is to black hole all the Halloween costumes out of Spirit Halloween too!!!!!! |
| This is dumb | This is dumb. |
| | This is dumb af. |
| | Why ign u join this dumb stuff, couldn't keep the real news. |
| | Well, this was a dumb idea. |
| | Shut down Fortnite on a long weekend is pretty dumb. |
| | This is the dumbest thing they have ever done to the game. |
| | Dumbest event change my mind. |
| This is exhausting | I'm tired of waiting. |
| | This task a grueling one. |
| | Call it in already, your tired, we've all been waiting forever, your waaaaaay to freakin dedicated, let's move on to Apex. |
| | I'm tired. |
| this is pathetic | This is pathetic. |

| | |
|---|---|
| | They could of at least told us how long their were going to be this is pathetic. |
| | This is so ridiculous. |
| | Wtf this is childish. |
| | This is ridiculous...looking at a fkng black hole for 2 days? |
| This is useless | Useless useless useless useless. |
| | Pointless. |
| | What's the point of this stream. |
| | No point in watching this. Nothing is going to change. |
| | What's the point... |
| This sucks | This sux. |
| | Suckas. |
| | Bro this is wack. |
| | This is waaaaaaack. |
| | The literal lamest game/update ever. |
| | Now this is just lame. |
| | Lame. |
| | Uh oh stinky. |
| | STINKYYYYYYY. |
| | Poooopy. |
| | Worst even. |
| | Oh lol That sucksukc. |
| Wasting time | Nothing happens it's just waste of time. |
| | Yeah, this is a total waste of time. |
| | Wasting my time waiting new Fortnite game. |

What the hell am i doing with my life right now.

You're wasting your time nothing happens.

Waste of time.

Sleeping is better.

After the two hours I wasted on waiting for no reason I'm leaving.

When u realize that ur wasting time on a game that is on hiatus.

Not any amount of money or vbucks can give us back the time.

we've spent waiting on this fxxking dot to do something.

I wasted 24 hours looking at that hole.

#### 6.3.3.2. Agent

For the negative cognitive reactions of the online live streaming users towards agents, we have used one of the categories seen in the previous parts. This category is: "Self". Nonetheless, one additional category has emerged from the qualitative analysis of the data that hasn't been encountered before. This category is "Broadcaster". It refers to online live stream users' comments about the streamer broadcasting the waiting event. In our case, the broadcaster is IGN Entertainment (see chapter 5. Research Design, Section 5.2.4.1.4.).

##### *6.3.3.2.1. Company*

Regarding the negative cognitive reactions towards the company (i.e., Epic Games), the most common response expressed by the online live stream users is "Betrayal". The perceived betrayal was portrayed in many ways. First, the users expressed some kind of offense as we can see in the category "How dare they?". Secondly, the users said that the company has trolled them ("We've been trolled"). Finally, the users showed some worries about the company being disingenuous and taking their money ("My money").

| *Cognition* | *Example* |
|---|---|
| How dare they? | How dare you.<br>How dare they.<br>Hey, could of at least told us how long there were going to be this is pathetic. |
| We've been trolled | They trolled us all.<br>Bro the director of Fortnite is like hahaha you slaves I have your money.<br>We are getting trolled. Epic wants us to move on.<br>Many players bought a lot of skins.... ( not me) I don't play Fortnite and this is what they get.. XD epic troll!! What a waste...<br>They basically scammed us.<br>It's the biggest scam in history of gaming.<br>Lol Fortnite could be the biggest scam on the planet.<br>They are trolling.<br>Too early for April fools epic games.<br>Epic troll. |
| My money | MY MONEY!!!!!!!!!!<br>Our money.<br>My billing.<br>My v bucks.....<br>Fortnite better refund me my thousands of dollars i wasted on the game.<br>Please epic if you're reading this refund everyone's money say thanks for the game and just delete it.<br>Epic took our money and ran.<br>THEIFS OF THE YEARS.<br>Fortnite just pulled off on of the biggest heist ever. |

#### *6.3.3.2.2. Broadcaster*

The negative cognitive reaction to the online live streaming broadcaster essentially took the form of disbelief ("Disbelief_Agent"). Users' disbelief took different forms. Some users have warned against fake youtube channels putting unreliable content to make money.

> bro there are so many scamming youtubers doing black holes on repat and getting money and views we should report them lmao

Other users criticized the content of IGN's live stream content calling it a click bater. Thus, they considered that the content advertised in the YouTube search page doesn't correspond to the content displayed in the online live stream.

> Come to the stream I'm not click baiting and I'm talking to you guys!!!!

#### 6.3.3.3. Object

The online live streaming platform users expressed two types of negative cognitive reactions towards the object of the wait, the game Fortnite. On the one hand, the participants shared the beliefs that Fortnite was bad ("Fortnite is bad"). On the other hand, the participants have considered that they didn't really need Fortnite and that it was "Dispensable".

In what follows we present examples from the category "Fortnite is bad":

> Fortnite is bad.
>
> Fortnite bad.
>
> Haha Fortnite bad am I right guys??
>
> This is legit interesting, but Fortnite bad.
>
> This game is bad.
>
> Bad game.

Below are examples from the category "Dispensable". We go through examples illustrating the two subcategories of the node "Dispensable, that is "I prefer it that way" and "Still better than Fortnite".

| *Cognition* | *Example* |
|---|---|
| Still better than Fortnite | This looks better than Fortnite |
| | Still a better game Than Fortnite |
| | STILL BETTER GAME THAN FORTNITE!!! |
| | its way better than Fortnite looool |
| | Actually, this mini game is more fun than Fortnite! |
| I prefer it that way | I hope the game stay like that it is more fun |
| | I want it that way |
| | Well, we don't need internet to play anymore all we need is a picture of this lol |
| | I hope it just stays like this and nothing happens |
| | I hope the game stays like this forever lmao |
| | Nah this is the best version of Fortnite |
| | This is more interesting than the actual game |
| | This is more entertaining than the game itself |
| | BLACK HOLE > FORTNITE |
| | I swear Fortnite better stay like this |
| | Hopefully this never changes |
| | Please stay this way |

### *6.3.4. Ambivalent and ambiguous cognitive reaction to the wait*

Alongside with positive, neutral, and negative cognitive reactions to the wait, the qualitative analysis of the online live stream allowed us to highlight another category: "Ambiguous/ambivalent" cognitive reactions to the wait. This category corresponds to users' comments that are caracterized by mixed and conficting cognitive responses occurring simultaneously.

Ambiguous and ambivalent cognitive reactions to the wait in online live streaming platforms can theoretically manifest as ambiguous/ambivalent cognitions focused on the event, the agents, and the object of the wait, that is, the game Fortnite (Ortony et al., 1988). Nonetheless, only two subcategories emerged from the qualitative analysis of the data, i.e., "Event" and "Agent". No significant Ambiguous/Ambivalent cognitive reactions to the object of the wait have been found.

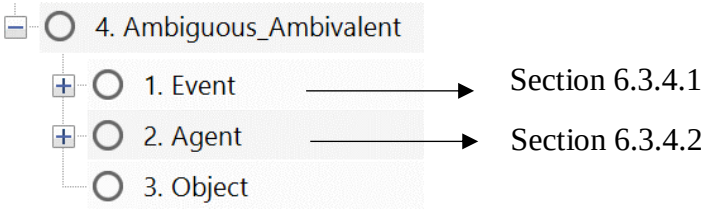


Figure 6.18. NVivo output capture. Categories: Ambiguous/Ambivalent cognitive reaction "Event", "Agent", and "Object".

#### 6.3.4.1. Event

Many ambiguous and ambivalent cognitive responses to the wait are focused on the event taking place. They have manifested in many ways. Indeed, the participants taking part in the online

live stream used various expressions holding conflicting and contradictory opinions about the waiting situation taking place. These expressions have been coded in the category "Ambiguity". Two other categories emerged from the data, namely, "This is crazy" and "Mystery". These categories are more specific than the category "Ambiguity". Nevertheless, they are just as ambiguous and puzzling. The category "This is crazy" has been categorized as ambiguous/ambivalent because the adjective crazy has been used to many effects. It has been used positively, negatively and in many occasions in an unsettling manner that could be interpreted either ways. As for the category "Mystery", it was considered as ambiguous/ambivalent because the comments consist of obscure mysterious comments that are ambiguous by nature.

The detail of the categories listed in this section is presented below.

| *Cognition* | *Example* |
|---|---|
| Ambiguity | Is horrible, utterly horrible and fascinating. |
| | YES NO. |
| | I just started playing the game I detest with a passion out of morbid and depressing curiosity for this? |
| | I'm waiting for a game that I hate it is 5:33 in the afternoon, jump ship. |
| | I hate Fortnite but I like this ending, especially that bgm. |
| | I hate Fortnite, but this looks cool. |
| | Nice shot of marketing for the world's most addictive and boring game. |
| | This is legit interesting, but Fortnite bad. |
| | I hate Fortnite but I still want to play chapter 2. |

| | |
|---|---|
| | This lowkey the greatest idea Fortnite came up with but it's still annoying. |
| | Never really liked Fortnite but man I feel bad for not being in the game that was the most unique experience in a game, the world ending and everyone together to see it. |
| | I'm bored but idk why I'm still looking this beautiful black hole... ???????? |
| | This is so peaceful to play in the background, but not as peaceful as a 10-hour loop of some randomly annoying stuff. |
| This is crazy | This is crazy. |
| | We are here since 24h it's very crazy. |
| | Wow this is crazy. |
| | The fact that it does nothing but make sounds, shows that something big is coming...just crazy that Fortnite gamers have to wait so long. |
| | You people are insane you're all looking at a black hole. |
| | Dang this is crazy. |
| Mystery | It's a mystery. |
| | We actually will never reach the truth. |
| | Mystery's everything is black we will gonna die... |
| | We will never reach the truth. Requiem has activated its ability. We are now infinitely looped. |
| | You will never find the truth. |

#### 6.3.4.2. Agent

The only type of ambiguous/ambivalent reaction to the wait about the agent that we have found is focused on the "Company", that is, Epic games. In this context, the main reaction towards the company consisted of the users highlighting the loss of income suffered by Epic games due to the waiting event taking place. These comments were grouped under the label "They're losing money". This category has been considered as ambiguous/ambivalent because these comments could be either positive or negative depending on the intention of the participant and the interpretation of the reader. Below are some comments illustrating the category "They're losing money".

> So much money they are losing out on
> His gets boring Fortnite loses money
> How money are they losing doing this??????????

## 6.4. Behavioral reaction to the wait

As previously explained (6.1.2. Axial coding), the qualitative analysis of the data allowed the identification of three different types of reactions to the wait. Indeed, users can either have emotional, cognitive, or behavioral reaction to the wait. In this section, we will focus on the behavioral responses of the users to the waiting situation taking place in the online live streaming platform under study.

The "Behavior" category is subdivided into four main subcategories. These categories come as follows: Pro-wait behavioral reactions to the wait (6.4.1.), neutral behavioral reactions to the wait (6.4.2.), Anti-wait behavioral reactions to the wait (6.4.3.) and ambiguous/ambivalent

behavioral reactions to the wait(6.4.4.). The choice of the term "Anti-wait" instead of negative behavioral reaction to the wait is further discussed at the end of this section.

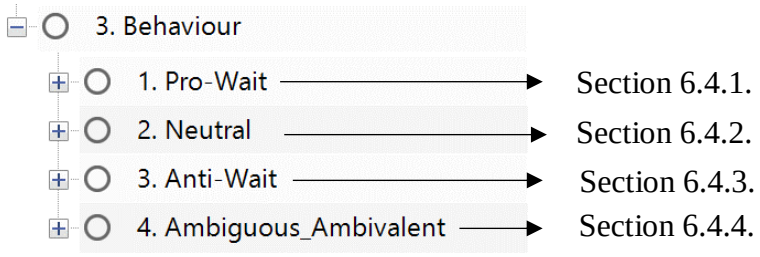


Figure 6.19. NVivo output capture. Category: "Behavior".

The subcategories of the node behavior presented above present a number of particularities that are worth detailing. If we compare the subcategories that have emerged within the category "Behavior" with the subcategories that emerged within the "Emotion" and "Cognition" categories, we can notice a number of similarities and differences.

The main common point between the subcategories of the categories previously treated (i.e., "Emotions" and "Cognition") and the category treated in this section (i.e., Behavior) is that they present a similar structure. Indeed, all the categories (i.e., emotional, cognitive, and behavioral reactions to the wait) are subdivided following the same structure. Each one of these categories is composed of some form of positive, negative, neutral, and ambiguous/ambivalent reactions to the wait. Nonetheless, there is one main difference between behavioral reactions to the wait on the one hand and emotional and cognitive reactions to the wait on the other hand. This difference resides in the fact that the "Behavior" Category doesn't have subcategories labelled "Positive" and "Negative". Instead, it has corresponding subcategories which are "Pro-Wait" and "Anti-wait".

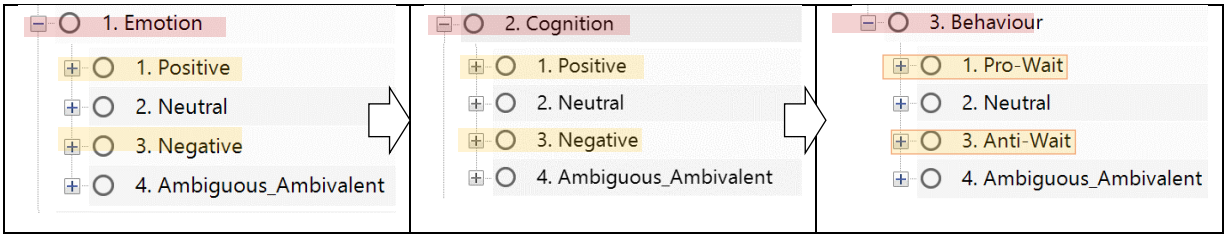


Figure 6.20. NVivo output capture. Comparison of the subcategories of the nodes "Emotions", "Cognitions" and "Behaviors".

These differences are due to two main reasons. Firstly, unlike emotions and cognitions, behaviors cannot be seen as positive or negative in absolute. Instead, they can only be seen as positive or negative in relation to an object or criteria. In our case the behaviors are considered positive or negative in relation to the subject of this work, that is the wait. Therefore, positive and negative behaviors in relation to the wait have been labelled "Pro-wait" behaviors and "Anti-wait" behaviors. Secondly, in the methodological approach retained for this work, that is, "Grounded Theory", codes and categories defined are grounded in the data. Therefore, they emerge from the codification process. Consequently, certain categories are imposed by the nature of the data and respondents' comments. In our case, all the data coded converged towards the emergence of positive and negative behavioral reactions to the waiting situation that are articulated around the desirability of the wait. In other words, all the positive or negative behaviors have been expressed in terms of how encouraging or discouraging towards the wait they are. Thus, in the category "Behaviors", the counterparts to the subcategories "Positive" and "Negative" took the form of "Pro-wait" and "Anti-wait" because it was imposed by the data in which the theory proposed is grounded.

### *6.4.1. Pro-wait behavioral reaction*

Pro-wait behaviors are the behaviors that are in favor of the wait. The Pro-wait behaviors identified in this qualitative analysis vary in terms of intensity. Indeed, these behaviors range from merely accepting behaviors towards the wait to behaviors that are extremely supportive of the wait.

The mildest category of Pro-wait behaviors is the category "Waiting". In this category, the users of the online live stream recognize, tolerate, or accept the situation and wait. The next behavior, that is slightly more positive towards the wait is labelled "Coming back". This category illustrates the behavior of the users that keep coming back to the waiting situation after leaving. The next category shows a higher level of commitment to the wait. It has been labelled "Prolonging the wait". Within this category, the users' expressly take actions to prolong the waiting situation. In the following category "Encouraging the wait" the users of the online live streaming platform are even more supportive of the wait. Not only do they tolerate the wait and try to extend it, they even go further and try to convince the other participants users the online live stream to continue waiting and to wait more. The following category, i.e., "preferring to wait" is even more positive towards the wait. Indeed, within this category, the users prefer to keep waiting instead of participating in other important or necessary activities. One of the main examples illustrating the attachment of the participants to the wait in this category is students' decision to skip school in order to keep waiting in the online live streaming platform. Finally, the most intense Pro-wait behavior category identified is "Favorable behaviors". This category is composed of some extremely positive behaviors that are believed to be supported by the wait such as defending the brand (i.e., Fortnite) or trashing and insulting the competitors. All the categories listed in this section are presented in more in what follows.

#### 6.4.1.1. Waiting

| *Behavior* | *Example* |
|---|---|
| I'm waiting | I'm in a queue. |
| | I'm waiting. |
| | Waiting. |
| | L waiting un screen Fortnite. |
| | I'm still here! Duh! |
| | I am waiting so hard right now. |
| | I seen it I'm staring at the same s*** you are. |
| | I've been looking directly into the black hole for 10 minutes straight. |
| | FORT WAITED. |
| I'm watching the black hole | Keeping eye on black hole. |
| | I'm sitting watching the black hole. |
| | Sooooo I'm just staring at a blank screen tho. |
| | Everybody is stuck on this. |
| | Look very close inside there's nothing there. |
| | If you stare at it long enough you start to see what it is. |
| | Watching you watch this watching me watch this or whatever knows I'm nuts. |
| | I'm watching it on my TV. |
| | Watching wtf. |
| | Watching this be like: Cave man. |
| | I don't even play Fortnite and I'm watching this. |
| | Everyone be watching in 4k lol-. |

| | |
|---|---|
| I've been waiting for a while | I have been here for so long. |
| | For me it's in waiting queue for 4 min. |
| | I've been here since it's been doing this. |
| | I've been staring at this whole so long are remind me of prison. |
| | It's been here for 30 mins. |
| | An hour and it hasn't changed ooooooooof. |
| | IVE BEEN WAITING FOR 2 hours already, WHAT DA. |
| | Its almost been 3 hours looking at this screen fml. |
| | Do you know how long I've been waiting. |
| | Omg I am dying i have been waiting 3 hours. |
| | I have been playing at 2 hours just looking at the black hole. |
| | I waited 4 hours and steel trying to know what gonna happen. |
| | 3 hours stare. |
| | Anyone else here since 11am. |
| | I wasted 24 hours looking at that hole. |
| | I stared at this for 8 hours yesterday. |
| | All day baby. |
| | That's when you know you don't have a life lol. |
| | I am looking on it all day form 8. |
| | Tell me why I'm a 37-year-old man that has been sitting staring at a black hole for two hours. |
| | I've been watching streams of this for almost a day now. I didn't have a seizure so... |
| | 2 days later and I'm still dead inside. |
| | Been watching hole for 26 hours. |
| | It's been 30 hours, and nothing has happened. |

I'll wait

I gotta wait XD.

Be like this until midnight.

I'm gonna watch this all night.

I will be waiting till the universe dies.

Fortnite all night!!!!!!!!

I can stare to this for days.

Wow no commentary at all nope not watching i'll just turn on my Xbox one x and PS4 and watch the hole on those.

#### 6.4.1.2. Coming back

For this category, the comments expressed by the users of the online live streaming can be summarized with the label "I'm back". I what follows are some examples of the comments made the participants:

Ok I'm back.

OK I'M BACK WHO'S "NOT TALKING SMACK ON FORNITE?

Just got here, is the center larger than yesterday?

I am back dudes.

I am back!

Back.

Reeee.

Why I'm back!! Why am I still in this horrible place.

#### 6.4.1.3. Prolonging the wait

For the category "Prolonging the wait" the users participating in the online live streaming generally expressed their inability to stop waiting. Thus, their comments can be summarized with the label "Can't stop watching". Below are some of the participants comments.

> And I can't get up.
>
> I don't know why I'm watching this I don't play Fortnite, but I can't stop
>
> I'm bored but idk why I'm still looking this beautiful black hole...????????
>
> They brainwashing us lmao.
>
> If we stare at it, we get addicted.
>
> You got BAITED.

#### 6.4.1.4. Encouraging the wait

For the category "Encouraging the wait", the users of the online live stream go beyond coping with the wait or accepting it. They also go beyond prolonging the wait. They encourage the other users to wait. Therefore, the category "encouraging the wait" shows more positive behaviors towards the wait than the categories previously treated.

Within the category "Encouraging the wait", we have identified 3 subcategories, i.e., "Just wait", "Let's do this (let's wait)", and "Keep it going (Poll)". Each of these subcategories represents a different expression of users encouraging other users to keep waiting. These categories are further detailed in what follows.

| *Behavior* | *Example* |
|---|---|
| Just wait | Just stop and watch don't do anything bad and u gonna show a miracle. |
| | Just wait. |

| | |
|---|---|
| | Waiiiit |
| | Wait for it. |
| | We have to wait another 1. |
| | Wait another 1 hour. |
| | Just be patient something will happen. |
| | 5 minute only just be patient. |
| | Guys just do something else or just wait. |
| | For thos kids thst think "where is my money" and "fornite is dead" stop crying and just wait until tomorrow ffs. |
| | And it's if you want to keep saying apex this and pubg that, leave because it's actually annoying, just sit here and watch it if you want. |
| | Wait for it wait for it ...it's a baby. |
| | And now you just gotta wait for the new thing to happen which is going to be the biggest change as of yet. |
| | Just wait till tomorrow. |
| Let's do this (let's wait) | Let's stare to this for an hour straight! |
| | Our journey continues... |
| | Here we go again guys. |
| | Let's grow together. |
| | : 50:00 it's a time 1 hour 50 minutes and 0 seconds let's wait if the number gets lower next time. |
| Keep it going (Poll) | Noooo |
| | Wtf put it back on. |
| | 5 minutes only just be patient. |

The comments related to the last category, that is, Keep it going (Poll), are related to a very particular occurrence that happened during the online live stream. At the end of the first day of the wait, the broadcaster of IGN Entertainment attempted to put an end to the broadcast thus prohibiting the participants from continuing to wait together in the online live streaming platform. Before stopping the streaming, the broadcaster started a poll to see how many users wanted to prolong the broadcast and how many wanted to end it. To his surprise, most of the respondents to the poll wanted the stream to continue. More than that, when the broadcaster became more insisting in his intention to put an end to the broadcast, many participants showed a strong resistance and forcefully urged him to continue. The comments made in this category such as "Wtf put it back on", "5 minute only just be patient" should be interpreted within this context. This is important because it shows how, even when faced with strong pressure from the person managing the online live stream, the participants prefer to maintain the waiting situation. This reflects how strong users' commitment to the wait can be. It also illustrates how intensely pro-waiting behaviors can manifest.

#### 6.4.1.5. Preferring to wait

Users' "Preferring to wait" in the online live stream instead of doing other activity has manifested in one way. Many of the participants decided to skip school ("Skipping School"). This is important because it shows that the participants went to such lengths as to skip school only to stay in the online live stream and the waiting situation.

The main comments illustrating this category come as follows:

> I'm skipping school so.
>
> Who else is skipping school?

I'm skipping school for this. It better be worth it.

Kids have to go back to school when Fortnite relaunched.

I'm not waking up at 6 and because I have no bus passes my mom has to drive me so I can miss the bus worry free and update and play chapter 2 season 1.

I'm actually bored af. Missed school just to watch a blank screen.

#### 6.4.1.6. Favorable behavior

The category "Favorable behavior" encompasses a variety of pro-wait behaviors that are quite intense. Within this category the behaviors are not only tolerating or encouraging the wait. They are even more positively oriented towards the wait. Indeed, the behaviors displayed in this category can take the form of strong and sometimes violent reactions in favor of the waiting situation. For instance, the users participating in the online live stream can be so favorable to the wait that they would vehemently defend the brand against the users that are opposed to the waiting situation. Users' favorable behavior towards the wait can also manifest as trash talk and insults against the competitors put forward by the participants that are opposed to the waiting situation. The category "Favorable behaviors" is constituted of Pro-Wait behaviors that can be focused either on the agent or the object of the wait.

##### *6.4.1.6.2. Agent*

The "Favorable behaviors" oriented towards the agent that have emerged from the data are focused on one type of agent, that is, the "Company". These behaviors take one specific form. Indeed, they were manifested as attacks and insults against the main competitors of the company. The comments forming this category have been coded under the label "Trashing competitors". Below are some examples illustrating the comments of this section.

APEX IS TRASH, THE BLACK HOLE GOT MORE VIEWERS IN 12H THAN THE WHOLE PLAYER COUNT ON APEX.

Apex trash asf basic free game no one cares about.

It's funny the ones saying apex, but I bet your screen has the black hole so stop.

fronting nerds.

Apex is trash.

Apex is TRASH!!!!!!!!!!!

Apex?? Garbage.

Apex is boring.

I don't like Apex people get out.

Minecraft is not better then Fortnite PERIOD!!!!!!

Minecraft is bad.

No one cares about Pubg.

PUBG IS TERRIBLE JORGE.

Pubg trash game.

Free fire is trash.

Crimson is trash.

#### *6.4.1.6.3. Object*

The qualitative analysis allowed us to identify "Favorable behaviors" focused on the "Object" of the wait, that is, the game Fortnite. These behaviors manifested in one specific manner. Indeed, they took the form of comments and arguments defending Fortnite against its detractors. Thus, this category has been labelled "Defending Fortnite". Below are some examples illustrating the comments of this section.

FORTNITES THE BEST.

FORTNITE FORRRRRREEEEEEEVEEEEEEERRRRRRR.

For the people who don't like Fortnite, why are you here again?

If you guys reckon it's trash, then why are you watching the stream.

JORGE WHY ARE YOU WATCHING SOMETHING BASED ON FORTNITE IF YOU HATE IT THO.

Then why are you watching Jorge Montenegro?

Jorge SHUT UP.

Fortnite haters trying to get attention lel.

Lol I love Apex too but why hate on Fortnite.

Minecraft is not better then Fortnite PERIOD!!!!!!

Seems pointless to come just to trash Fortnite.

No one the hate is all in you. (response to: WHO HATES FORNITE MORE THAN ME?).

Even if you guys hate it . The game is creative af.

If it's dead why do over a million people still play it????

For the people that say Fortnite is dead, imagine being the second most views in twitch and just to watch a black hole.

People who hate on Fortnite or any game are a joke.

Can y'all stop bullying Fortnite

Can y'all apex people leave the stream.

IF APEX IS BETTER THE GO PLAY ID DAMN.

Bro Fortnite is better if it not then get out of this chat.

FORTNITE IS NOT DEAD BUT YOU WILL BE SOON.

FORTNITE IS NOT DEAD BUT YOUR MOM IS.

I'm just waiting for the toxic people saying Fortnite is dead.

Apex would of never been created if Fortnite was not huge.

For those kids that think "where is my money" and "Fortnite is dead" stop crying and just wait until tomorrow ffs.

### *6.4.2. Neutral behavioral reaction to the wait*

Neutral behavioral reactions to the wait are behaviors that are neither in favor or against the wait. Nonetheless, neutral behavior doesn't mean absence of behavior. Indeed, when displaying neutral behaviors, the users of the online live stream do, in fact, engage in some form of action. Nonetheless, this action is not Pro-wait or Anti-wait.

The "Neutral" behaviors identified in this qualitative analysis essentially revolve around information, filling the wait and socialization. Socialization seems to occupy an important place within the "Neutral" behaviors categories. In fact, all the main subcategories composing the "Neutral" behavior category uphold some form of social dimension. Nonetheless, the extent to which a behavior is social or not varies a lot from one subcategory to another. In what follows, we present all the subcategories that constitute the "Neutral" behavior category.

#### 6.4.2.1. Greetings

The neutral behavior category "Greetings" usually corresponds to the first comments made by users of the online live streaming platform upon joining the waiting event. A large variety of expressions were used by the users to greet each other. The main comments illustrating this category are presented below.

Heyyy

Hey

Hey!

Heyzzzzzz

hay

Hi

Hiiiiiiiiiiiiiiii

hi guys

hi fellow gamers

hifortnnite

hi my name is rod and i like to party

hello

yooooo!

yo

Sup

how u doin

How is everyone doing today?

#### 6.4.2.2. Giving explanations

In the neutral behavior category "Giving explanations", the users participating in the online live stream say the reasons they believe to be behind the wait. This speculation about the reasons to why the users have to wait resulted in a large variety of categories. The explanations given by the users of the online live streaming platform assume that there are technical issues "The system is down", or that the service (i.e., the video game) is being improved ("They're making it better"). Some users defended that the company was deliberately making them wait "They're making us wait (2)". Other reasons for the wait were also been given. Some of these reasons were relatively realistic ("Giving an explanation") while others presented very surrealistic and extravagant explanations for the wait ("Giving crazy surreal explanations"). Finally, many users of the online live stream platform recognized that the waiting was enforced as part of the marketing actions of the company (It's marketing).

| *Behavior* | *Example* |
|---|---|
| The system is down | Crash?<br>Fortnite more like error 404.<br>404.<br>This game is broken. |
| They're making it better | Maybe epic games are trying to make sure that everything is functioning right just give them time.<br>Yeah how are y'all going to talk trash about Fortnite when their trying to make sure everything is functioning right.<br>Fortnite is being purged of imperfections and is being made perfect.<br>The game is being worked on.<br>Fortnite will be better than ever. |
| They're making us wait (2) | Fortnite is making us do a 24-hour challenge.<br>Fortnite really got you all staring at a blank screen for hours.<br>On purpose.<br>This is an event? Pfff.<br>It is just season XI's event happened.<br>Fortnite chapter two everybody just give it to us we already know that's wats coming.<br>There toying with all you.<br>Fortnite keeping people watching even when NOTHING is happening. |
| Giving an explanation | It's just downtime. They're releasing a patch and the game can't be played.<br>It's just downtime while they prepare season eleven.<br>Its the Playstation 2 Corrupted disc screen. |

| | |
|---|---|
| | Server under maintenance. |
| | Oh I get it there waiting for all the NFL games to end today...damn investors. |
| | LOADING THE NEW MAP. |
| | This must be a really big update hahaha. |
| | Maybe is a server upgrade. |
| | It's more like a loading screen... Remember, on the bottom left, it said "loading"... That or epic has a hard time making a new map lol |
| | 24hrs viewing event, like pokemon sword and shield. |
| | Bug? |
| | Technical problems! |
| | This games dumb broke. |
| | Fortnite has shut down all SERVERS. |
| | FORTNITE RESET. |
| Giving crazy surreal explanations | This is actually The Ring. |
| | WARNING THIS IS THE VIDEO FROM THE RINGS MOVIE YOU WILL DIE IN SEVEN DAYS. |
| | Aliens did this. |
| | DISNEY BROUGHT EPIC STUDIOS!!!!!!! |
| | THEY TOOK OUR MONEY TO BUY EQUIPMENT TO SMASH THEIR SERVERS!!!!! |
| | The Chinese did this! |
| | Epic Cashin Out Into Another Dimension. |
| | THANOS IS COMING BACK. |
| | PewDiePie is taking g over Fortnite. |
| | Fortnite stole the black hole Image and made it blue. |

| | |
|---|---|
| | PUBG PIRATED GAME "FORTNITE. |
| | We've enter the rift dimensions!!!! |
| | Setting a portal. |
| | Lon musk did this. |
| | Elon musk deleted Fortnite. |
| | Imagine text pops up from Fortnite reps saying haha got you. There was never a Fortnite. All in your head lol. |
| | I have a theory, the orb destroyed the map by creating a black hole and when you do the mini game, the background is space because everything is in space now. |
| | Somebody got fired from Fortnite probably. |
| | It's trying to hypnotize us all. |
| It's marketing | It's a marketing ploy. |
| | This is a very interesting marketing strategy. |
| | That is some publicity. |
| | Its a hype PR thing. |
| | Yeah all the hype rn gonna make them money. |

#### 6.4.2.3. Exchanging information

One of the neutral behaviors displayed by the users of the online live streaming platform is the exchange of information ("Exchanging information") either by "Asking for information" or bringing new insights ("Bringing new information").

| *Behavior* | *Example* |
|---|---|
| Asking for information | What the cose. |
| | Is this even a trailer? |
| | Is this an actual event? |

| | | |
|---|---|---|
| | | SERVERS ARE UP!? |
| | | How do. U get a mini game. |
| | | How do u activate de mini game? |
| | | What the Konami code for ps4. |
| | | How do you do this on PC? |
| | | Xbox code? |
| | | How do you play this on switch? |
| | | What the code. |
| | | How are we gonna use your code with this on our screen. |
| | | This is Fortnite? |
| | | What is tht on the screen? |
| | | IS THAT SUPPOSE TO HAPPEN?? |
| | | Guys can someone please tell me if this will go straight into season 11 or not please. |
| | | Is that a loop??? |
| | | So when are they supposed to announce this? |
| Bringing new information | False information-Rumors | I saw so many real leaks lol people from like China already have season 1 all over again. |
| | | DISNEY BROUGHT EPIC STUDIOS!!!!!!! |
| | | IM IN THE LOBBY. |
| | | Yo it started. |
| | | I work epic and i have a leak. |
| | | FORTNITE 2 ON PS STORE WHAAAAAAAAT!!!!!! |
| | | If you do the DEFAULT DANCE 3 TIMES THE GAME LOGS YOU BACK IN. |

IF YOU HAVE A PC, YOU CAN INCREASE BRIGHTNESS

AND SEE THE BATTLE BUS COMING THROUGH.

In 2 minutes, the event will end and season 11 will start.

Press O and appears a number

Click the blackhole i saw the new map.

Cap I got 100,000 I'm in first.

ALT+F4 TO START FORTNITE.

Fam there is no more Fortnite check twitter.

FORTNITE ITALY HAD A COUNTDOWN.

### Final countdown

3 min till update.

3 minutes remaining.

4 mins left.

2 mins left.

1.20 min left.

Final countdown.

It's happening in 1:10.

62% loaded.

Wait it's about to happen.

It's about to happen.

I think at 5:00 something will happen.

10....9....8.

### Video leak

Watch leaked trailer.

I got the trailer leak.

> If u have ig jus search up Fortnite and see it or else jusT search it up on YouTube season 11 has new pump and ar and has a healing launcher wigh swimming, fishing and boating in the game.
>
> Fortnite just released a trailer.
>
> Y'all see Fortnite chapter 2 trailer?
>
> New season trailer dropped on twitter does no one care or do they still wanna look at this hole lmao.
>
> WHO HAS SEEN THE LEAKED BATTLE PASS TRAILER!
>
> That chapter 2 season 1 leaked looked cool.
>
> Season 11 trailer has been leaked it's called chapter 2 season 1.

#### 6.4.2.4. Socializing

One of the most important neutral behaviors of the users taking part in the online live stream is engaging in social interactions ("Socializing"). Users' socialization took many forms.

First, the participants socialized by discussing a large variety of subjects ("Discussing and conversing"). The subjects discussed by the users are: Other video games ("Talking about other games"), school ("Talking about school"), what they were doing when they got in the waiting situation ("Sharing what's happening for them") and how it impacted them ("Sharing consequences for them"). The participants also had conversation about the black hole in the Fortnite waiting event screen and made comments about it ("Comments on hole"). Secondly, besides discussing and having conversations, the users of the online live stream displayed another socially oriented

behavior. We have labelled it "Community". Within this category, the participants engaged in a variety of behaviors to show, share and defend the fact that the users of the online live stream were forming a group and part of the same community. Thirdly, another social behavior in which the participants engaged is the use and showcase of memes and references. In effect, many participants used memes and references that are most likely to resonate with the other users of the online live stream "Memes and common references". Finally, some respondents' participation to the online live stream was motivated by another type of social goal: "Meeting girls". Illustrative examples of the categories discussed in this section are presented below.

| *Behavior* | *Example* |
|---|---|
| Discussing and conversing | Talking about other games |
| | Anybody want LAST OF US II more than CYBERPUNK 2077. |
| | Name the top games for the switch. |
| | Who likes Roblox. |
| | R I might get Jedi knight outcast 2. |
| | Hey, everyone, which games do you like? |
| | Hey do u use mouse/keyboard for apex in ps4? |
| | Who plays graal era. |
| | Talking about other interests |
| | Who's exited for season 4 anime of seven deadly sins on Netflix. |
| | Talk about something at least, leave the game. |
| | I love anime. |

Fc Barcelona > real Madrid.

Guys I bought a Ducati superbike.

Its my bday too :)).

Should I ask my crush out.

Joker is going to win an Oscar soo.

The TI-84 is the best calculator ever.

Cheeseburgers > Hotdogs.

Belle delphine is a Instagram popular girl.

Eminem is the best rapper?

Who killed Tupac?

Talking about school

Anybody got school tomorrow?

Common most of us have school tomorrow.

Haven't you kids got school tomorrow.

They're waiting for everyone to get home from school before they start.

Kids have to go back to school when Fortnite relaunched.

Guys this numbers are important because this numbers are going to be asked on your class exams.

AHAHAH I CRACKED IT... CHAPTER 2 IS FORTNITE MATH, WE DONT HAVE TO GO TO SCHOOLS BOYSS.

Just high school dropouts who have noting els better to do

Yall some little kids waiting for a game to comeback no wonder yall fail classwork.

Omg everyone in school is going to be so sad tomorrow.

Sharing what's happening for them

MY EPIC DONT LOGIN.

Can't do nothing.

My screen is just a x.

STUCK ON X SCREEN.

That happen to me at the lobby.

Omg my Fortnite is doing the same thing right nowwwww.

I am watching the event on my Xbox on Fortnite.

My screen says waiting in queue.

I cant do anything with this hole.

ON MY SCREEN.

OMG AM AT SCHOOL MY TEACHER IS SHOWING THE WHOLE CLASS XD.

Was on level 63 before it ended :(.

I'm high af.

My cat just scared the ****** out of me.

I won my last game on Fortnite before the season end.

I'm on that screen it's not doing anything.

I'm gonna be mad I just dropped $20 this morning for season 11 BATTLEPASS.

Bro I don't have work today. C'mon!! The one day I have off and cant play this game. WTF!!

Sharing consequences for them

I NEED TO GO TO SKL TODAY AND ITS 4:17am.

I lost my ghoul trooper.

Was on level 63 before it ended :(

We can all feel the lumps in our backs.

| | |
|---|---|
| | My life is over now ... Shhiiiiiiiji. |
| | Comments on hole |
| | Nice hole. |
| | I like black holes that's why I'm here. |
| | This blackhole is my life. |
| Community | I BBEELLOOONNGG. |
| | Bros channel?????????????? |
| | At least I found many jojo fans. |
| | The jojo community is so weird I swear. |
| | Man I love all the jojo references on a Fortnite stream lmao. |
| | Gamers we did it Fortnite commit die. |
| | Hi gamer. |
| | Epic gamers here. |
| | HELLO FORTNITE GAMERS ARE YOU READY. |
| | Who wanna be friends? |
| | But u are all guy's super cool!! Stay like that don't change. |
| | When ninja wants to stream but Fortnite goes : I aint you bish. |
| | I'm the original go ninja here and I'm not a fan of ninja. |
| | Where's ninja. |
| | Let's all support one another. |
| Memes and common references | Meme review. |
| | We should type in memes. |
| | MOM GET THE CAMERA!! |
| | Om gEt tHe cAmEra. |
| | Bangalore. |

MOZAMBIQUE HERE! MOZAMBIQUE HERE!

MOZAMBIQUE.

Mozambique here!

MOZAMBIQUE HERE.

Mirage.

3 days later.

4 hours later...

10 hours later.

IS THAT A JOJO REFRENCE???!!!

Is that a JoJo reference?

was that a jojo reference.

I SEE THANOS.

WHERE IS THE DAMN FOURTH CHAOS EMERALD?

I want it that way.

Tell me why.

Ain't nothing but a mistake.

Lets go to the chopper.

CREEEEEEEEEEEEEEEEEEEPER.

CREEPER!

Cripa.

AW MAN.

Awww man.

So we back in the mine.

Smining our pickaxe from side to side.

Pickaxe swinging.

VAULT KEY HERE!

| | |
|---|---|
| | THE NUMBERS MASON. |
| | What do the numbers mean mason. |
| | VORA ORA ORA ORAAA ORAAAA. |
| | Oda oda oda. |
| | ORA. |
| | My life was a tragedy but it's a comedy. |
| | Sweeeeeeet home alabamaaa. |
| | Sweet ho alabama. |
| | WEEST VIRGINIA. |
| | WEST VIRGINIA, MOUNTAIN MAMA. |
| | TO A PLACE. I BELOOOOOOOOONG WEST VIRGINIA. |
| Meeting girls | I'm here to get a hot gamer gf. |
| | Who wants to come pick up gamer chicks with me at the local gamestop? |
| | Who is a girl here? |
| | Hi I am a girl and I'm single. |
| | Do you guys think girls will ever like a guy like me? A ..... Guy who mains tachanka. |
| | Get a girlfriend stop watching this stream. |
| | Any girls here? |

#### 6.4.2.5. Engaging in humor

One of the neutral behaviors of the online live stream users is humor ("Engaging in humor"). Indeed, as a response to the wait, many participants made jokes about a large variety of subjects. Instinctively, one would tend to qualify humor as a positive reaction. Nonetheless, in this work, it has been considered as a neutral reaction to the wait. The reason behind this is that the

humor behaviors showed are not fundamentally encouraging to the wait ("Pro-wait") or discouraging of it ("Anti-wait"). Some of the comments representing this category come as follows:

> What do cows do when they meet each other?
>
> You mean fork knife?
>
> WTF WITH FORKKNIFE.
>
> Tell a joke.
>
> Here is a joke.
>
> They're giving all of you the opportunity to do something other than stare into the black hole of a monitor. The black hole is a symbol of irony.
>
> Wait for it wait for it ...it's a baby.
>
> I haven't waited this long since my dad went to get milk.
>
> Who is joe?
>
> Joe mama.
>
> Where is joe.
>
> Ask me who joe is.
>
> Who is this joe everybody talking bout?
>
> JOE MAMA.
>
> Joe mama.
>
> I'm about to say the n word.
>
> N WORD PASS HERE!
>
> Can I get an N Word pass?
>
> ILL GIVE U AN N-WORD PASS.
>
> Nice, I said the n word.
>
> NASSAAAAAAAAA.
>
> Nasaaaaaa.

Holenite?

Is this were babies come from?

Watching a virtual bum hole.

My black hole.

Stop looking at my hole.

Po*nhub time.

TIME TO BEAT THY MEAT.

#### 6.4.2.6. Filling the wait

Based on the literature (Y. Lee et al., 2012; Namkung & Jang, 2010; Pàmies et al., 2016b; Taylor, 1994, 1995; Verhoef, 2000), in a waiting situation, one of the most common reactions is to try to fill the wait. Filling the wait can be instigated by the consumers in order to cope with the wait. It can also originate from the company's attempt to reduce the potential negative impacts of the wait on its clients (Pàmies et al., 2016a). In this work, the initiative of "Filling the wait" conforms with the literature. Indeed, the efforts made to fill the wait are engaged by different agents ("Initiative of agent"). In effect, the attempts to fill the wait are either initiated by the users (i.e., "Self" and "Broadcaster) or by the "Company".

##### *6.4.2.6.1. Broadcaster*

The efforts engaged by the broadcaster of the online live stream (i.e., IGN entertainment) to fill the wait manifested in different ways. Making punctual comments, ad asking for the viewers' opinions is one of the streamer's main ways to fill the wait. Nonetheless, it is not the only one. Indeed, during the broadcast, after an extended period of waiting, the streamer decided to display a video of the last moments of Fortnite, before all its services got shut down. This video got many reactions from the viewers as we can see in the category "Engaging with the video". The users'

interactions with the video shared by the broadcasters took many forms such as "This is getting really emotional", "I hate Fortnite but I like this ending, especially that bgm" and, "I hate Fortnite too but that end was sick".

#### *6.4.2.6.2. Company*

The efforts made by the company (i.e., Epic Games) to fill the wait took two main forms. First of all, the company added hidden series of numbers in the background of the black hole displayed within the game. Every now and then, subtle foggy numbers would show briefly in the apparently empty black hole waiting screen. Although viewers didn't notice the presence of said numbers, other paid very close attention to them. Thus, many users of the online live stream engaged with the hidden numbers, commenting, and trying to interpret their meaning. We defend that the numbers played a role in keeping the users occupied and in filling the wait. The most important reactions to the hidden numbers are detailed below in the category "Hidden numbers in the screen".

Another tool used by the company to fill the wait is a secret mini game. Indeed, the waiting screen of the event is nothing but a black hole in a dark empty background. Nonetheless, it was possible to access a basic 2D arcade game by entering a secret combination on the keyboard or the console control. Once the secret code typed, the game appears above the black screen and the users can shoot simple arcade enemies to reach a high score. The secret code was hidden and unadvertised. Nonetheless, it corresponds to a combination of keys that is notoriously known among gaming groups and communities as the KONAMI Code. It is a code that has been used by game developers to cover hidden features and easter eggs in their games since the early 80's.

Once the hidden game was found by the users it spread and made its way to the online live stream. As a result, the mini game was displayed by the broadcaster. It was also widely commented and reacted to by the viewers as we can see in the category "Talking about the mini game". We suggest that the mini game hidden by Epic Games in the fabric of the waiting event has contributed to keeping the users busy and to fill the wait. Reactions to the mini game can be found below.

| *Behavior* | *Example* |
|---|---|
| Hidden numbers in the screen | 12369. |
| | 69. |
| | 420. |
| | 79. |
| | 69 what. |
| | 12369. |
| | 802701. |
| Talking about the mini game | There's a mini game courage jd is playing it. |
| | Secret mini game for this screen. |
| | YOU CAN STILL PLAY THE PIZZA BURGER MINIGAME. |
| | People have mini games on their screen. |
| | How are you playing that. |
| | How do. U get a mini game. |
| | Up Up Down Down Left Right Left Right B A Start (or Enter) to play the mini game during the black hole downtime screen.????? |
| | USE KONAMI CODE IT WORKS. |
| | Konami code actually works its pretty cool. |
| | Vicdurry. |
| | Galaga. |

NOW GO FOR THE HIGH SCORE!!!! YOU ARE PLAYER ONE!!!!

HES SHOOTIMG PIANEPLES.

Fortnite an arcade now?

#### *6.4.2.6.3. Self*

The category "Self" corresponds to users' behaviors that aims to fill the wait. These behaviors can take different forms such as "Eating" while waiting, "Showering", "Sleeping", watching something ("I'm watching - Something - while waiting") or playing a video game ("Playing another game while waiting") at the same time. "Beating meat" is also a subcategory that have emerged from the data and that fits within the category "Self".

| *Behavior* | *Example* |
|---|---|
| Eating | I'm eating in queue. |
| | I want tacos. |
| | Going to subway you guys want anything? |
| | I'm going to McDonald's what y'all want? |
| | I want a Bigmac. |
| | Yeah, can I get a 5 chicken piece and large Coke Zero? |
| | So damn hungry. |
| Showering | I Found Showers!!! |
| | Came out the shower and it's still not here. |
| Sleep | I fell asleep watching the black hole on my PC did any numbers appear? |
| | Who has watched this and fell asleep? |
| | I'm going to take a nap to this. |

| | |
|---|---|
| | Its 1:48 am in Switzerland im going to sleep now with voice on 100% so i wake up if something happens. |
| | Are you still here??? C'mon the show its over go to bed. |
| | IT COMES OUT TOMORROW MORNING 4:00AM eastern time. |
| | Go tell momma to tuck you in and give you your goodnight kisses and go to bed and when you wake up on the morning Fortnite will be ready to go. |
| I'm watching - | Guess what I'm watching CREEP CATCHERS!!! |
| Something - while waiting | I'm just watching anime with the hole on my tv. If something happens i can save the last 30 minutes as a video clip so meh. |
| Playing another game while waiting | I'm literally just playing Apex waiting for Fortnite to come back lol. |
| Beating meat | Ight imma go beat my meat now. |
| | Beat me banana blud. |
| | Well I've been waiting in here for 2 hours. Time to go beat my meat. |

#### 6.4.2.7. Monitoring the wait

The category "Monitoring the wait" corresponds to users' effort to stay informed about what is taking place in the online live streaming platform. Users' monitoring of the wait took two different forms. First, the users would leave the waiting event and come back frequently to see if there have been any changes. "Anything new", "Is this still going on", "Just checking" …correspond to some of the main behaviors displayed by the users in this regard. All these behaviors have been put together in the category "Checking". Secondly, the users participating to the wait tried to gather key information in order to keep track of the evolution of the waiting

situation. For instance, they would try to keep track of time ("Keeping track of time"), of the duration of the wait for others ("How long have you been waiting"), and of the people waiting in general ("Keeping count of people", "Who came first", and "Who's going to be waiting"). All these behaviors have been put together within the category This category "Keeping track".

| *Behavior* | *Example* |
|---|---|
| Checking | Anything new |
| | Anything new guys? |
| | Anything new guys haha. |
| | Anything happened for anyone??? |
| | Has anything happened at all today for the black hole? |
| | Ah what did I miss? |
| | Anything new yet? |
| | Is this still going on? |
| | This is still going on? |
| | It's still going?!?! |
| | Mao this still isn't over. |
| | Wait this is still happening. |
| | We still watching this black hole?? |
| | Oh the stream is still going k. |
| | Just checking |
| | Just checking if anything has changed.... Nope. |
| | I thought I'd check it out, like every other game releasing its new content. |
| | Just came back to check if this thing is still here and yeah, it is. |

Keeping track

### Keeping track of time

This has been going for a while now.

It's been long enough.

Almost an hour guys.

For me it's in waiting queue for 4 min.

I NEED TO GO TO SKL TODAY AND ITS 4:17am.

An hour and it hasn't changed ooooooooof.

### How long have you been waiting?

How long have u guys waited.

How long has it been like this?

How long have you been watching?

How long have you people been watching?

### Keeping count of people

666 viewers whatttttt.

Only 3000 people here.

And people are pouring in! Dang!

### Who came first?

First.

I was 1st.

2nd boi.

Anyone else here since 11am.

This guy really just came and said 1st.

@Keeks been watching since the start.

### Who's going to be waiting

Question beckons who will be here in the next hour or 3.

Everyone is watching a black hole until tomorrow?

Let's count how many people waiting starting to me : 1.

Who else just wants to see what happens and doesn't care about apex vs Fortnite?

#### 6.4.2.8. Expressing expectations

"Expressing expectations" is a neutral behavioral reaction to the wait where the users voice what they would like to happen when the waiting situation is over. The expectations of the users participating in the online live stream can take different forms. Indeed, some participants expect the game to be worth the wait ("Better be worth the wait") while others want things to remain unchanged ("I don't want things to change"). Participants also just want to be able to play the game after the wait is over ("I want the new game - Purchase intention").

| *Behavior* | *Example* |
|---|---|
| Better be worth the wait | Better be worth the wait. |
| | New Fortnite better be not trash. |
| | This season better be worth the wait. |
| | I'm skipping school for this. It better be worth it. |
| | Hopefully this is worth the wait. |
| | I'm curious to see if it's worth the wait. |
| I don't want things to change | Could epic NOT destroy the old map...!!!!! |
| | Dude love the skins and fishing but i don't want the new map change my heart can't take it;-; |
| | That's why when they do these events or updates everybody freaks out because it's something new. |
| I want the new game (Purchase intention) | Me: mom can we have season 11 at home. |
| | I hate Fortnite but i still want to play chapter 2. |

> For someone who stopped playing right after season 7...I kind of want to play it again, after all this...
> Man, it's been 5 months since i played this game, yet now I want to play it
> Now i can downloaded this game.
> So could anyone tell a noob who just downloaded Fortnite because of the recent hype at this, as to what this is all about (the black hole and wait, is this serious or a hoax?)?

### *6.4.3. Anti-wait reaction*

Anti-wait behaviors are the behaviors that are against the wait. The anti-wait behaviors identified in this study show different levels of intensity. Indeed, the behaviors detailed in this section go from reactions that are relatively tolerant to the wait to behaviors that are extremely opposed to it.

In what follows we will present the behaviors of the participants of the online live stream in an increasing order, from the less intense to the more intense anti-wait reaction. First, the users of the online live stream consider alternatives ("Considering alternatives"), that is, other activities they can engage in instead of waiting. Second, the users start considering more specific alternatives, i.e., playing competitors games instead ("Considering competition"). Third, the users start formulating and defending their desire to end the wait ("Urging to stop the wait"). Fifth, at this stage some users leave the wait. Nonetheless, it is not definitive, and they come back ("Leave and return"). Sixth, the users leave the wait without returning ("Leaving the wait"). Seventh, not only do the users express their desire to leave the wait, but they also insistently encourage the other

participants to leave as well. Finally, the users of the online live streaming platform show an extremely "Hostile behavior" against the wait. These behaviors take extreme forms such as complaining, demonstrations, rallying up, and threats and insults towards the game and the company. All the categories listed in this section are presented in more detail in what follows.

#### 6.4.3.1. Considering alternatives

When considering alternatives, the users of the online live stream consider two different anti-possibilities. The first one is to engage in another activity that is not related to video games ("Proposing an alternative"). The second one is to play another game instead of waiting (Let's play another game).

| *Behavior* | *Example* |
|---|---|
| Proposing an alternative | Let's go watch nezuko running. |
| | Go outside and do something. |
| | Fortnite is gone guys! Go outside and play & loose a couple of pounds. |
| | This is a black hole it's the opposite of the sun you know that bright star that's outside you might see it if you ever went out there lol. |
| | Sleeping is better. |
| | Just go play the game call "life". |
| | Yeah, go sleep. |
| | Play other games and have a life. |
| | I'm just gonna.. Play some gta online while I wait. |
| | I'd rather play Minecraft. |
| | Well guys time to go out and get a job. |
| | Talk about something at least, leave the game. |

| | |
|---|---|
| | I am seeing a YouTube right now. |
| | Get a girlfriend stop watching this stream. |
| | Maybe kids will actually spend time with their family and get homework done now. |
| | Anyone wanna play some uno. |
| | We have ended Fortnite... Go outside... Or read a book. |
| Let's play another game | Anyone down for some borderlands 3. |
| | Let's play Minecraft with Felix and jack. |
| | Just play Minecraft. |
| | Let's go Minecraft. |
| | Play Minecraft or pixel gun. |
| | Let's play apex now. |
| | Play apex legends. |
| | The fall of Fortnite has begun, join the revolution by deleting the game and installing apex. |
| | This game died. Time for apex. |
| | Welp, who down for another battle royale game? |
| | Everybody play Apex Legends. |
| | Anyone down for Pac man. |
| | Lets go back to COD. |
| | Go play overwatch. |
| | Play rust. |
| | Damn I'm going to play Free fire. |
| | Play Mario. |
| | Play paladins it's way better. |
| | Let's play some destiny 2 guys. |

> Just play another game and don't waste your time watching a simple blackhole.

#### 6.4.3.2. Considering competition

The users considering the competition ("Considering competition"), takes two different forms. On the one hand, they are reminded of the competitors and talk about them in the live chat ("Remembering competitors"). On the second hand, the users compare the competitors to the brand, that is Fortnite ("Comparing to competitors"). Since this category is an anti-wait one. The comparison of Fortnite to its competitors is detrimental to the brand. Indeed, the comments invariably consider competitors as "Better" than Fortnite ("-A competitor- is better").

| *Behavior* | *Example* |
|---|---|
| Remembering competitors | Anyone down for some borderlands 3Hey! |
| | Apex. |
| | Apex legends. |
| | APEX VIBESSSSS. |
| | Apex is better than Fortnite. |
| | APEX DUH |
| | Why does YouTube thinks that this is destiny 2. |
| | Call of Duty>Fortnite. |
| | Black ops two anyone? |
| | Just wondering who is playing Minecraft. |
| | TYPE MINECRAFT RULES. |
| | No mans sky?. |
| | Ghost Recon. |

| | |
|---|---|
| | Pub. |
| | COD LEGENDS. |
| | Guys they are obviously about to announce Skyrim 2. |
| | Gta car meet? |
| Comparing to competitors | Apex is better than Fortnite. |
| | Apex legends it's so much better then Fortnite and the new night map is coming out soon. |
| | APEX BETTER. |
| | Apex is soo much better. |
| | Apex > Fortnite. |
| | Apex is better then Fortnite any day. |
| | Minecraft bet Fornight Minecraft 10 years. |
| | MINECRAFT IS BETTER. |
| | Minecraft is better. |
| | Call of Duty>Fortnite. |
| | PUBG is better now. |
| | Battlefield v better. |
| | Overwatch is better. |
| | Destiny 2 > pubg > Fortnite. |
| | Literally any game>Fortnite. |

#### 6.4.3.3. Urging to stop the wait

In this category the users participating to the online live streaming try to put a halt to the waiting situation. Indeed, they urge to "Hurry up" in order for the wait to end.

| |
|---|
| Hurry up. |
| Open up! |

Come on already.

CMON FORTNIRE I DONT WANT TO WAIT HOURS.

COME ONE GIVE THE GAME BACK.

C'mon c'mon.

Let's go already.

Get on with it already.

This is annoying...epic come on.

Hurry.

HURRY UP!!!

THIS NEEDS TO HURRY.

Let me in. LET ME IN!

PLEASE FORTNITE.

Hurry up Fortnite this is getting boring af.

Can this be over already.

Dude just start it.

Ok look this is funny but enough.

#### 6.4.3.4. Leave and return

In this anti-wait category, the users of the online live streaming platform leave the waiting situation. Nonetheless, they don't leave definitively and clearly show their intention to return.

I guess I will play tomorrow.

Ill re check tomorrow.

I'm gonna check in tomorrow.

If I wake up tomorrow and still see this I'm quitting.

Se you guys later.

I'll be back!

#### 6.4.3.5. Leaving the wait

In this category, the users of the online live streaming platform leave the waiting situation. Nonetheless, we have identified 3 different types of comments within this category. These comments vary in term of how certain and definitive they are about leaving. Indeed, in the category "About to leave" the participants show their intention to leave but have not taken the plunge yet. In the category "I'm out" the participants are more decisive in their decision to leave. They state with certainty that they are leaving and follow through. Nonetheless, the category "I'm out" doesn't exclude the possibility of a return. Finally, in the category "Farewell", the users of the online live streaming platform state their departure with conviction and then leave. The phrasing of the comments of this category makes us think of a more definitive departure with less or no likelihood of returning. Examples of the categories listed above are given below.

| *Behavior* | *Example* |
|---|---|
| About to leave | GUYS I'm about to leave out. |
| | Oh ma gad, I'll leave. |
| I'm out | Aight imma head out. |
| | Ight imma head out. |
| | I'm gonna head out. |
| | Guys imma head out. |
| | Why we staring at a hole??Igh imma head out. |
| | I'm out! |
| | OK I'M OUT! |
| | I'm leaving. |
| | I'm quitting. |

| | |
|---|---|
| | Bye I am leaving guys. |
| | I'M LEAVING!!!!!! |
| | F MEANS YOU LIKE FORNITE JK LOL I'M OUT! |
| | Fortnite is trash, I shall leave you with this. |
| | This is like the worldwide day of play, I'm heading to a different game. |
| | After the two hours I wasted on waiting for no reason I'm leaving |
| | It's been 3 hours no one cares bye. |
| | Ima go play Minecraft. |
| | Well I'm gonna go actually watch something. |
| Farewell | GOODBYE FORTNITE. |
| | Goodbye Fortnite. |
| | Bye bye Fortnite. |
| | Fortnite bye-bye, Epic forever DRM BYE BYE. |
| | BYE.... |
| | Bye! |
| | Bye peace all. |
| | ANYWAY, BYE GUYS. |
| | Goodbye buddy. |
| | Bye 9 year olds. |
| | I will remember you; I will remember you. |
| | ARIVEDERCI. |
| | Bye Fortnite thanks for making me rage all the damn time lol. |
| | Change da world, my final message, goodbye. |
| | Goodbye Fortnite :( |

#### 6.4.3.6. Urging to leave

In the category "Urging to leave", the participants to the online live stream try to put an end to the wait. They do so by encouraging the other participants (viewers and broadcaster) to stop the wait and leave. In effect, in the subcategory "Call it", the respondents try to put a halt to the wait. The participants address the streamer and urge him to stop the stream and go. Conversely, in the category "Just leave", the participants talk to the other users and try to compel them to leave the waiting situation. Finally, in the category "Just quit the game" the participants don't only urge the other users to leave the online live stream and the associated waiting situation. They also, try to push them to leave the game altogether, to delete it completely and to stop using it.

| *Behavior* | *Example* |
|---|---|
| Call it | CALL IT'S BEEN 3 HOURS. |
| | Call it. Time? |
| | CALL IT. |
| | 4 Hours Now. I'm Calling It. Time? |
| | PLEASE STOP THIS VIDEO. |
| just leave | Everyone has to leave. |
| | Press exit. |
| | Click exit. |
| | There is a exit button on right corner. |
| | Button on right corner. |
| | EXIT!!!! |
| | Go ahead and hit that exit button again. |
| | Everyone PRESS X. |

Exit.

Hey press exit.

We got the exit button why no press It?

Leave.

Stop chat.

Guys let's all leave make this channel owner feel bad.

Any let's head out.

Go sleep guys.

6:12 call it a night already.

Just quit the game

ALL IN FAVOUR OF DELETING IGN SAY I

Just quit the game and stop playing.

Quit.

Guys uninstall it.

**press d to delete Fortnite**

Delete this mf.

D to delete Fortnite.

Proceed to uninstall.

Delete Fortnite the worst game ever.

Delete this trash game.

The fall of Fortnite has begun, join the revolution by deleting the game and installing apex.

Leave the game.

Just give it up.

Please get rid of it.

Fortnight is trash just stop playing already.

Kids don't play Fortnite, that's a bad game.

Delete Fortnite.

### 6.4.3.7. Hostile behavior

The category "Hostile behavior" is constituted of a variety of anti-wait behaviors. These behaviors are strongly negative towards the wait. In fact, the hostile behaviors displayed in this category can be extreme and even violent. The category "Hostile behaviors" is constituted of anti-wait behaviors that can be focused either on the agent or the object of the wait.

#### *6.4.3.7.1. Agent*

The hostile behaviors encouraged by the waiting situation under study are oriented toward one type of agent, the "Company", i.e., Epic Games. The hostile behaviors of the participants manifested as calls to contact the company for complaints, threats of boycott, calls for online protests, rallying up and physical demonstrations at the headquarters of the company, threats of suing and even a "death threat" as we can see in this example: "I am going to blow up the CEO of Fortnite". It is worth noting that, occasionally, the respondents refer to the company using the name of the product (i.e., Fortnite) instead of the name of the company (i.e., Epic Games). We attribute this confusion between the brand and the company to a lack of knowledge about the structure and organization of the company behind the game.

Examples of the hostile behaviors oriented towards the company are presented below.

B IN THE CHAT TO GET FORTNITE BACK UP?

We have the numbers let's all tell Fortnite we'll delete the game unless they release it to us!

Let get a chain of people saying F without interruption.

If you can have her contact games contact epic games and try to see what's going on.

Hey, I'm just getting ready for a little while to go get some food I will see if I get there I'll call them tomorrow morning I will call them tomorrow morning I will see if you can is a way.

Let raid epic games.

Alright bois, time to rally up and storm Fortnite.

Let's raid epic games hq they can't stop all of us.

STORMING EPIC GAMES HEADQUARTERS FOR A REFUND.

I say we storm Fortnite HQ.

F WE STORM EPIC GAME'S HQ, THEY CAN'T STOP US ALL!

When is ok to sue.

Fortnite I me and my friends are suing you for 100000000.

I mean they aren't breaking any rules but I do want to sue them deeply.

Fortnite should be sued.

Fortnite should be sued they can't keep us waiting this long.

SUE FORTNITE.

Fortnite IS getting sued.

I am going to blow up the CEO of Fortnite.

#### *6.4.3.7.2. Object*

The hostile behaviors resulting from the waiting are also oriented towards the "Object" of the wait, that is, the game Fortnite. The hostile behaviors of the users manifested in many ways. We noticed an increasing intensity in the hostile categories of comments made against the Fortnite.

In effect, the users of the online live streaming platform insulted and trashed the game as we can see in the category "Trashing – Insulting". In the category "Waiting for it to die" they go beyond insulting and wish for Fortnite to die. Nonetheless, this death wish is passive since the users wait for Fortnite's death and don't actively seek it. In the category "Die Fortnite" nonetheless, users' hostility and violence are heightened. Indeed, the participants' wishes for Fortnite's death take a more active form with the use of injunctions such as "Die Fortnite". In what follows, we present a more complete illustration of the comments used by the online live streaming users in this category.

| *Behavior* | | *Example* |
|---|---|---|
| Trashing | - | GARBAGEEEEEEEEE. |
| Insulting | | GARBAGE! |
| | | GARBAGE GARBAGE GARBAGE game!! |
| | | GUYS STOP COMPARING FORTNITE TO GARBAGE at least garbage has a purpose. |
| | | TRASH. |
| | | This game is trash. |
| | | Load of rubbish. |
| | | Games trash. |
| | | Disguisted game comes to amend. |
| | | FORTNITE IS BORING. |
| | | Fortnite is overatted. |
| | | F fortnite. |
| | | #fortnitetrash. |
| | | Fortnite is getting binned. |
| | | Poopp. |

| | |
|---|---|
| | Finally, this piece of crap got ended lol. |
| Waiting for it to die | Can this game die already? |
| | Is this game finally dead. |
| | Just let it die. Fortnite deserves a death like this. |
| | Me, sitting here praying that the game has finally died. |
| | Hopefully the game ends. |
| | I hope the game gets deleted I really do. |
| | I'm here to see the downfall of it hahahahahaahahaha. |
| | I hope Fortnite is over. |
| | HOPE THE GAME IS DEAD. |
| | BECAUSE WE WANNA SEE FORTNITE DIE. |
| | If it dies, it dies" -Ivan Drago. |
| | Everyone dance till Fortnite rots away. |
| | I will be waiting till the universe dies. |
| | It better be the end. |
| | Please let this game die. |
| | Can't wait for Fortnite to die :) |
| | Kill Fortnite already. |
| | Let it die let it die. |
| | LET IT DIE LET IT DIE LET IT SHRIVEL UP AND DIE... CMON WHOS WITH ME???? |
| | Let the game die in peace. |
| Die Fortnite | DIE ALREADY. |
| | DIE FORTNITE DIE... DIE DIE DIE!!! DIE FORTNITE DIE... DIE DIE DIE!!! |
| | DIE FORTNITE DIE... DIE DIE DIE!!! |

Die.

Fork Die.

Shoot shoot shoot Fornite die fortnite!

Fortnite DIE ALREADY.

BEGONE FORTNITE.

Why does Epic not click exit.

End this game once and for all.

Let's kill da ho. Beeeeetch.

Go and never come back.

Die Fortnite.

Die please.

DIE DIE DIE DIE DIE DIE YOU PIECE OF TRASH.

### *6.4.4. Ambivalent and ambiguous behavioral reaction to the wait*

Alongside the positive, neutral, and negative behavioral reactions that have emerged from the qualitative analysis of the data, the investigation of the online live stream has allowed us to highlight an additional category, that is, "Ambiguous/ambivalent" behaviors. This category corresponds to the mixed conflicting and uncertain behaviors of the users of the online live stream.

The ambiguous and ambivalent behavioral responses found in the online live streaming platform took two different forms: "Imagining" and "Asking questions". In effect, many comments of the category "Imagining" are ambiguous. The same goes for the category "Asking questions". Indeed, the latter category is composed of a variety of questions asked by the users and that are ambiguous and unsettling. We elaborate on those two categories in more detail in what follows.

#### 6.4.4.1. Imagining

"Imagining" is an ambiguous behavior that emerged from the qualitative analysis of our data. In this category, we can find a variety of behaviors that are related to the waiting situation under study. The particularity of this category is that it is rooted in unreal and fanciful representations. Indeed, the users of the online live stream engaged in imagination can either reminisce about the past ("Reminiscing"), or fantasize about the present and anticipate the future or hypothetical events ("Fantasizing/anticipating").

##### *6.4.4.1.1. Reminiscing*

When reminiscing the users of the online live stream engage with past events. We have considered this category as ambiguous because it is either positive or negative or both. Indeed, participants reminiscences can take the form of nostalgia about the past, which is ambiguous because it entails a (sometimes) painful longing for a past that is characterized by pleasurable memories. Users' reminiscence can also uphold regrets about the past. Regret and nostalgia are mixed within the comments of the users to result in a category that is highly ambiguous and ambivalent.

> All my memories.
>
> The game is trash, but we had so much memories.
>
> Remember when we were allowed to move.
>
> I'm gonna miss the old map.
>
> I miss my little dog friend in fortnite, i can hear him in the black hole!! "I miss you".
>
> NO!!!!! I never got a chance to get a skin  now I never will.
>
> I regret spending 10 dollars in season 4.

> Too be honest I hate this game but I'm kinda sad that the games ending. I'm going to miss the default dancing 5 years old. That's something I have never thought I'd say.

#### *6.4.4.1.2. Fantasizing/Anticipating*

While the previous category ("Reminiscing") is focused on the past, the present category ("Fantasizing/Anticipating") is essentially oriented towards present and future events. These events can be rooted in reality or completely unreal and hypothetical. The category "Fantasizing/Anticipating is constituted of a variety of subcategories: "Seeing things and imaginary scenarios", "Nothing will happen", "Our waiting will be rewarded", "Imagining other outcomes/ Suppositions", "Giving crazy surreal explanations".

The category "Fantasizing/Anticipating" as well as its subcategories listed above are ambiguous and ambivalent. This is because most of the comments constituting them could reasonably be interpreted as positive or negative. They can also be interpreted as Pro-wait and Anti-wait depending on how we look at them. Moreover, many comments suggest conflicting meanings.

The categories detailed below show the many manifestations of the Ambiguous/Ambivalent behaviors that have emerged from the analysis of the online live steam.

| *Behavior* | *Example* |
|---|---|
| Seeing things and imaginary scenarios | It looks like it is smiling. |
| | You've started seeing things lmao. |
| | PLAYSTATION 2 LAUNCHE SCREEN. |

I say blackhole should morph into a middle finger! Or it becomes Zuckerberg.

Moons haunted.

Bravo six, going dark.

It like a butterfly.

Imagine that black ball turns yellow and then there appears the smash ball.

The dots are morse codes.

There's a dude above the black hole when first closes.

It looks the the butterfly from a faint outline!

Looks like bum crack.

THIS IS NASA FOOTAGE!

Maybe the numbers mean things and go into a sentence like this There is transmutation to positive and practical harmonious life but turns into causes like vibrations and energies.

Suddenly shows court of owl's logo.

Is not black hole!!! Is ECPLISE!!!!

So I just had a thought. What if we're looking at the fortnite world right now and the blue wisps are actually the interdimentional visitors rebuilding the map?

What if this is actually the end of Fortnite, and they took all the money they had made, and just donated it to make the world a better place? Would you be mad?

Nothing will happen

Nothings gonna happen.

Nothing is gonna happen.

Nothing will start nothing will end.

| | |
|---|---|
| | I think we're making a mistake expecting something to happen today. |
| | Fortnothing 2. |
| | You're literally counting down for no reason. |
| | Can y'all stop counting down nothings happening at 6 chill lmaoo |
| | Stop staring at it nothing is gonna happen till Tuesday. |
| | Friends leave this and wait until the Tuesday. NOTHING IS GOING TO HAPPEN. |
| | Have fun watching nothing happen for hours. |
| | NOTHING. |
| | It's staying. |
| | Will anything actually happen today? Probably not. |
| | This won't stop. |
| | 3 years later still black hole. |
| | This will go on forever. |
| | NOTHING IS GOING TO HAPPEN. |
| Our waiting will be rewarded | I bet everone who stayed will get free battle pass! |
| | I swear if we get nothing from this. |
| | Free vbucks for subscribers. |
| | Use code 72hrs in the fortnite item shop. |
| | We should be getting a free battle pass for this crap lolol. |
| | I saw someone on instagram say we deserve 1000 v bucks ev. |
| | GIVEING AWAY FREE BATTLEPASSES. |
| Imagining other outcomes/ Suppositions | Apex and fortnite are merging together! |
| | Imagine it stays like that forever lmao. |
| | New map. |

| | |
|---|---|
| | The new map is disney land. |
| | SO WHAT IF FORTNITE BECOMES A MISSION BASED GAME |
| | kinda like save the world but better updated. |
| | Fornite 2 boiiiissss. |
| | Fortnight is coming to ps2. |
| | What if you have to beat peely and jonesy to get to the menu? Maybe |
| | They prob gotta start up the next event. |
| | THERE ADDING TRACER AND GENJI AS FORTNITE SKINS. |
| | WTF. |
| | If u beat the high score the map would appear. |
| Giving crazy surreal explanations | This is actually The Ring. |
| | WARNING THIS IS THE VIDEO FROM THE RINGS MOVIE YOU |
| | WILL DIE IN SEVEN DAYS. |
| | Aliens did this. |
| | DISNEY BROUGHT EPIC STUDIOS!!!!!!! |
| | THEY TOOK OUR MONEY TO BUY EQUIPMENT TO SMASH |
| | THEIR SERVERS!!!!! |
| | The Chinese did this! |
| | Epic Cashin Out Into Another Dimension. |
| | THANOS IS COMING BACK. |
| | PewDiePie is taking g over Fortnite. |
| | Fortnite stole the black hole Image and made it blue. |
| | PUBG PIRATED GAME "FORTNITE. |
| | We've enter the rift dimensions!!!! |
| | Setting a portal. |
| | Lon musk did this. |

Elon musk deleted Fortnite.

Imagine text pops up from Fortnite reps saying haha got you. There was never a Fortnite. All in your head lol.

I have a theory, the orb destroyed the map by creating a black hole and when you do the mini game, the background is space because everything is in space now.

Somebody got fired from Fortnite probably.

It's trying to hypnotize us all.

#### 6.4.4.2. Asking questions

"Asking questions" is a behavior displayed by many users of the online live streaming platform. Indeed, the participants asked different types of questions all along the online live stream and the waiting situation studied. Nonetheless, many of the question asked are ambiguous and/or ambivalent. In effect, some of the questions asked could be negative as much as they could be neutral. In some cases, the questions asked can even be positive. Moreover, many of these questions could be either pro-wait or anti-wait depending on how they are interpreted. Finally, some of the comments found in these categories uphold conflicting and contradictory information. For all these reasons, we have labelled the comments forming the present category as "Ambiguous/Ambivalent".

The ambiguous and ambivalent questions asked by the participants to the online live stream can be focused either on the "Event", the "Agent" or the "Object" of the wait, the game Fortnite. In what follows, we will go through each of these categories in detail.

#### *6.4.4.2.1. Event*

The users asked many questions about the event taking place. Their questions were focused on many aspects of the waiting situation. “What is going on” is a recurrent question asked by the online live stream users. It is a question that is more often asked when the participants enter in contact with the waiting event. “What is going to happen” is similar to the previous question (i.e., “what is going on”). Nonetheless, it is mainly concerned with the future, the course of events and the changes to come in the online live streaming event. “When will something happen” is a question that comes as a reaction to the uneventfulness of the waiting situation. “How long will we wait” is similar to the previous question (“When will something happen”). In effect, it is also a reaction to the uneventfulness of the waiting event broadcasted in the online live steaming platform. Nonetheless, it is slightly different because it questions the duration of the wait and not the moment of its end. Finally, “Are you really watching this (for that long)”, is a recurrent question. It is the result of the users’ incomprehension of the wait taking place.

As we can see, each of the questions listed above (What is going on? What is going to happen? When will something happen? How long will we wait? Are you really watching this?) can be interpreted as a genuine question that is asked to acquire a simple piece of information about the situation in the online live stream. In this case, the question could be considered as neutral. Nonetheless, all the questions presented above can be charged with more meaning. For instance, by asking the question “what is going on?” the participant might be trying to show his incomprehension, his frustration or try to criticize and reject the wait imposed by the company. Moreover, some comment of this category (i.e., What is going on) are more likely to be negative

(e.g., "Wtf is happening?"), while others are more likely to be positive (e.g., "Lmao tf is going on?").

All the reasons listed above converge towards our choice to categorize these questions about the event as "Ambiguous/Ambivalent". Examples of these categories are presented in what follows.

| *Behavior* | *Example* |
|---|---|
| What is going on | Wtf is happening? |
| | Wth is happening. |
| | What is happening?? |
| | WHAT THE F### IS HAPPENING??? |
| | Wtf happened to Fortnite. |
| | Lmao anyone care to explain wtf just happened? |
| | WHAT IS THIS. |
| | Lmao tf is going on ? |
| | Wtf is this. |
| | What's happening? |
| | What the hell is happening. |
| | What's happening? |
| What is going to happen | What is going to happen. |
| | We in game and what happens next. |
| | Honestly...what should we expecr. |
| | What happen in 2 minutes ? |
| | What's happening now?? |

| | |
|---|---|
| When will something happen | Anything gon happen. |
| | When can we see the map? |
| | HOW MUCH LONGER WE MUST WATCH THIS! |
| | When will start? |
| | When does stuff happen. |
| | When does something happen. |
| | What time something gonna happen??? |
| | When is something gonna happen? |
| How long will we wait | How long does this usually take? Any idea.. |
| | How long this? |
| | How long are we going to have to look at this black hole. |
| | How long are we watching. |
| | How long is downtime? |
| | How long is this gonna go for. |
| | How long? |
| | HOW MUCH LONGER!!!!! |
| Are you really watching this (for that long) | Wait what people are watching this for hours? |
| | Guys, you serious? You're literally watching this. |
| | Ya for real watching this hole? U okey people??? |
| | Lol watching a screen saver for 3 days until chapter 2 update LOL. |
| | We really watching a black hole. |
| | Guys are you serious ? You are watching a black hole ??? |
| | Everyone is watching a black hole until tomorrow? |
| | How yall look watching a goddamn black dot. |
| | Everyone is starring at a black hole ? Wtf. |
| | I'm sorry if y'all are actually watching this... |

I can't believe so many people are in here and watching a black hole.

#### *6.4.4.2.2. Agent*

The ambiguous questions are ambiguous behaviors that can be oriented towards the "Company", that is, Epic Games or towards the users of the online live stream as we can see in the category "Users (Self and others)". They can also be oriented towards the "Object" of the wait: Fortnite. These behaviors have been categorized as ambiguous essentially because they could be seen as neutral or negative. Moreover, in a few cases, these questions can take a positive meaning.

##### *6.4.4.2.2.1. Company*

The main questions focused on the company are "Why?" and "why are they doing this?". Instinctively, one could think that they are forms of reproaches addressed to the company to complain about the wait. This is probably true in many occurrences of these questions. In this case, the comments could be considered as negative. Nonetheless, these questions might also be asked to get information about the wait in an attempt to know the reason behind the wait. In the latter case, the comments are more likely to be neutral. For these reasons, the comments of the categories listed above have been considered as Ambiguous/Ambivalent. The ambiguous questions about the company are detailed below.

| *Behavior* | *Example* |
|---|---|
| Why? | But whyyyyyy. |
| | Why. |
| | Tell me why. |
| | Whyyyyyyyyyy? |
| | Wtf why sharing this shet. |

| | |
|---|---|
| | Fortnite why. |
| | Why just why fortnite. |
| | Why? |
| | Why is this a thing now. |
| | And why is this interesting ? |
| | Why. |
| | Why is this happening? |
| why are they doing this? | Why they doing this. |
| | To stop people playing the game for days before releasing anything |
| | Why are we here.....just to.....suffer?! |
| | What is the point of this? |
| | Can someone tell me what the relevance of the black hole is please? |
| | What's the point? |

*6.4.4.2.2.2. Users (Self and others)*

The questions asked in this category are focused on the users and the self. In other words, through these comments, the participant is asking questions about himself and the other users participating in the online live stream. By doing so, they question the common actions taking by them as a group.

The main questions focusing on the users are “Why are we waiting?” and “Why are you here?”. These questions could be seen as negative comments. Indeed, they could be understood as reproaches addressed to the users and complaints about the wait. Nonetheless, the questions asked could also be neutral. In effect, the aim of the question could be only to get information about

users' motivations for waiting and staying in the online live steaming platform. Therefore, we considered the comments of the categories listed above as Ambiguous/Ambivalent.

| *Behavior* | *Example* |
|---|---|
| 1. Why are we waiting | Why we have to wait!?!??!!???!? |
| | Jesus Christ why is this still going. |
| | Why we watching a hole? |
| | Why we see that? |
| | WHY WE SEE THAT? |
| | Why am I watching this. |
| | Don't know why we all watching it. |
| | Why I'm still here watching this I don't know. |
| | Why am I watching this? |
| | Why we staring at a hole??Igh imma head out. |
| | And why are we looking at it. |
| 2. Why are you here | Why are y'all watching this. |
| | WHY ARE YOU LOOKING INTO NOTHING? |
| | Why you people still here. |
| | Why are people just staring at this? Is this what people really like to look at? |
| | What are you losers doing here. |
| | For the people who don't like Fortnite, why are you here again? |
| | Why are all you sad people watching this boring rubbish. |
| | Are y'all seriously watching this. |
| | Why are 1.8k ppl on this stream. |
| | So why are you here? |

#### *6.4.4.2.3. Object*

Users' ambiguous/ambivalent questions about the object are focused on the game Fortnite. The main question asked in this category is "Still playing Fortnite?" This category has been labelled as "Ambiguous/ambivalent". Indeed, the questions asked in this category can easily be interpreted as negative (e.g., *"People still play this trash game?"*). Some of the comments asked in this category could be equally considered as neutral or negative. This is the case for the question *"Do people still play this game?"*. In other instances, when the users of the online live steam ask question about people still playing Fortnite, their comments can either be understood as positive or negative. This is the case for the question *"It's funny how many people still enjoy this game?"*.

## 6.5. Conclusion

This chapter aims to present the main results of the qualitative analysis of the online live streaming platform undertaken in this project. The analysis of the data has allowed the identification of the different elements that constitute the reactions of the consumers to the wait on the Internet, in online live streaming platforms. We were able to classify the users' reaction to the wait into 3 main categories. These main categories are emotional reactions to the wait, cognitive reactions to the wait, and behavioral reactions to the wait. The next phase of our analysis process is to integrate all the elements identified in the present chapter. The integration of the different categories identified will allow us to build a holistic view of waiting on the Internet in online live streaming platforms. This effort of integration will materialize in the proposition of a theoretical framework discussed in the next chapter.

# Chapter 6

## 6.6. References to chapter 6

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# Chapter 7. Discussion and conclusions

## 7.0. Introduction

In the previous chapters we conducted a review of the literature (Chapter 2), identified the aspects that needed further investigation, formulated the research questions guiding this work and defined our research objectives (Chapter 3). We detailed the methodological approach used in this project (Chapter 4) as well as the research methods used in the design and realization of our field work (Chapter 5). As for the previous chapter (Chapter 6), it presents the main results of this study.

Building on the work detailed above, this chapter discusses and interprets the main results that emerged from the research and presents the conclusions related to this work.

In the section, 7.1. we briefly explain and discuss the main results of the research, leading to the presentation of our theoretical framework of waiting in section 7.2. and the identification of the contributions of our research in section 7.3. We then consider if we have achieved the research objectives we established for this study (section 7.4.), highlighting the limitations of our research (section 7.5.) and we conclude with a number of recommendations for the future direction of research on this topic (section 7.6.).

## 7.1. Summary and interpretation of the results

In this section we briefly outline and discuss the main results of the research.

- **The negative aspects of waiting**

The research shows that negativity occupies a paramount place in the phenomenon of waiting, alongside the emergence of other types of reactions to the wait. This observation

supports and justifies the overwhelming interest in research in services marketing on the negative aspects of waiting (M. M. Davis & Heineke, 1994; Houston et al., 1998; Leclerc et al., 1995; Pruyn & Smidts, 1998; Taylor, 1995).

The categories identified in our analysis confirm the fundamental negative aspects of waiting. For instance, our work confirms that the time spent waiting is considered wasted time (i.e., category "wasting time") (Fung, 2006). It bears out previous research that waiting makes consumers feel bored (i.e., category "bored"), annoyed (i.e., "Frustration"), irritated and agitated (i.e., "This feels bad" and "Impatience") (Larson, 1987; Pruyn & Smidts, 1998; Rafaeli et al., 2002; Taylor, 1994). It validates previous research on the harmful consequences of waiting on companies, such as negative evaluations of the service (i.e., "This sucks") (Dickson et al., 2005; Hui & Tse, 1996; Taylor, 1994) and service abandonment (i.e., "I'm out") (Carmon, 1991; Soman & Zhou, 2002). It also substantiates the conclusion that consumers who are forced to wait are likely to avoid the service in the future (i.e., "Farewell", and "Just quit the game")(Bielen & Demoulin, 2007; M. M. Davis & Voilmann, 1990; Mcdougall & Levesque, 1999).

- **The positive aspects of waiting**

Since its inception, the literature on waiting in services marketing has been essentially focused on the negative aspects of waiting (M. M. Davis & Heineke, 1994; Pruyn & Smidts, 1998; Taylor, 1995). Nevertheless, increasing evidence suggests the existence of a positive side to waiting (R. H. Ahmadi, 1997; Demoulin & Djelassi, 2013;

Mahmud & Rumman, 2020; S. Offermans et al., 2016; Ryan et al., 2018). This research confirms empirically that there is, indeed, a number of positive aspects to the wait. For instance, it confirms that waiting can enhance consumers' experience, particularly in entertainment environments (i.e., categories "This is fun")(R. H. Ahmadi, 1997; S. Offermans et al., 2016). The results support some of the key propositions made about positive waiting in the literature (Ryan et al., 2018), such as the proposition that waiting (queues, lists…etc.) attracts more consumers as we can see in the category "Attracted by the wait" (subcategories "Curiosity", "Here just for this", "I don't even play Fortnite") (Fung, 2006; Kostecki, 1996), increases the perceived value of the service ("Fortnite is cool") (Debo, Rajan, et al., 2012; Dickson et al., 2005; Fung, 2006), and the encourages positive anticipation (i.e., "Excited" and "Hype") (S. Offermans et al., 2016; Ryan et al., 2015, 2018), longing (i.e., category "Longing") as well as consumers feeling and savoring pleasurable sensations during the wait (i.e., "sensorial" and "sensual", "Prolonging the wait") (Bryant, 2003; Bryant & Veroff, 2007; Hurley & Kwon, 2012).

- **The neutral reactions to the wait**

In addition to positive (Mahmud & Rumman, 2020; S. Offermans et al., 2016; Ryan et al., 2018) and negative reactions to the wait (M. M. Davis & Heineke, 1994; Taylor, 1995), the literature (Ryan et al., 2015) also identified neutral reactions to the wait. The results of this study confirm the neutral emotional reactions to the wait found in the literature such as resignation, indifference, and feeling philosophical (Ryan et al., 2015). It

also confirms important neutral cognitive and behavioral reactions to the wait (e.g., responsibility attribution, filling the wait, engaging in social activities…etc.) as suggested by previous research on waiting, waiting on the Internet and in social media (Brady & Brady, 2002; Groth & Gilliland, 2006; Mahmud & Rumman, 2020; Mann, 1969; S. Offermans et al., 2016; Pàmies et al., 2018).

- **The ambiguous/ambivalent reactions to the wait**

Hence, in the literature, three main types of reactions to the wait have been previously identified (i.e., positive, negative, and neutral) (Mahmud & Rumman, 2020; Ryan et al., 2015, 2018). This study introduces a fourth type of reaction, that is, "Ambivalent/ambiguous" reactions to the wait. This finding sheds the light on a whole array of responses that has been overlooked so far. We propose that the identification of ambiguous and ambivalent reactions to the wait will enable future research on waiting to better identify and categorize the emotions, cognitions, and behaviors, including some that may have been overlooked until now, facilitating a more accurate theoretical base for conceptualizing waiting. By ambivalent reaction we are referring to consumer responses that are neither positive, negative, or neutral. These reactions correspond to the comments where consumers expressed complex (Clore & Ortony, 2000; Ortony, 1988; Plutchik, 1980), mixed and conflicting emotions. This may also involve considering bodies of knowledge that haven't been considered in the study waiting so far. For instance, when it comes to emotional reactions to the wait, there is a rich literature on ambiguous and

ambivalent human emotions (Bucks et al., 2008; B. P. H. Lee et al., 2006; Lomas, 2017; Maksimainen et al., 2019; Neta et al., 2021) that has not previously been considered in the context of waiting.

- **The cognitive reactions to the wait**

The literature on waiting focuses essentially on two types of responses to the wait: (1) emotional and (2) behavioral (Demoulin & Djelassi, 2013; Friman, 2010; S. Kim et al., 2016; Mahmud & Rumman, 2020; Pàmies et al., 2016b; Ryan et al., 2015). The present thesis identified a third key category of responses, that is, cognitive reactions to the wait. By cognitive reactions we mean the mental processes in which the consumer engages in response to the wait. These reactions fall within the realm of intellect. They essentially refer to the thoughts, perceptions, beliefs…that the consumer manifests in reaction to the wait. For instance, when a participant to the online live stream says: *"I think this is the first time I've actually been interested in Fortnite"*, they are sharing their thoughts and believes about the waiting situation and its object (i.e., the game Fortnite). Cognitive reactions contrast with the two other major types of reactions to the wait identified in this thesis, namely emotions and behaviors.

Although successive studies have investigated some cognitive reactions to the wait (Bielen & Demoulin, 2007; J.-C. C. Chebat et al., 2010; Fraser et al., 2008; Groth & Gilliland, 2006; Heineke & Davis, 1998) such as service evaluation, waiting and time perception (J.-C. C. Chebat et al., 2010; Guéguen & Jacob, 2002; Hui et al., 2006), as well

as satisfaction (Hui et al., 2006; Tom & Lucey, 1995) cognitive reactions have not previously been identified explicitly as a distinct category of reactions to the wait in the literature.

This is because each of the previous studies usually focuses on one cognitive variable (e.g., perception of time, satisfaction…etc.) either as a dependent or independent variable. Then, it aims to assess the links of correlation or causality between these cognitive variables and other variables (e.g., colors,, music tempo, information about the duration of the wait…etc.) (J.-C. C. Chebat et al., 2010; Gorn et al., 2004; Groth & Gilliland, 2006; Hui & Tse, 1996). For instance, studies have investigated the effect of music tempo on waiting time perception or the effect of time perception on satisfaction (Groth & Gilliland, 2006; Heineke & Davis, 1998). The focus of most studies being the investigation of the relationship between variables, limited effort was dedicated to the categorization of the factors involved.

Thus, we can conclude that the limited recognition of consumers' cognitive reactions to the wait as a category is essentially due to the relatively fragmented research that dominates in the study of waiting. The present work, being conceptual and concerned with a holistic understanding of waiting, provides a framework that allowed us to go beyond the fragmented vision of waiting and to identify a whole category of waiting situations that hasn't been identified previously as such, that is, cognitive reactions to the wait.

This is a key finding because the "cognitive reaction" category identified in this work covers a rich and diverse range of responses to the wait (e.g., "Curiosity", "Attitude towards the environment", "Disbelief" …etc.). Moreover, cognition is a fundamental aspect of the research on consumer behavior and social sciences (Blackwell et al., 2001; Blair H. et al., 1988; Fishbein & Ajzen, 1975; Holbrook, 1995; Howard & Sheth, 1969; Sheth et al., 2011; Sofi et al., 2020; Wells & Martin, 2017) on aspects of consumer behavior such as attention, comprehension, memory (Blackwell et al., 2001), motives, brand comprehension, and intention (Howard & Sheth, 1969), beliefs, attitudes, values…etc. (Ajzen, 1985; Blair H. et al., 1988; Fishbein & Ajzen, 1975; S. H. Schwartz & Bilsky, 1987; Sheth et al., 1991).

Cognitive reactions to the wait constitute a promising line of investigation for future research on waiting. This is because it provides a key category that will allow the grouping of reactions that would have remained scattered or unnoticed otherwise. It also allows a better way of categorization of consumers' reactions to the wait. The "Cognitive reactions" category also helps provide a more accurate theoretical foundation for future conceptualization of waiting. Finally, it opens the research on waiting to a key body of knowledge in consumer behavior, i.e., cognitive research (Bagozzi et al., 2002; M. Borges et al., 2020).

- **Suspense and positive anticipation**

Chapter 7

In this thesis, we explored the possible links between the literature on waiting (Mahmud & Rumman, 2020; Ryan et al., 2015, 2018; Ryan & Valverde, 2003) and the literature on online live streaming (Y. Li et al., 2020; Nehls et al., 2014; Scheibe et al., 2018). One of the key findings of this exploration is the proposed relationship between the concept of "suspense" (Y. Li et al., 2020; Madrigal, 2005; M. Wang & Li, 2020) in online live streaming platforms, and the concept of "positive anticipation" in waiting (Ryan et al., 2018). Suspense in online live streaming platforms is enveloped in consumers' mixed experiences of feelings of hope and fear (Madrigal, 2005). Indeed, suspense plays an important role in viewers' enjoyment of entertainment in general (Zillmann, 1996). It is one of the defining features of successful live streaming (Y. Li et al., 2020). Positive anticipation (Ryan et al., 2017), or savoring, in services marketing is envisaged as companies' deliberate attempts to promote a sense of waiting in order to encourage consumers' longing, enjoyment of the service, and the waiting experience (Ryan et al., 2018). In effect, the two concepts of "suspense" and "positive anticipation" describe a similar phenomenon. Thus, we support that they are, in fact, very closely related (See chapter 2). Our research suggests that positive anticipation in online streaming, just as suspense in gamification, enhances consumers' positive reactions (enjoyment, entertainment, and savoring).

## 7.2. Conceptual framework

In the previous section, our main efforts were oriented toward ordering and arranging the occurrences and emerging ideas related to waiting in the context of online

streaming. Nonetheless, generating a theory is much more than that. Indeed, collecting, arranging and ordering data and concepts is not sufficient for theory building (Glaser & Strauss, 1967; Sutton & Staw, 1995; Weick, 1989). In effect, the identification and organization of the relationships between the different concepts identified is necessary for real and serious theory proposition (Denzin & Lincoln, 2006; Thorpe & Holt, 2011).

Many definitions have been proposed to understand the meaning of theory. Researchers have defined theory either as a set of assumptions structured by a relation of implication or a relation of inference (Galtung, 1967), an attempt to explain or create a representation of aspects of reality (Littlejohn & Foss, 1989), a system of interconnected ideas that condense and order knowledge about the world (Neuman, 2011) or a systematic organization of knowledge that can be applied for problem solving (Stam, 2007). Nonetheless, all these authors agree that "theory is a description of a phenomenon and the interactions of its variables that are used to attempt to explain or predict" (Thomas, 2017, p. 232).

In this study, we adopted a Grounded Theory methodology (J. M. Corbin & Strauss, 1990; Glaser & Strauss, 1967; Goulding, 2002; Locke, 2001; A. L. Strauss, 1987). The main advantage of this approach is that it is theory oriented (Rennie, 2007). In fact, theory generating is the main purpose of Grounded Theory. Thus, the *Grounded Theory* approach, principles, and tools are specifically though and designed for generating theory, providing us with a solid base for rigorous conceptual framework development and theory building in this study of waiting.

Chapter 7

In this section, we introduce and explain the conceptual framework (Wacker, 1998) that emerged from the qualitative analysis (Denzin & Lincoln, 2006; Snelson, 2016) of the interactions among consumers during the wait, in the online live streaming platform. Figure 7.1 provides us with a visual and synthetic illustration of this conceptual framework. The model in Figure 7.1 aims to give us a better understanding of waiting on the Internet in the specific context of online live streaming platforms and to extrapolate the findings to other waiting contexts, especially online waiting and waiting in groups.

Below we briefly explain the theoretical framework as a guide to its interpretation.

- **Core concept: Reaction to the wait**

Reactions to the wait is the starting point for our explanation and the focal point of the framework that emerged from this study. It encompasses all the other categories. Indeed, it is the final and most general category identified in the selective coding phase (Neergaard & Ulhøi, 2007; Webb, 2017) of our Grounded Theory analysis. That is why, in our model, all the manifestations of consumers' reactions to the wait converge at "reaction to the wait", in the center of the figure (See Figure 7.1., legend, 1.).

- **Main types of reactions to the wait: Emotions, cognitions, and behaviors:**

Branching out from "reactions to the wait", at the center of Figure 7.1, our model identifies the most general categories of responses to the wait: (1) emotional, (2) cognitive, (3) and behavioral reactions to the wait. (See Figure 7.1., legend, 2.).

- **Subtypes of reactions to the wait: Positive, neutral, negative, and ambiguous/ambivalent:**

A closer inspection reveals how each type of reaction to the wait (i.e., emotional, cognitive, and behavioral) is manifested. Depending on how positive or negative the reactions to the wait are, four sub-categories of the reactions to the wait have been identified: (1) positive, (2) neutral, (3) negative, (4) ambiguous/ambivalent (See Figure 7.1., legend, 3.). In more detail, these subcategories are structured as follows:

  - Positive, negative, neutral, and ambiguous/ambivalent **emotions**
  - Positive, negative, neutral, and ambiguous/ambivalent **cognitions**
  - Pro-wait, anti-wait, neutral, and ambiguous/ambivalent **behaviors**

As we can see above, there is a slight difference between behavioral reactions to the wait and the other types of reactions. Instead of having the categories "positive" and "negative", we have the categories "Pro-wait" and "Anti-wait". This is because the nature of the behavioral reactions to the wait category makes this distinction necessary. Indeed, an emotion can be positive or negative in and of itself. A cognition can be positive or negative in and of itself as well. Nonetheless, behaviors cannot be qualified as positive or negative in and of themselves (unless we enter a deep, lengthy, and intricate moral discussion, beyond the scope of this thesis, about what constitutes an inherently good or bad behavior). Therefore, we have differentiated between behaviors depending on whether they encourage or discourage the wait rather than if they are good or bad.

Despite this slight adaptation, the principle remains the same, and all types of reactions to the wait (i.e., emotional, cognitive, and behavioral) are expressed as positive, negative, neutral, or ambiguous reactions to the wait.

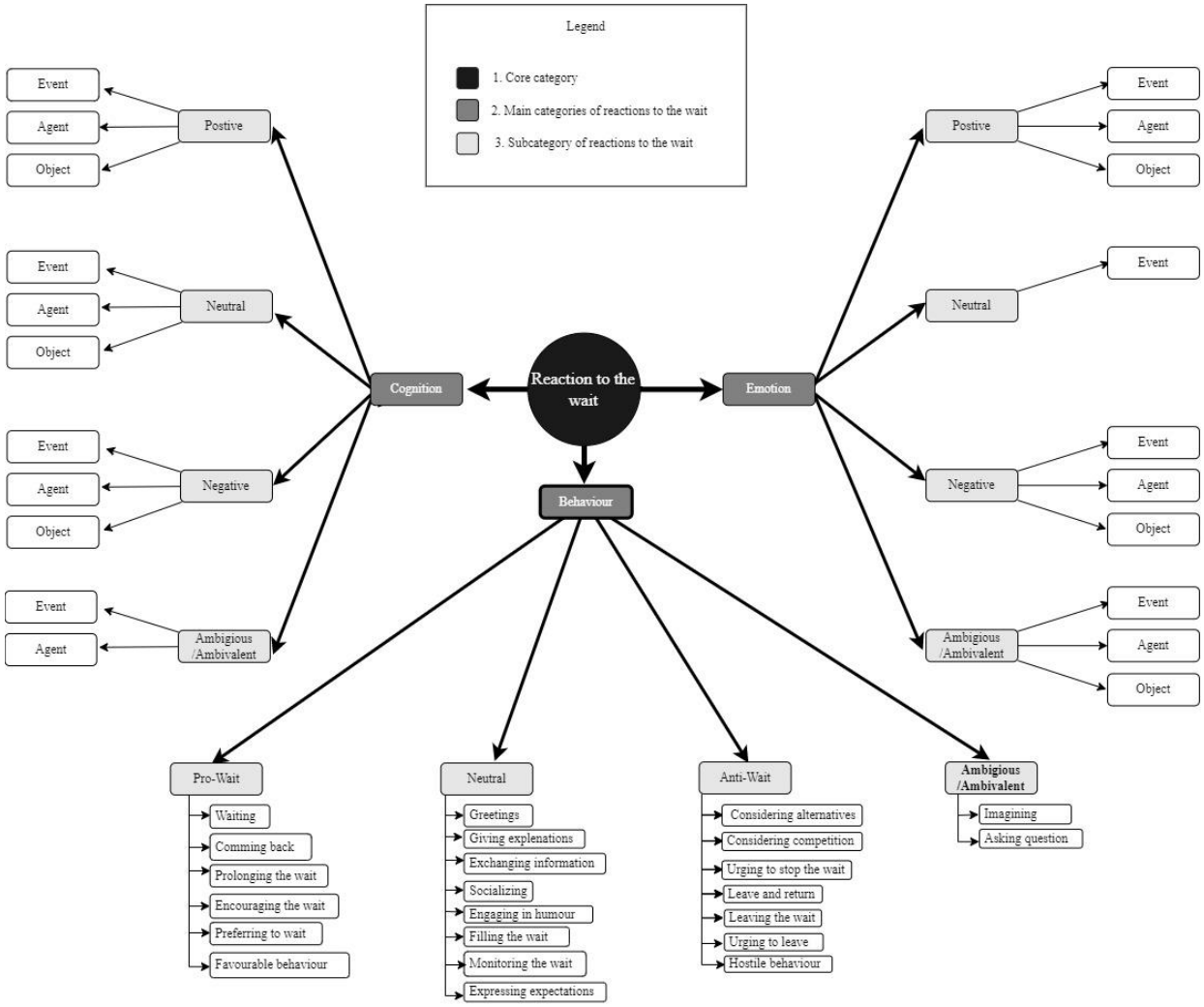


Figure 7.1. Conceptual framework of consumer waiting on the Internet in online live streaming platforms

The theoretical framework presents a visual representation of the outcome of the analysis of the qualitative data in this study. It demonstrates how individuals react to waiting that takes place in online streaming environments. It proposes that individuals have 3 distinguishable reactions to a wait, namely, cognitive, behavioral, and emotional; that these reactions may be further subdivided into positive, negative, neutral and ambiguous reactions, with slight variations in the case of behavioral reactions; that cognitive and emotional reactions are targeted towards the Event, the Agent and the Object; and that there is significant variety in the array of behavioral reactions to waiting.

In the specific context of our study, online consumers of video games were faced with a relatively long, unexpected waiting period. As is characteristic of human behavior, the sheer variety of reactions to this delay (the Event), to the company (the Agent) and to the game (the Object) was immense. Yet, this multiplicity of reactions may be considered, understood and interpreted when outlined as a theoretical framework. This framework should be employed in order to map out consumer's reactions, to assist in understanding the course of events and in predicting consumer reactions under similar waiting contexts.

### 7.3. Contributions

With our proposed theoretical framework of waiting in online streaming in hand, this section, outlines the main contributions of our research for the literature on waiting, for the practice of waiting management in services marketing, as well as for methodological considerations in consumer research.

- **Building a holistic theoretical model**

The main theoretical contribution of the current thesis is the proposition of a new holistic conceptual framework (Neergaard & Ulhøi, 2007; Wacker, 1998) of waiting, on the Internet, in

social media, in groups and particularly, in online live streaming platforms (Apablaza-Campos et al., 2020; Scheibe et al., 2016). Thus, this conceptualization facilitates a broad understanding of waiting in an environment where such a holistic approach has not previously been employed, that is, waiting in live streaming platforms.

This study does not only allow for a better understanding of waiting in online live streaming, it also-contributes to a deeper and more comprehensive understanding of other waiting contexts and environments. Indeed, It also enables us to better understand waiting in more traditional forms of Internet (i.e., Internet 1.0) as well as in offline waiting situations. Ultimately, the holistic conceptual framework proposed in this thesis improves our understanding of our whole field of research, that is, the study of waiting.

- **Waiting as Gamification**

This study contributes to research on gamification (Deterding et al., 2011a; Huotari & Hamari, 2012; O'Donnell et al., 2017; Zichermann & Cunningham, 2011) which is the use of game design elements in non-game contexts (Deterding et al., 2011a, 2011b). We propose that waiting can be used for gamification purposes in a variety of contexts, such as customer and employee engagement and motivation (Walker, 2014). Waiting may be employed as a gamification tool in online streaming platforms, (K. Fietkiewicz & Zimmer, 2020; Scheibe et al., 2018), in a similar way to the use of other gamification tools (e.g., rewards, ratings, badges, levels, points...), in the guise of positive waiting, to motivate, engage, and increase the activity of consumers (Friedländer, 2017a; Hamari et al., 2014; Huotari & Hamari, 2012; Scheibe et al., 2016, 2018; M. Wang & Li, 2020; Zichermann & Cunningham, 2011). As an example, the broadcaster can add timers and countdowns. For instance, a broadcaster who intends to share an important piece of content (talking about an important subject, sharing exclusive information, receiving a special guest…etc.)

30 minutes into the live stream can state their intention to do so and display a timer that counts down seconds and minutes until then. This would achieve many gamification functions such as providing challenge (i.e., a waiting period to overcome), feedback (i.e., information about the duration of the wait) and progress (i.e., the amount of time spent waiting) (Hamari et al., 2014).

- **Using the wait as a marketing tool**

Waiting can be used as an efficient and malleable marketing tool at the service of companies and organizations. Indeed, according to some of the comments of the consumers in our research, they saw the wait they experienced was "Great marketing". The number and variety of positive reactions to waiting identified in qualitative data confirm previous research in offline environments and adds online, live streaming and group waiting, to the context in which waiting accompanies mutually beneficial interactions, exchanges and transactions between the organization and consumers (Brunswick, 2014; Gundlach & Wilkie, 2009).

- **Positive anticipation and excitement**

Waiting makes the consumers excited, as shown in the positive emotional reaction to the wait category identified in our work (i.e., "Excitement"). In this category, the participants expressed how they were feeling "Exited", and "Hyped". All their comments expressed emotions of excitement related to their positive expectations regarding the wait. Nonetheless, based on participants' comments we can identify slight nuances between these two expressions. The sub-category "Excited" is self-explanatory. It translates as a feeling of eagerness and enthusiasm toward a future event. As for the ~~category~~ sub-category "Hyped", it corresponds to the users expressing how hyped they felt because of the waiting event. It also expresses a form of excitement. Nonetheless, based on our analysis of participants' comments, we defend that it conveys emotions that are slightly more intense than those of the sub-category "Excited". We also

believe that it implies that consumers are somewhat aware of an active effort of promotion from the company. In any case, either the consumers express being excited or hyped, all the comments of the category "Excitement" align with the concept of positive anticipation previously proposed in the literature (Ryan et al., 2015, 2018). .

- **Waiting Attracts Consumers in Non-Traditional Contexts**

Our research confirms the ability of waiting to attract consumers (Ryan et al., 2018) (i.e., category "Attracted by the wait"). Therefore, it concurs with the literature showing that queues encourage consumers to join the wait (Debo, Parlour, et al., 2012; Fung, 2006; Kostecki, 1996; Raz & Ert, 2008; S. Veeraraghavan & Debo, 2009). However, our research demonstrates that queues not only attract people to join the wait in offline, or traditional, in person queues, it shows that online or virtual queues also attract people to join the wait. This work shows that the attracting qualities of waiting do not only apply to traditional queues but can also apply to other waiting situations (e.g., a YouTube live chat). We found that the wait can also attract consumers on the Internet, in social media and in online live streaming platforms.

Furthermore, we found that the attraction of a queue is sometimes so strong that it may attract individuals to the wait who have never previously consumed the product or service in question (i.e., "I don't even play Fortnite"), or may not be aware of the nature of the product or service that others are waiting for (i.e., "Here just for this") (Mann, 1977). It also confirms that consumers' attraction to the wait is essentially motivated by curiosity (i.e., category "Curiosity") (Milgram et al., 1969).

In addition, the research suggest that waiting may attract consumers who have previously stopped using the product/service and who now return, attracted by the queue (e.g., Type "yh" if anyone here stopped playing Fortnite but this hype got your excited again").

Marketing practitioners can benefit from the wait by attracting customers, prospects and bringing back former customers. They do can so in in-person contexts but also on the Internet, in social media and particularly in online live streaming platforms.

- **Waiting and online groups**

Interpersonal attachment is a fundamental motivation for human beings (Maslow, 1943). Indeed, we are all "naturally driven toward establishing and sustaining belongingness" (Baumeister & Leary, 2017, p. 499). A wide variety of concepts have been used to understand the notion of belongingness depending on the field of study. This is the case for the concepts of social connectedness and interpersonal relationships (Psychology) (Baumeister & Leary, 2015; Hawkley & Cacioppo, 2010), group membership (Sociology)(Michael A Hogg, 2016; Tajfel & Turner, 2001), social identity (R. Brown, 2000), brand community (Bearden et al., 1989; Muniz & O'guinn, 2001) (Marketing), social identity and reference groups (Consumer Behavior)(Bearden & Etzel, 1982; Escalas & Bettman, 2003), online communities (Internet and social media) (D. Boyd, 2014; Turkle, 2011; Wellman & Gulia, 2018).

As for the research on waiting, it assessed the existence of a strong social dimension in waiting groups and situations (Mann, 1969). Indeed, social interactions are an efficient way to fill the wait (J. Baker & Cameron, 1996; Pàmies et al., 2016b) and consequently, to reduce the perceived waiting time. A social atmosphere can make the wait enjoyable for the consumers (Brady & Brady, 2002; Mann, 1969; Rafaeli et al., 2002). Moreover, while waiting, consumers display a wide variety of socially oriented behaviors such as seeking information (Pàmies et al., 2016b), whining, gossiping, counselling, informing…etc. (Mahmud & Rumman, 2020).

In the present work, we were able to draw a number of conclusions related to consumers being part of groups while waiting together in online live streaming platforms. Our study of the

online live streaming platform shows the importance of social behaviors during the wait in online and virtual environments. Indeed, the participants engaged in a variety of social behaviors such as greeting, exchanging information, and discussing different subjects (e.g., personal experience with the wait, other games, school…etc.). The present study suggests that consumers create homogeneous groups (i.e., the category "Community'") with a sense of belonging and shared codes and references…etc. (i.e., "Memes and common references") while waiting together in an online context. The present study shows that current technology allows consumers to wait together online, in virtual environments, that they can form online communities centered around the wait, and that our knowledge of group dynamics in offline waiting situations can extend to these online communities and contexts.

Furthermore, research on social interactions in online settings has revealed that consumers waiting on live streaming platforms exhibit similar characteristics to those of an online community (Kindsmüller et al., 2011; Preece, 2000). Indeed, online communities are defined by 4 characteristics (Preece, 2000, p. 3). They are constituted of (1) people that are interacting in order to satisfy their own needs and (2), that share a purpose such as an interest or a need that provides them with a reason to cooperate. (3) Online communities are regulated by policies taking the form of tacit assumptions and rules, and (4) are mediated by a technical system that enables and facilitates the social interaction. Our qualitative analysis of the waiting event under study showed that the online live stream fulfilled all the conditions listed above. Firstly, the participants were interacting to satisfy a number of motives such as gathering information (e.g., category "Asking for information"), complaining (e.g., category "hostile behavior), finding a solution (e.g., the category "Proposing an alternative"). Secondly, they shared a common interest for video games and Fortnite. Additionally, many joined the online live streaming because they wanted the game

Fortnite to be back after it got shut down. Waiting for this outcome gave them a compelling reason to cooperate. Thirdly, the online live streaming appeared to be regulated by a number of tacit rules. For instance, the spammers repeatedly posting the same message often faced a backlash from the other participants. Another example is that, at a certain point, all participants, including the broadcaster, implicitly agreed that ending the live stream required mutual consent. Thus, they held a vote to determine whether to wait or shut down the streaming platform. Fourthly, the online live stream was mediated by a technical system supporting users' social interaction (i.e., the YouTube live streaming page with its live chat, broadcasting stream, like and dislike buttons…etc.). As we can see, all four characteristics of an online community are met. Thus, we can state that users waiting together in an online live streaming platform could be considered as an online community.

Moreover, it could be argued that waiting contributes to the dynamics of the online community. Indeed, an important aspect of online communities is that the participants share a purpose. As previously explained, many of the participants to the live stream are there primarily because they are waiting for the game Fortnite to be back. Thus, we could argue that waiting gives the participants a common purpose and a reason to be in the online live streaming platform and to collaborate. Thus, we defend that waiting contributes, to a certain extent, to the online community dimension of the online live stream.

- **Fostering attachment and love for the brand**

One of the recurrent positive emotions in the online live streaming platform is love for the brand (i.e., category "I love Fortnite") (Albert et al., 2008; Carroll & Ahuvia, 2006). This confirms some of the latest research on waiting on the Internet. Indeed, Mahmud & Rumman (2020) have identified consumers behaviors that express love for the brand in a social media context (i.e., "Loving").

Chapter 7

The concept of brand love has been extensively studied in the field of marketing and consumer behavior (Ahuvia, 2005; Albert et al., 2008, 2008; Bauer et al., 2009; Fournier, 1998). It has been defined as consumer's passionate emotional attachment for a brand (Carroll & Ahuvia, 2006). The literature has identified many characteristics of consumer's love such as passion for a brand, brand attachment, positive evaluation of the brand, positive emotions in response to the brand, and declarations of love toward the brand (Albert et al., 2008). All these characteristics are positive and favorable to the brand and the company.

In their pioneering work, Shimp & Madden (1988) suggest that consumers' love relationship with the product or the brand is based on three factors, i.e., liking, yearning, and decision/commitment. The concept of yearning present certain similarities with the concepts of positive anticipation and suspense discussed in the present thesis (Madrigal, 2005; Ryan et al., 2018). When the yearning is strongly positive it is like a "wish lists constantly occupying the consumer's thoughts" (Shimp & Madden, 1988, p. 164). Some examples given by Shimp & Madden (1988) are "The deep desire to learn to play the piano, the fantasy to own a special sports car, and the intense excitement over the prospects of getting a new toy for Christmas or of building one's dream home" (p. 164).

Based on the three dimensions listed above, that is, liking, yearning, and decision/commitment, the consumer-object love relationship can take eight different forms. These are: Non liking, liking, infatuation, functionalism, inhibited desire, utilitarianism, succumbed desire, and loyalty. When the three dimensions are all negative, the relationship takes the form of non liking. On the contrary, when the dimensions are all positive, the relationship takes the form of loyalty. On the one hand, the relationships where the yearning dimension is negative are non liking, functionalism, utilitarianism, and liking. On the other hand, the relationships where the

yearning is positive are infatuation, inhibited and succumbed desire, as well as loyalty. As we can see, the consumer-object love relationships where the yearning is strong are overall more positive and more intense than the ones where it is absent. Thus, we could argue that if the waiting situation generates positive anticipation, this will result in a positive and intense consumer-object love relationship taking on forms such as infatuation, desire, and loyalty. All these types of relationships are indeed favorable for the brand (Carroll & Ahuvia, 2006; Hajarian et al., 2021). Moreover, as previously explained, the literature shows that brand love can positively impact consumers' passion, attachment, evaluation, and declarations of love for their brand (Albert et al., 2008; Carroll & Ahuvia, 2006).

All the elements listed above suggest a relationship between brand love and waiting. On one hand, our current study, alongside previous research on waiting (Mahmud & Rumman, 2020) indicate that waiting can encourage "loving" reactions among consumers. On the other hand, the existing literature on brand love shows that one of the key determinants of brand love (i.e., "Yearning"), can be linked to the concepts of positive anticipation in particular, and waiting in general.

Based on this relationship between brand love and waiting, as well as the positive effects of brand love on the consumer mentioned earlier, we suggest that waiting can be used beneficially by companies and organizations. Indeed, by encouraging the wait, they can create an environment that is conducive to consumer brand love and the many benefits it yields.

- **Methodological contributions**

From a methodological perspective, the main contributions of the present work stem from the use of the qualitative approach of Grounded Theory in the context of online live streaming platforms. These contributions are detailed below:

- **Contributing to the diversification of methodologies**

Overall, the study of waiting in characterized by a dominant use of deductive approaches instead of inductive ones. As a result, research on waiting heavily relies on quantitative methodologies instead of qualitative ones.

The main research methods used in the quantitative study of waiting are online surveys, regular surveys, and questionnaires. As for the qualitative research on waiting, it relied essentially on methods such as interviews, and focus groups. Some ethnographic studies were conducted. In the research on waiting, very few studies have adopted a Grounded theory methodological approach.

The study of waiting on the Internet (Ryan & Valverde, 2003), in social media (Kapoor et al., 2018; Y. Zhang & Leung, 2015), and in online live streaming platforms (Harpstead et al., 2019; Recktenwald, 2017) generally follows the same pattern detailed above for research on waiting, i.e., a preference for deductive approaches instead of inductive ones, a dominance of the use of quantitative methodologies as opposed to qualitative ones, a predilection towards quantitative methods instead of qualitative ones, and a limited use of Grounded theory methodology.

The use of the qualitative methodology of Grounded Theory represents an important contribution to the literature because it brings more diversity in terms of methodological by completing and balancing the literature that is mostly reliant on quantitative methodologies. Nonetheless, this is not the only reason for the contribution of Grounded Theory to diversifying the methodological approaches used in literature.

The use of Grounded Theory contributes to the diversification in terms of methodology because it provides unique and valuable contributions to the study of waiting, waiting on the internet, in social media, and in online live streaming platforms. Indeed, the use of Grounded

Theory allowed us to, (1) explore different ways of to utilize the massive, rich, and diverse range of content provided found on the Internet, social media, and online live streaming platforms (DeLongis et al., 1992; Gibson & Webb, 2012; Harpstead et al., 2019), (2) introduce conceptions that are not driven by preconceived notions and theories, (3) identify a large number of factors that influence the wait, (4) identity and conceptualize new and unexpected patterns and categories that haven't been captured by other methodological approaches, (5) bring new perspectives and generate novel insights that haven't been identified through other methodologies, (6) deepen the understanding users experiences, and behaviors, and ultimately make sense (7) of the social phenomena related to waiting in general, and on the Internet, social media, and online live streaming platforms particular (Charmaz, 2006; Charmaz & Thornberg, 2021; Glaser & Strauss, 1967; Rennie, 2007).

- **Contributing to the diversification of methodologies in the study of online live streaming platforms**

The use of data from the online live stream constitutes an important methodological contribution. Indeed, the data used in qualitative studies and particularly in Grounded Theory is traditionally gathered through focus groups, diaries, semi-directive and open interviews…etc. (Creswell, 1998; Gibson & Webb, 2012). More recent research concerned with virtual environments also used online focus groups and traditional social media data (Mahmud & Rumman, 2020; Martínez, 2015; Moore et al., 2015; Ryan et al., 2015; Ryan & Valverde, 2003, 2005; Y. S. Wang et al., 2017). Nonetheless, in this work, we have used an online live streaming platform. This is because the online live stream under study provided us with a unique opportunity to study waiting in a novel context (i.e., online live streaming platforms), in new situations (i.e., long-term waiting), and in different conditions (i.e., real time synchronous interactions). The

present work has allowed us to show that online live streaming platforms are a rich source of information and insight.

Moreover, we were able to highlight important benefits related to the use of online live streams data in qualitative research, such as real time observation of the phenomenon under study (DeLongis et al., 1992; Harpstead et al., 2019; Toms & Duff, 2002), investigation of rich social interactions and shared experiences (S. Lim et al., 2012), comprehensive and simultaneous observation and analysis of a large variety of interactions (e.g., verbal, emotional, financial…etc.).

Indeed, online live streaming platforms allows for the real time observation of the wait exactly as it occurs. This instantaneity of online live streaming is important because it gives us immediacy, which avoid retrospective errors usually resulting from declarative methods. It also gives us access to normally unobservable events in their natural setting.

By definition, online live streaming platforms are highly social environments (Bründl et al., 2017). Their study allows for the investigation of rich social interactions and shared experiences (S. Lim et al., 2012). This is important to the study of waiting because waiting is a very social phenomenon (Fagundes, 2017; Mann, 1969; Schmitt et al., 1992). Thus, the investigation of online live streaming platforms allows for a deep understanding of waiting and the rich social interactions in involves.

- **Introducing the point of view of the user**

The inclusion of the point of view of the user is another main implication derived from the use of the Grounded Theory qualitative method (Glaser & Strauss, 1967; Rennie, 2007) in this work. Indeed, this has allowed to us bring an insightful perspective that balances the most dominant literature on waiting in social media and online live streaming that is, in its majority, driven by the researcher (Harpstead et al., 2019) instead of the consumer. Additionally, our work

offers a more balanced perspective that can potentially enhance the user experience in these digital environments. Therefore, the inclusion of the user's point of view not only enriches the theoretical understanding of the topic but also holds practical implications for designing more user-centered interventions. By incorporating this key factor, our study expands upon previous research and enhances it from a theoretical as well as from a practical perspective.

- **Maximizing unobtrusiveness and ecological validity**

The investigation of waiting is normally pursued retrospectively. There is very limited research that explores the entire duration of the waiting phenomenon. In traditional offline contexts, waiting research is usually conducted through questionnaires administered or interviews conducted subsequently to the actual waiting event. Online live streaming platforms allow us to bypass that. As a result, it circumvents the biases caused by the reliance on declarative methods (Russell & Grosof, 1990). However, through social media and online live streaming platforms, researchers now have access to the entire duration of the wait. They also have at their disposal historical records of the interactions between the individuals studied. This innovation provides researchers with levels of ecological validity (Lerner & Schmid Callina, 2014; Quinan et al., 2015; Schmuckler, 2001) and unobtrusiveness (DeLongis et al., 1992; Harpstead et al., 2019; Toms & Duff, 2002) unlike any previous research on waiting. Thus, new technologies of online live streaming platforms are facilitating a more faithful and comprehensive analyses of consumers' waiting experience, a phenomenon that is particularly difficult to capture.

## 7.4. Achievement of the objectives of the research

This section presents the main objectives of this research as defined in chapter 3. It aims to evaluate the extent to which these objectives have been achieved. In what follows, we go through each of these individual objectives one by one.

1. *Exploring consumers' full range of reactions to the wait in online live streaming platforms from positive, to neutral, to negative responses to the wait.*

The different types of reactions to the wait have been identified, labelled, and organized depending on how positive or negative they are. This has allowed us to identify the four main types of reactions to the wait, that is "Positive reactions to the wait", "Neutral reactions to the wait", "Negative reactions to the wait" and the new category "Ambiguous/Ambivalent reactions to the wait".

2. *Exploring the relationship between consumers' reactions to the wait and the object of these reactions (e.g., company, brand, other consumers…etc.) towards which these reactions are aimed on the Internet, in online live streaming platforms.*

The different types of agents have been identified towards which consumers' reactions to the waiting situation are oriented. These agents are either the consumer itself (i.e., "Self"), the consumers' participating to the wait, as a group (i.e., "users"), the streamer broadcasting the event (i.e., "broadcaster") or the company behind the waiting event ("Company"). The present research has also defined the different reactions to the wait forming each of these categories.

3. *Identifying and understanding the main types and categories of consumers reactions to the wait on the Internet, in online live streaming platforms.*

Three main types of reactions to the wait have been identified. These three categories are "emotional" reactions to the wait, "cognitive" reactions to the wait, and "behavioral" reactions to the wait. These types of reactions represent the most general categories found in this study. All the individual reactions to the wait displayed by the consumers can fit within one of these three categories. The investigation of these main reactions to the wait allowed us to identify a new category of reactions that hasn't been previously identified, that is, "cognitive reactions to the wait".

4. *Identifying and understanding the specific reactions to the wait displayed by the users in online live streaming platform (i.e., specific behaviors in which the users engage, emotions, and other specific responses to the wait).*

Our investigation allowed us to identify a plethora of specific emotions, cognitions, and behaviors related the wait online, in live streaming platforms. These reactions allowed us to confirm a large number of responses to the wait from the literature on waiting. They have also allowed us to identify a wide variety of new reactions to the wait that haven't been previously identified.

5. *Gaining a holistic understanding of waiting on the Internet and in online live streaming platforms in order to produce a general conceptual framework on the subject. (This goal is to be achieved by the integration of the knowledge gained through the realization of the objectives 1, 2, 3, and 4).*

The knowledge acquired from the realization of the objectives 1, 2, 3, and 4 has allowed us to conceptualize a comprehensive model of users' waiting online, in live streaming platforms (See Figure 7.1.). This conceptual framework provides a holistic view of all the phenomenon implicated in the wait in online live streaming platforms. Indeed, the present thesis has identified how consumers' reactions to the wait can manifest (i.e., emotions, cognitions, and behaviors), how positive and negative they can be (i.e., positive, neutral, negative, ambiguous and ambivalent), and who and what they are aimed to (i.e., event, agent, and object of the wait). But more than that, the present project has allowed to combine all these factors, to understand how they are articulated, and how they interact.

6. *Enriching the literature from a methodological and practical perspective through a consumer-centered, naturalistic, and inductive exploration of waiting, waiting on the Internet and in online live streaming platforms (in contrast with the researcher-oriented, non-naturalistic and deductive approaches usually used in this area of research.*

The present study relied on a Grounded Theory methodological approach. This approach allowed for an inductive investigation of waiting on the Internet, in online live streaming platforms. This completes and balances the overwhelmingly spread use of quantitative and

deductive approaches in the study of waiting. Moreover, the use of Grounded Theory combined with the reliance on the online live streaming platform as a source of data has allowed a highly naturalistic investigation. Finally, the methodology and method used in this project have allowed an investigation that is centered on the perspective of the consumer which balances the overwhelmingly dominant use of researcher-centered investigation in the research on waiting.

### 7.5. Limitations of the study

Any research has its inherent weaknesses. In this section we present the main limitations of the present study.

- **Unidentified participants in the qualitative study**

Online live streaming platforms presents many advantages for qualitative research (DeLongis et al., 1992; Harpstead et al., 2019; Toms & Duff, 2002). Nonetheless, they also have some disadvantages (Recktenwald, 2017; Rintel & Pittam, 1997). The main downside of the use of streaming platforms is the inability to choose the profile of the participants. This can be problematic because it prevents the researchers from choosing the profiles that better correspond to the needs of their study. Moreover, it prevents them from precisely identifying the structure and the characteristics of the sample, or the population studied. This also prevents them from conducting qualitative analysis' oriented toward a particular respondent or group of respondents.

Unlike with other collection methods (i.e., interviews, focus groups, diaries…etc.) (Neuman, 2011; Patton, 2002), we did not recruit the respondents participating to this study. This is because, in the online live stream, the participants join and leave on their own will. This can cause additional issues because it makes it difficult to estimate the number of users in the online live streaming platform. Moreover, this might cause an issue of consistency of the sample or population studied. Indeed, since the participants are entering and leaving the live streaming

platforms at different moments, the composition of the sample of population is different depending on the moment in which it is observed. Thus, it is inconsistent in time.

This is one of the main limitations of the present study because it made it difficult to draw conclusions involving consumers' individual profiles and characteristics (e.g., demographic factors) (Sargeant, 2012; Yoder, 2001). For instance, in the present study, we are unable to say what type of consumers are the most positive towards the wait, or what type of consumers are negative towards it. Nor can we identify the profile of the users that engage in a certain type of behaviors such as leaving the wait, staying, socializing…etc.

- **Specific context-based conceptualization**

An additional limitation of this work is related to the global context of the study, i.e., consumers waiting in online live streaming platforms for the video game Fortnite (J. Greenberg, 2016; W. A. Hamilton et al., 2014; Y. Li et al., 2020; Sjöblom & Hamari, 2017; Wulf et al., 2020). Indeed, the present research has investigated a specific environment, i.e., the video game industry (J. S. Lim et al., 2020; Marchand & Hennig-Thurau, 2013). Because of that, the respondents arguably present unique characteristics. In all likelihood, they are either gamers or individuals with a strong interested in video games. This group might differ from other groups of respondents in many aspects that could be relevant to our study such as their average daily computer time, their attitude towards video games…etc.

The investigation of these particular respondents in this particular context is consistent with our methodological (Breckenridge & Jones, 2009) and sampling choices (i.e., a mixed purposeful approach with a strong "intensity sampling" dimension) (Kramer & Burns, 2008; Palinkas et al., 2015; Patton, 2002) (See chapter 5., 5.2.3.3.). Nonetheless, future research must take into account

the particularities of this study. Therefore, an additional effort of adaptation might be needed in order to use the model proposed in different contexts and environments.

- **Unexplored links of correlation and causality**

One of the main limitations of this project is the corollary of one its biggest strengths, i.e., the use of a Grounded Theory methodological approach (Glaser & Strauss, 1967; Rennie, 2007). This has allowed us to attain objectives that we couldn't have reached with another methodological approach (e.g., rich qualitative investigation, holistic theoretical model grounded in the qualitative data,…etc.) (J. M. Corbin & Strauss, 1990). Nonetheless, because of our qualitative orientation, we did not investigate questions and objectives that are quantitative in nature such as links of correlation or causality between the variables involved in the wait in the online live streaming platform (Apuke, 2017; Jayaratne, 1993). Nonetheless, quantitative investigation of the wait on the Internet, in online live streaming platform is important (Bruns & Stieglitz, 2012; Scheibe et al., 2016). It is complementary to our work and related to some of its main goals, such as, theory building. (Lynham, 2002; Meredith, 1993; Scheibe et al., 2016; Sequeira, 2014) through the exploration of correlation and causality between identified variables (Apuke, 2017).

### 7.6. Recommendations and suggestions for future research

The present work allowed us to propose many contributions. Nonetheless, as seen in the previous section, it has several limitations. Based on these contributions and limitations we present a number of recommendations and suggestions for future research.

- **Exploration of cognitive reactions to the wait**

As previously seen (7.1. Theoretical contributions) cognitive reactions to the wait offer many research opportunities. Indeed, many reasons make of cognitive reactions to the wait an important and promising subject of study. Indeed, as shown in the present thesis, cognitive

reactions haven't been studied as a distinct category of response in the study of waiting. This is despite the fact that cognitive reactions to the wait are a fundamental subject of research in the Social Sciences and Consumer Behavior (Blackwell et al., 2001; Blair H. et al., 1988; Fishbein & Ajzen, 1975; Holbrook, 1995; Howard & Sheth, 1969; Sheth et al., 2011; Sofi et al., 2020; Wells & Martin, 2017). Moreover, as shown in the present thesis, cognitive reactions to the wait covers a rich and diverse range of responses.

The study of these responses can provide useful and rich insight on waiting on the Internet, in online live streaming platforms, as well as in traditional offline environments such as a better categorization of consumers', a more accurate theoretical foundation for conceptualization of waiting...(Bielen & Demoulin, 2007; Blackwell et al., 2001; M. Borges et al., 2020)

Thus, equipped with the newly identified cognitive reactions to the wait category, researchers should explore the full range of cognitive reactions to the wait. This research should take place in the contexts of online live streaming platforms (Y. Li et al., 2020; Scheibe et al., 2016), but also in social media (Alalwan et al., 2017; Mahmud & Rumman, 2020) on the Internet (Ryan & Valverde, 2003, 2005; Weinberg, 2000), and in in-person waiting situations (McGuire et al., 2010; Ryan et al., 2018).

- **Exploration of ambiguous and ambivalent reactions to the wait**

In the previous sections (7.1. Theoretical contributions) we have shown the that ambiguous and ambivalent reactions to the wait have an important potential for future research.

Many reasons support the importance of the study of ambiguous/ambivalent reactions to the wait in future research. First, the inclusion of the previously overlooked ambiguous/ambivalent reactions to the wait should provide a more comprehensive understanding of waiting. This is because the identification of this category of reaction will allow researchers to better categorize

the emotions, cognitions, and behaviors associated with waiting. Second, exploring ambiguous and ambivalent responses to waiting has the potential to create connections between the research on waiting and other areas of study that have already identified such categories. This is the case for the literature on (ambiguous/ambivalent) human emotions (Bucks et al., 2008; B. P. H. Lee et al., 2006; Lomas, 2017; Maksimainen et al., 2019; Neta et al., 2021)

Building on this new category, researchers should explore consumers' ambiguous and ambivalent emotional, cognitive, and behavioral responses to the wait. This research should be conducted not only in online live streaming platforms (Y. Li et al., 2020; Scheibe et al., 2016), but also in social media (Alalwan et al., 2017; Mahmud & Rumman, 2020), Internet (Ryan et al., 2015; Ryan & Valverde, 2005), and in-person waiting contexts (Ryan et al., 2018).

- **Use of traditional qualitative research methods in online lives streaming**

The present research was conducted using an innovative source of data, i.e., online live streaming platforms (Scheibe et al., 2016). This approach presents a large variety of advantages (see 7.4.2. Methodological contributions). Nonetheless, it also has limitations (7.6. Limitations of the study) (Recktenwald, 2017; Rintel & Pittam, 1997). As previously seen, it makes it difficult to identify the participants and their characteristics. To balance these limitations, researchers should conduct qualitative research that provides precise and rich insight on consumers' profiles. This goal could be reached through the use of traditional qualitative research methods such as in-depth and semi-directive interviews, focus groups, diaries…etc (Denzin & Lincoln, 2006; Snelson, 2016).

- **Extension of the theoretical framework to other waiting environments**

One of the main contributions of the present work is the proposition of a holistic conceptual framework (7.4.1. Theoretical contributions) (J. M. Corbin & Strauss, 1990; Wacker, 1998).

Nonetheless, this model has been developed in a particular waiting context, i.e., online live streaming platforms (Scheibe et al., 2016). Moreover, it has been conceptualized in specific managerial environment, i.e., the video game industry (Marchand & Hennig-Thurau, 2013; Smith et al., 2013). It is important for future research to examine the model proposed in this work in different waiting environments. Indeed, the literature would benefit from its application to more general contexts such as waiting in social media, on the Internet and in in-person situation (Alalwan et al., 2017; Ryan et al., 2015). Moreover, researchers should examine the proposed model in different sectors and industries.

- **Application of quantitative methods: structural equations**

In this project, we have relied on a grounded theory qualitative approach (Glaser & Strauss, 1967). This allowed us to contribute to the literature with a holistic theoretical model (Meredith, 1993). This framework provides researchers with an in-depth understanding of waiting on the Internet, in online live streaming platforms. Building on this, researchers should conduce quantitative studies in order to improve our understanding of the relationships between the different factors in play (Jayaratne, 1993; Lynham, 2002). Indeed, our qualitative investigation has allowed the identification and structuring of a large number of categories. This provides quantitative researchers with a strong basis for the definition of variables and the investigation of the relationships between them. Multivariate approaches such as structural equations are particularly adapted to this kind of endeavors (Iacobucci, 2010; Ullman, 2006).

The choice of the Structural Equation Modeling (SEM) (Golob, 2002) has been made for two main reasons. On the one hand, structural equations are particularly designed for testing complex theoretical models with a large number of variables and relationships (Kline, 2023). As we can see in Figure 7.1., The model proposed in this work is rather complex. It is also composed

of a large variety of variable and relationships between them. Thus, SEM is the most adapted approach for the empirical verification of our model. On the second hand, unlike traditional regression analysis, structural equations allow the researchers to estimate the relationships between the different variables of the model simultaneously (Girshick & Haavelmo, 1947). This allows for an accurate yet nuanced evaluation of the model (Kline, 2016). This is important for our proposed theory. Indeed, the model proposed is comprised of a wide variety of cognitive, emotional, and behavioral factors. These cognitions, emotions, and behaviors are possibly occurring at the same time. Thus, to have a clear understanding of the relationships between the different factors, it is essential to estimate the relationships between them simultaneously. Structural Equation Modeling (SEM) is one the best indicated approaches to reach this goal (Girshick & Haavelmo, 1947; Kline, 2023).

- **Use of different approaches: Sentiment analysis**

A study relying on similar data should be carried out using a different type of analysis. For this, we propose the use of a sentiment analysis approach (Alaei et al., 2019; R. Feldman, 2013; Poecze et al., 2018).

One of the main goals of our research is to better understand consumers' emotions towards the wait in online live streaming platform. This goal was reached by evaluating how positive or negative the emotions are. Sentiment analysis pursues similar goals (R. Feldman, 2013) in a similar fashion. Indeed, it aims to identify respondents positive, negative, and neutral sentiments. Another similarity of sentiment analysis with our work is its reliance on social media (e.g., data from Twitter, Facebook…etc.) (Batrinca & Treleaven, 2014; D'Avanzo et al., 2017; Giachanou & Crestani, 2016; Khong et al., 2021). Nevertheless, sentiment analysis is a natural language

proceeding (NPL) method (Bird et al., 2009). Thus, it is very different from the Grounded Theory methodology used in this project.

The use of sentiment analysis for the study of waiting in online live streaming platforms could yield very interesting results. Indeed, it would allow for the confirmation of positive, negative, and neutral emotions identified in our study. It would allow to identify new emotions. It would also allow for a critical evaluation the results of the present work from another perspective.

## 7.7. References to chapter 7

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