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SERVICE QUALITY EVALUATIONS IN MASSIVELY MULTIPLAYER ONLINE ROLE-PLAYING GAMES

Master´s Thesis
in Marketing

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1 INTRODUCTION

1.1 Background to the study

This thesis at hand studies video games from a marketing perspective. Video games are a captivating form of entertainment. Their origins stem from something as simple as a few moving pixels in the first arcades of the 1970's. However, they continue to develop and achieve new levels of complexity and immersion. Through advancements in virtual and augmented reality they are already near to mimicking our surroundings, if they do not already. Therefore, how should something of such complexity be managed, which despite humble beginnings has come to simulate the very structures of our society in a virtual space? Take for example, massively multiplayer online role-playing games, commonly abbreviated as MMORPGs. MMORPGs are small virtual worlds where players can live their fantasy. Players can take on professions, such as carpentry or blacksmithing. They can even lead and join hundreds of players into battle against other players or mythical creatures, to overcome challenges of epic proportions. Through these interactions, MMORPGs allow players to form bonds that can last a lifetime by engaging with players and communities from across the world. Essentially one could think of these as services, which have a life of their own, where consumers give life to the service through interaction and individual experiences. Therefore, MMORPGs are a prime example of how the ever-increasing complexity of services, particularly as regards the advent of new technologies, continuously diversifies the ways in which services can be experienced and provided (Bitner, Gremler & Zeithaml 2010, 198; 201-203).

However, this poses new challenges for researchers and managers alike, yet research in the area is limited and largely fragmented, the greatest contributions in the fields of psychology and information technology. Marketing literature has been scant in its coverage of video games (Marchand & Hennig-Thurau 2013, 142); MMORPGs in particular, with only a few individual service literature articles considering them. This makes service management in the area that more difficult and leaves MMORPGs at risk of service gaps. Therefore, there is an obvious research gap in marketing literature's understanding of MMORPG service management. This is despite the fact that the gaming industry currently exceeds over 70 billion USD (Statista 2016), and continues to grow, both in size and profitability, faster than any other form of entertainment. This underlines the need for managerial understanding of how to bring more value to MMORPG consumers. (Jung, Kim & Lee 2014, 2171-2172). Therefore, furthering current marketing understanding of MMORPGs is of both theoretical and managerial interest, giving new research in the field intrinsic value; thus, forming the motivation for the subsequent research.

1.2 Purpose of the thesis

Based on this need the purpose of this thesis is to contribute to extant knowledge by developing a better understanding of how consumers evaluate their MMORPG service quality experience. Subsequently this thesis contributes to theoretical and managerial understanding of how these services can be designed to thrive by studying the service quality dimensions of MMORPGs using a qualitative netnographic research method. This will take the form of coding and analyzing player reviews for MMORPG games, which will be supplemented with partially structured theme interviews. Specifically, this thesis will address the following research questions:

1. How do MMORPGs differ from traditional offline and online services?
2. Do expectations play a role in player evaluations of MMORPG service quality?
3. What are the service quality dimensions that govern the perceived service quality of MMORPGs?

Chapters 2 and 3 will focus on the first research question, the purpose of which is to identify parallels with traditional service forms along with defining traits that set MMORPGs apart. Chapters 2 and 3 will also lay a theoretical foundation for answering questions 2 and 3. Chapter 4 will discuss the methodology for the undertaken empirical research, and empirical results in chapter 5 will be used to answer questions 2 and 3. Research question 2 has the very specific purpose of identifying if expectations affect MMORPG service quality evaluations. Making this distinction is important because this determines the appropriate perspective for future MMORPG service quality research, as well as how results should be analyzed as regards research question 3. Nevertheless, due to methodological constraints this study is unable to make decisive conclusions as to what the role of expectations may be outside of this determination. Research question 3 in turn answers the fundamental question of what dimensions form the perceived service quality of MMORPGs. This is of inherent importance for both future study of MMORPG service quality, its measurement, and managerial understanding of how to bring more value to MMORPG consumers.

2 SERVICE QUALITY: PERCEPTIONS AND DIMENSIONS

Service quality is the foundation of service marketing. Therefore, developing a holistic understanding of extant service quality literature is essential for building an MMORPG service quality framework. Furthermore, understanding how service quality evaluations are formed as they relate to research question 2 is essential.

2.1 Service quality

Where services differ from goods is in the form they take. Companies sell products, which can be divided into goods and services, whereas goods have a physical tangible form services are intangible. Services embody four general traits commonly referred to as IHIP factors, which are Intangibility, Heterogeneity, Inseparability, and Perishability. These traits define the unique nature and process of services. Therefore, services can be defined as intangible products, the experience of which is tied to a time and place. For example, a specific environment, which in the case of online games is the virtual world they take place in. However, services can embody supporting functions or service functions that involve tangible goods, whereas the core service can only be provided and experienced in a given moment. (Grönroos 2009, 78-81). Therefore, this study's view of MMORPGs as a service covers all aspects of the service process: including service delivery; process; and supporting functions, such as customer service and marketing communication.

Numerous researchers have proposed their own service quality measurement models. This research has led to two distinct views of service quality. Service quality has thus been traditionally viewed from either a disconfirmation or performance only perspective (Santos 2003, 234). The disconfirmation approach, commonly based on Oliver (1980a), states that service quality is evaluated by consumers as based upon how well the outcome of the service meets their service expectations (Santos 2003, 234; Oliver 1980a, 466). The performance only approach in turn states that service quality perceptions are formed solely by the outcome of the service. Advocates of the performance only approach find that it is more reliable than the disconfirmation approach, while also a simpler empirical research method. This is because in a performance only approach all dimensions are antecedents to service quality, whereas dimensions can be either antecedents or components in a disconfirmation model. Therefore, critics of the disconfirmation model have argued that by using a performance only measure it is both simpler to conduct research and achieve better results with greater explanatory power and variance. Therefore, giving the argument that compared to expectations, performance is a better measure of service quality. (Cronin & Taylor 1992, 63-65; Dabholkar et al. 2000, 165-168; Santos 2003, 235; Teas 1993, 30-31). Nevertheless, advocates for the disconfirmation model have defended

their research and criticized the performance only approach for being unidimensional, because of its predictive nature and disregard for the importance of the service process as a part of consumers' service quality evaluations (Parasuraman, Zeithaml & Berry 1994, 113-116). Furthermore, by taking into account expectations as a part of the formation of service quality perceptions, it is possible to take into account external factors influencing service quality evaluations, such as word-of-mouth and past service experiences (Grönroos 1984, 37).

This study accepts the disconfirmation approach. While there are arguments for and against the use of disconfirmation models, their accounting for external factors such as word-of-mouth (WOM) is found as a deciding factor. This is because of the social nature of MMORPGs, see 3.1.1. Therefore, factors such as WOM and past service experiences are expected to play a role in how consumers evaluate their service experience by setting expectations. Furthermore, the importance of expectations as a part of service quality in MMORPGs is supported by Seo and Guo (2014). They have argued that customer expectations play a mediating role in service quality, leading to customer satisfaction in online games. However, the empirical part of this study will be used to further evaluate if this is in fact the correct approach to MMORPG service quality research. This step is undertaken because despite empirical evidence in favor of adopting a disconfirmation approach in service quality research, the field remains split on the issue.

Service quality can be defined in one of two ways depending on whether one adopts either the performance or disconfirmation perspective. The performance perspective defines service quality as the overall evaluation of service performance and excellence (Santos 2003, 235). However, as this study adopts a disconfirmation approach to evaluating service quality, its definition must also fit this paradigm. Therefore, the following definition of service quality is used:

> *"Service quality, as perceived by consumers, stems from a comparison of what they feel service firms should offer (i.e., from their expectations) with their perceptions of the performance of firms providing the services" (Parasuraman, Zeithaml & Berry 1988, 16)*

Parasuraman et al. (1988) were pioneers of service quality research, accounting for customer expectations in service quality literature. Furthermore, this perspective that service quality is evaluated based on perceptions minus expectations (P-E) is widely used among service quality researchers (Oliver 1980a; Grönroos 1984; Rust, Inman, Jia & Zahorik 1999; Robledo 2001; Bitner et al. 2010). Therefore, Parasuraman et al.'s (1988) definition of service quality is found the most appropriate for the purpose of this study.

2.2 The Gaps Model, understanding service quality perceptions

Considering that this study accepts the notion that service quality is evaluated based on perceptions minus expectations (P-E), developing an understanding of how service quality perceptions are formed according to this paradigm is necessary. For this, the gaps model developed by Parasuraman, Zeithaml and Berry (1985; 1991b) and Zeithaml, Berry and Parasuraman (1988; 1993) is commonly used. The gaps model was developed to further understanding of what forms perceived service quality and find ways to improve it. Parasuraman et al. (1985; 1991b) and Zeithaml et al. (1988; 1993) found that how customers rate their service experience, perceived service quality, is dependent on the size and direction of the gap between the perceived service and the service expectations of the customer. Customers will have a positive service experience if the perceived service exceeds the service expectations they have, whereas their experience will be negative if expectations are not met.

The perceived service is formed by actions of the marketer, the gap in the process of creating the perceived service referred to as the marketer gap. The gaps model finds that the marketer gap is formed by four gaps: Gap 1 follows when management is unable to correctly assess customer quality expectations because of poor market research or upward communication. Gap 2 is a result of Gap 1 or the indifference of management, which results in a divergence of service quality standards. Essentially managers believe appropriate standards are X whereas they are Y in the eyes of the consumer. Gap 3 ensues when service quality standards are not appropriately executed because of the actions of personnel during the service; or failure of technology to execute. Gap 4 takes place when the firms external communication promises service attributes, which are not met by the actual service experience. The marketer gap formed by these characteristics is the marketer's role in forming the fifth gap, the consumer gap. (Parasuraman et al. 1985, 44-46;1991b, 337-338; Zeithaml et al. 1988, 35-36; 1993, 5-9; Mauri, Minazzi & Muccio 2013, 137).

Expected service is further influenced by marketer actions through external communication, and explicit and implicit service promises. Here Parasuraman et al. (1985, 45-46) emphasized the importance of external communication and Gap 4 in particular, because by setting realistic expectations through external communication other gaps can be offset. Nevertheless, numerous factors form customer expectations, which are out of the marketers control. In the original gaps model this was limited to word-of-mouth, past experiences, and personal needs. However, in their later research this grew to encompass a variety of factors, as seen in Figure 1.

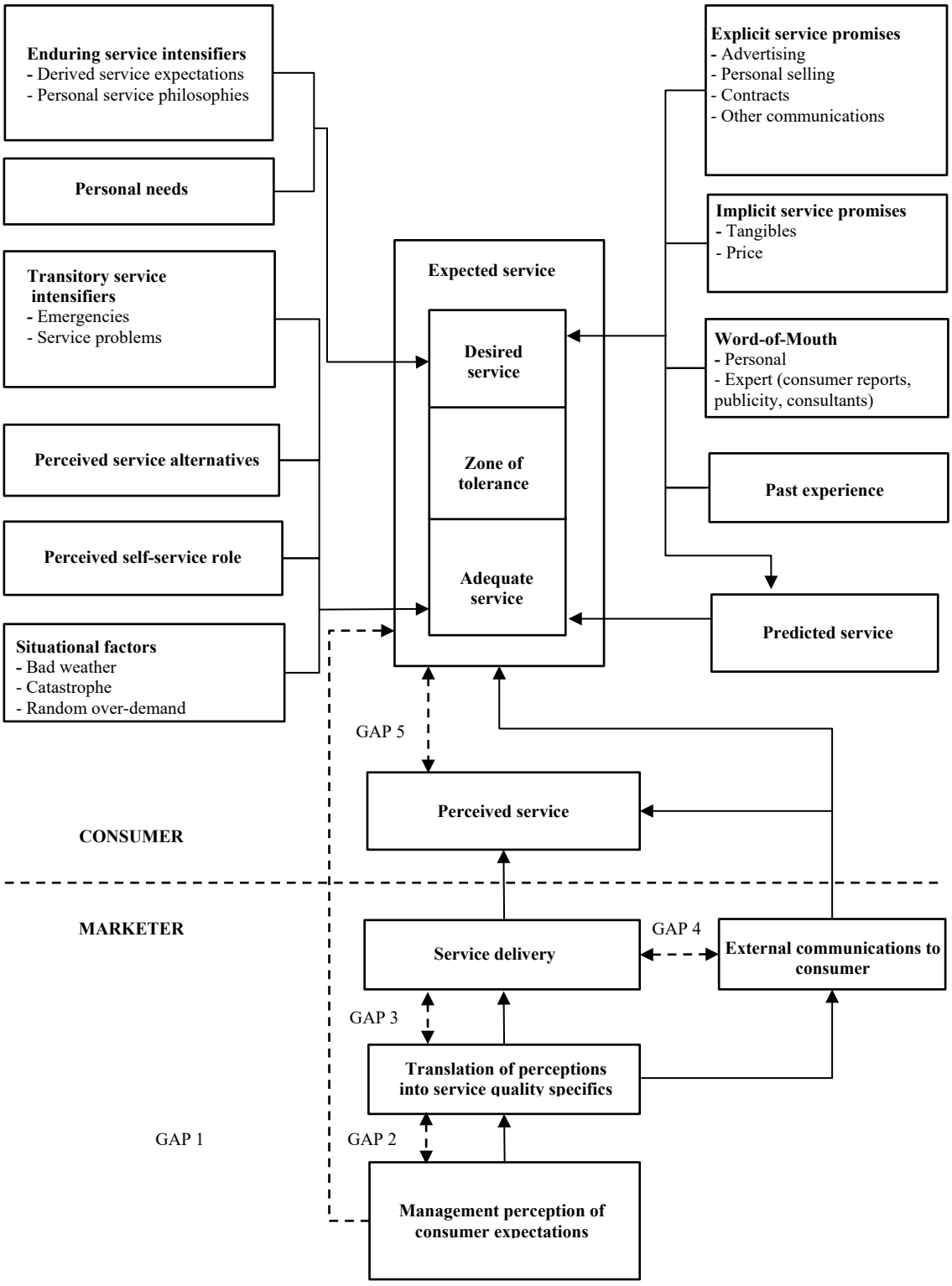

Figure 1 The Gaps Model (Mauri, Minazzi & Muccio 2013 based on Parasuraman et al. 1985; Zeithaml et al. 1993)

The large number of factors makes it very difficult to manage customer expectations, and many of these factors are out of the marketer's control such as word-of-mouth. Furthermore, with continuous technological development the importance of many of these factors in forming expectations becomes emphasized. For example, online communities hold every increasing importance in creating customer expectations (Bitner et al. 2010, 216). While these channels can be marketer controlled, this is often not the case.

2.2.1 Evolution of the gaps model over time

Overtime and through ensuing technological development, the importance and impact of the gaps in the gaps model have shifted: Gap 1 has become easier to manage because marketers continuously gather more information about their customers. Therefore, wrongly assessing their needs is easy to avoid when customer information is properly utilized. Gap 2 can be better managed because customer needs can be met in new and innovative ways, which was not necessarily possible in the past, to the extent of providing personalized services for each person. Gap 3 while still a challenging gap, is easier to manage because technology has empowered both consumers and employees. Employees can provide faster more efficient service compared to the past thanks to technological innovations. Customers in turn can now become a part of their own service experience through service co-creation and new diversified self-service possibilities. Gap 4 can now be better managed because of communication flexibility and a better offering of communication channels. In addition, consumers have an ever better understanding of services on offer through virtual experiences, whereas in the past the intangibility of services made them difficult to display. (Bitner et al. 2010, 206-216).

Nevertheless, despite technology easing the management of gaps in the services process, new challenges have arisen. Potential customers can now compare service offerings more easily than in the past, which leads to increased competition and in relation to 2.2.2 raises expectations as regards adequate service levels. Furthermore, while virtual service experiences are a good way for customers to gain an understanding of the offered service, replicating the virtual experience during the actual service encounter is still nearly impossible. Therefore, although it is a good means by which to attract customers, it raises their adequate service level expectations. The ever-increasing number of communication channels creates new challenges as well. A larger quantity of channels makes it increasingly difficult to manage all of them consistently and maintain an online presence in all expected channels. (Bitner et al. 2010, 206-216).

2.2.2 Understanding customer expectations

Understanding customer expectations is a key part of the gaps model and disconfirmation theory. Nevertheless, knowledge of customer expectations has, at best, been limited in the history of marketing. Definitions are often ambiguous with few theoretical links that would develop a cohesive understanding of how different types of expectations interact and influence consumer perceptions. (Parasuraman, Berry & Zeithaml 1991a, 39). Definitions have for the most part been rather narrow. Expectations have been simply defined as a standard for measuring brand performance, with a narrow focus on expectations as attitudes and predictions of whether or not the brand in question will contain the attributes consumers have anticipated. (Oliver 1980a, b; Olson & Dover 1979; Cadotte, Woodruff & Jenkins 1987). Furthermore, there has been a distinct difference in how customer expectations have been viewed in service quality literature compared to customer satisfaction literature. The latter clearly emphasizing customer expectations as behavior based predictions; whereas the former has treated customer expectations as customer desires. (Parasuraman et al. 1988, 17). As seen in Table 1 researchers have viewed expectations from different focal points. Zeithaml et al. (1993, 2) referred to these as expectations standards.

Table 1 Customer expectation definitions (Zeithaml et al. 1993, 2)

Author(s)	Definition
Oliver (1981); Miller (1977) Expectations-as-predictions	Expectations are a consumer's objective calculation of the performance of a service, negative or positive in which they engage.
Kahneman and Miller (1986); Parasuraman et al. (1988) Expectations-as-ideal	Expectations are what customers wish from a service encounter. What a service should offer vs. what it could offer.
Woodruff, Cadotte and Jenkins (1983) Experience-based norms	Expectations are created by needs and wants but limited by what customers believe is realistic.
Miller (1977) Minimum tolerable expectations	Expectations are determined by the customer's view of the minimum acceptable level of service performance.
Miller (1977) Deserved expectations	Expectations are what customers believe they deserve from a service encounter relative to their own investment.
Prakash (1984) Comparative expectations	Consumer expectations are based on the performance of other similar services.
Cadotte, Woodruff and Jenkins (1987) Product based norm	Expectations are derived from the average performance of the products from a group of brands.
Cadotte, Woodruff and Jenkins (1987) Best-brand norm	Expectation norms are derived from the performance of a particular brand.

There has been a clear division in terms of definitions either focusing on customer expectations as predictions or desires. For this reason, Parasuraman et al. (1991a) developed a two-level expectations model, which theorized that expectations are divided into desired and adequate expectations. The level in between referred to as the zone of tolerance, as seen in Figure 2. (Parasuraman et al. 1991a, 42; Zeithaml et al. 1993, 6-9).

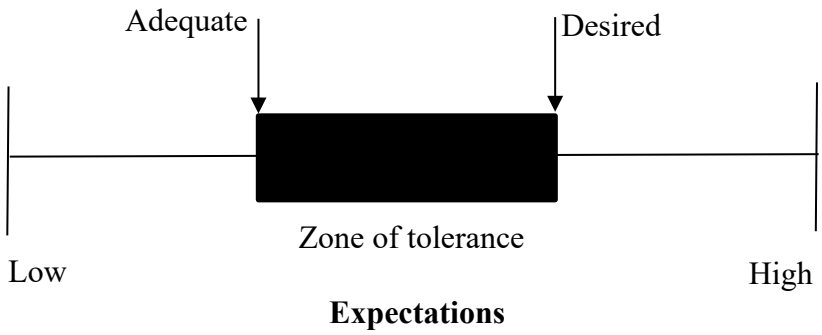

Figure 2 Service level expectations (Parasuraman et al. 1991a, 42)

Therefore, customer expectations can be defined as a customer's beliefs of what the characteristics of a service 'should' and or 'would' be during service delivery. 'Should' referring to what a customer believes the service provider should be able to offer, representing the desired level of service. 'Would' referring to a customer's expectations of minimum acceptable service performance, representing adequate service. (Parasuraman et al. 1991a, 42; Sachdev & Verma 2002, 45; Seo & Guo 2014). Other researchers have confirmed this form of dividing expectations to have a close association with how consumer expectations and expectation levels are formed (Sachdev & Verma 2002, 51). Desired expectation levels represent what customers 'wished for' in other words what customers should get; adequate expectation levels represent what customers expect they will get at the very least; and the zone of tolerance represents the area in between these expectation levels. (Zeithaml et al. 1993, 6; Sachdev & Verma 2002, 45).

In addition to a division of customer expectation levels in terms of adequacy, tolerance, and desire, each level has corresponding antecedents. These antecedent factors are what determine if and to what extent the service level in question is met or exceeded. (Parasuraman et al. 1991a; 1993). However, knowledge of the antecedents of customer service expectations remained limited until the framework proposed by Zeithaml et al.'s (1993) research. This is despite extensive research on customer expectations, and the fact that the findings of numerous researchers supported the hypothesis that expectations and customer satisfaction/dissatisfaction are a result of several simultaneous interactions rather than single factors (Zeithaml et al. 1993, 2).

Antecedents of adequate service

Adequate service expectations, as discussed, are the minimum service expectations set in the mind of the consumer. There are five factors that affect adequate service level expectations: transitory service intensifiers, perceived service alternatives, customer self-perceived service role, situational factors, and predicted service. The level of adequate service expectations affects the zone of tolerance because when the expected level of adequate service increases the zone of tolerance decreases and vice versa.

Transitory service intensifiers are short-lived temporary factors, which impact consumer sensitivity to service positively. These can primarily be categorized as emergency situations where a customer requires immediate service such as insurance after an accident. Therefore, adequate service level expectations are raised both when a service fails to be provided in an acceptable timeframe and when customers encounter problems with a service that has left them dissatisfied in the past. Perceived service alternatives are a customer's perceptions of the service landscape, in terms of the availability of service alternatives and whether or not they believe they could receive better service through an

alternative service provider. The presence of credible alternatives thus raises adequate service expectations. A self-perceived service role is how consumers perceive their part in determining the quality of the service they receive. Thus, the higher a consumer's level of involvement, the greater the consumer's belief in their impact on service quality, and the higher the level of adequate service expected. In other words, if a customer believes they themselves are not fulfilling their service role, the expected level of adequate service decreases. Situational factors are occurrences where the customer believes that factors impacting service performance levels are out of the service provider's control. For example, large scale disasters, which impact a large number of people are perceived as situational factors that could not have been anticipated by the service provider. Situational factors are deemed as temporary events that temporarily lower customer expectations of adequate service. (Zeithaml et al. 1993, 7-8). Considering the service setting of this study, DDOS[1] attacks, for example, could be considered a situational factor. Although this would not be the case if the service provider is expected to overcome such issues with ease. The final factor affecting customer expectations of adequate service is predicted service. Predicted service is the level of service customers believe they will receive. Predicted service correlates positively with adequate service because the higher a customer's predicted service expectations, the higher their expectations for the adequate level of service. (Zeithaml et al. 1993, 9).

Antecedents of desired service and predicted service

Desired service expectations, as discussed, are what a customer expects the service providers should offer. Zeithaml et al. (1993) identified that the antecedents for desired service are enduring service intensifiers and personal needs. These antecedents can be divided into explicit service promises, implicit service promises, and word-of-mouth communication. These antecedents impact predicted service expectations as well.

Enduring service intensifiers are factors in customer service encounters, which lead to increased sensitivity to the service in question. Individual, stable factors that are enduring service intensifiers are for example, derived service expectations and personal service philosophy. Derived service expectations are driven expectations formed by a third party. This applies to both consumer and employee expectations. Derived service expectations generally raise the expectations of what customers see as the desired service. Personal

[1] DDOS-Distributed Denial of Service attack. An attack on the network infrastructure of the party in question by an external party with the intention of harming the affected individuals or organization (US-CERT 2013).

needs in turn are formed by a consumer's physical and psychological needs. These needs are individual and can fall into numerous categories. However, a general assumption can be made that personal needs impact desired services positively by raising expectations. Nevertheless, how much expectations are raised is individual to each consumer. (Zeithaml et al. 1993, 7).

Explicit service promises are a form of communication from the service provider to the consumer. They are statements made by the service provider that are either personal or non-personal. While the statement can take many forms from advertising to personal selling or customer service, they all have a positive impact on the desired and predict service. The scale of impact is, however, dependent on how easily customers can create expectations regarding service quality. (Zeithaml et al. 1993, 9). It is important to note that, since the research by Zeithaml et al. (1993) over two decades ago, given technological advancement it is far easier for consumers to evaluate service quality prior to the service encounter, and thus avoid service ambiguity (Bitner et al. 2010, 215-216). Implicit service promises on the other hand are quality questions that customers interpret during the service encounter. For example, the physical evidence of the service environment, the price of the service, and so forth. Their impact correlates positively with the expected level of desired and predicted service. (Zeithaml et al. 1993, 9).

Word-of-mouth has been widely shown to influence customers' purchasing decisions and intentions. Statements by third parties, both personal and non-personal, elevate desired and predicted service in the eyes of consumers. Word-of mouth is particularly influential because it gives consumers the opportunity to gain a glimpse of what the service in question will be like. The fact that word-of-mouth is impartial raises credibility, and thus impact. (Zeithaml et al. 1993, 9).

The final factor influencing desired and predicted service is past experience. Past experiences are the consumer's prior encounters - positive and negative - with the type of service in question. Past experiences can also be prior experiences with the service provider. Past experiences have a positive impact on consumer desires and predictions particularly when they have repeated interaction with a business. Every time a customer is satisfied with the service their expectation level is increased, 'raising the bar' so to say. (Zeithaml et al. 1993, 9).

Conclusions of research into the gaps model and its benefits for empirical analysis

Parasuraman et al.'s (1991a) findings confirm customer expectations are formed by specific dimensions of a service both before and during the service encounter. In their research five distinct dimensions could be identified overall: reliability, tangibles, responsiveness, assurance, and empathy. These categories represent the service dimensions that describe customer expectations during and after a service encounter and to what extent those expectations were met or exceeded after the service encounter concludes. Reliability was identified as a service outcome dimension evaluated after the service encounter; whereas the other four: tangibles, responsiveness, assurance, and empathy are process dimensions evaluated during the service process. Parasuraman et al. (1991a) found that customers have the highest level of expectations for the reliability dimension compared to others, because it is the most important dimension in successful service delivery as the service 'core'. Therefore, it has the smallest tolerance range out of the service dimensions, which suggests that it is far easier to exceed expectations in process dimensions than outcome dimensions. Zone of tolerance range and size are akin to the visualization of Figure 3.

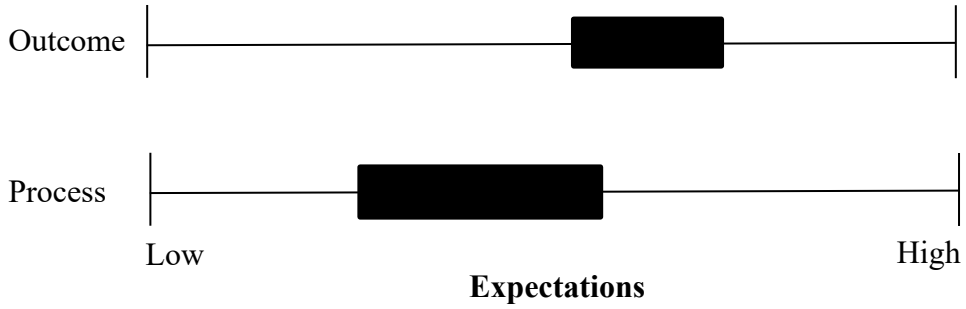

Figure 3. Tolerance zones for outcome and process dimensions of service (Parasuraman et al. 1991a, 43).

This suggests that the reliability dimension is most crucial for meeting expectations, and that process dimensions are important for exceeding customer expectations. (Parasuraman et al. 1991a, 43).

Parasurman et al. (1991a) and Zeithaml et al.'s (1993) research developed a cohesive understanding of the role of customer expectations as a part of service quality, although they were unable to determine what antecedents carried more weight than others

(Zeithaml et al. 1993, 11). Therefore, it is important to note that ultimately customer expectation models are theoretical and have their limitations. Nevertheless, their findings have proven widely influential. The findings of several researchers concurring with Parasuraman et al. (1991a) and Zeithaml et al.'s (1993) research on customer expectation levels. Therefore, providing further confirmation of the existence of theorized expectation levels, and lending support for Parasuraman et al.'s (1991a, 47) conclusions that falling into the range of tolerance in customer expectation fulfilment is sufficient for gaining a competitive advantage and developing lasting customer relationships. Rust, Inman, Jia and Zahorik (1999) found that customer expectations do not necessarily need to be exceeded unless customer delight is set as the bar of success. In fact, meeting customer expectations exactly is sufficient to retain customers and build lasting customer relationships; even slightly falling short of customer expectations would appear to be acceptable and sufficient for building a deeper relationship. (Rust et al. 1999, 88-89). Yap and Sweeney (2007, 137) in turn found that exceeding adequate service expectations is sufficient, proposing that exceeding desired expectations nor delighting customers is necessary. Nonetheless, Parasuraman et al. (1991a, 47) stressed that in order to achieve true customer loyalty businesses should strive to exceed desired expectations.

The findings of Parasurman et al. (1991a) and Zeithaml et al.'s (1993) research have several implications for the analysis of the empirical part of this study: 1) Antecedents of customer expectations further clarify what type of consumer evaluations are evidence of disconfirmation. 2) The zone of tolerance can potentially be used to explain why some dimensions are associated with dissatisfaction, while others are associated with satisfaction.

2.3 Service quality dimensions

The disconfirmation approach has given birth to two schools based on the work of Grönroos (1984) and Parasuraman et al. (1985, 1988), the Nordic and US model respectively. (Santos 2003, 234). Grönroos (1984) as Parasuraman et al. (1985) were major proponents and pioneers of the disconfirmation approach to service quality management. They proposed that consumer's service quality perceptions are formed by service expectations and service perceptions. Grönroos's (1984) model was made up of three overall dimensions: *technical quality, functional quality,* and *image*. In Grönroos's (1984) model *technical quality* can be described as what the customer receives from the service encounter, whereas *functional quality* is the service process itself. These two dimensions in turn contribute to the third-dimension *image* by forming customer expectations. Grönroos (1984) points out that *image* is influenced by external factors, such as advertising and word-of

mouth as well, although less than it is by *technical* or *functional quality.* (Grönroos 1984, 38-40).

Whereas Grönroos's (1984) model was relatively simplistic, Parasuraman et al. (1985) wanted to develop a comprehensive form of service quality measurement, which led to the development of SERVQUAL. SERVQUAL delved deeper into the antecedents of services, and what managers should focus on in order to meet service quality standards. SERVQUAL was originally comprised of 10 dimensions: *reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding,* and *tangibles* (Parasuraman et al. 1985, 47).

Table 2 10 Dimensions of SERVQUAL (Parasuraman et al. 1985, 47).

Dimension	Definition
Reliability	The consistency and dependability of a service.
Responsiveness	The timeliness of service delivery by service staff.
Competence	The staff's level of skill in performing the task required by the service.
Courtesy	The overall consideration and politeness at the point of contact during service delivery.
Access	The ease of access to the service.
Communication	The proper use of language during service delivery. For example, proper communication of service attributes.
Credibility	The service provider's trustworthiness.
Security	The customer's security and safety from be that physical, financial or some other type of risk or harm.
Understanding	The service provider's efforts in trying to understand the needs of their customers, provide individualized attention, and recognize regular customers.
Tangibles	The physical service environment. For example, the appearance of staff and facilities.

These dimensions were later refined into five dimensions: *responsiveness, reliability, assurance, empathy,* and *tangibles*. In the five-dimension iteration of SERVQUAL the dimensions of *responsiveness, reliability,* and *tangibles* are original dimensions; whereas *assurance* and *empathy* are combined dimensions, which merge seven original dimen-

sions: *competence, courtesy, access, communication, credibility, security*, and *understanding*. *Assurance* can be described as the dimension that measures the staff's ability to convey trust, knowledge, and confidence to the customer during the service encounter. *Empathy* in turn can be described as the ability of the service provider to provide individual service and to convey a genuine sense of caring to the customer. (Parasuraman et al. 1988, 23).

SERVQUAL has been one of the dominant service quality measurement and management scales for nearly three decades. However, the SERVQUAL model has faced harsh criticism since conceptualization and questions remain as to the face and construct validity of the model (Buttle 1996, 24-26; Cronin & Taylor 1992, 64; 1994, 129; Teas 1993, 30-31). Although Parasuraman et al. (1994) have responded to this criticism and addressed some concerns relating to SERVQUAL. Nevertheless, despite criticism the SERVQUAL model remains one of the most widely adopted service quality measurement scales. Moreover, researchers such as Rust and Zahorik (1993, 200) see it as an integral part of the service quality management toolkit.

2.3.1 Online service quality dimensions

Research on service quality dimensions of traditional services is extensive. However, the current research setting, covered in more detail in chapter 3, is neither a face-to-face service nor an e-service in the traditional sense. MMORPGs are best described as small virtual worlds – worlds with populations, economies, even professions. Thus, they are a unique service setting, which can pose challenges and traits not anticipated by traditional service literature. Nevertheless, existing literature on MMORPG service quality is scant and has either overly emphasized the technical aspects of MMORPGs, adapting SERVQUAL (Yang, Wu & Wang 2009), or only loosely tied to extant service quality literature (Chang, Zhu & Wang 2011). This is despite a clear need to customize existing service quality scales for MMORPGs (Seo & Guo 2014). Therefore, examining how services differ in an online setting by reviewing extant literature as regards online services will hopefully yield insight into developing a new framework.

However, research on online services, often referred to as e-services, is not as diverse or extensive as research on traditional offline services. Therefore, gaps in the field of online service quality research remain. Furthermore, despite the development of numerous frameworks for measuring online service quality, the large majority of extant research has focused on an e-commerce setting: on researching service quality in online retail and web-services. There has been little focus on online services, which are constructed through peer-to-peer interaction. This type of service is often referred to as a virtual com-

munity service. (Valtakoski, Peltonen & Laine 2013, 16-17). Therefore, no single framework fits the needs of this study. However, an understanding of extant online service quality literature can be used to help identify core dimensions of online services, which could be of importance in the current research setting. Thus, placing particular interest in the core principles of the different measurement scales when evaluate online service quality frameworks. Therefore, a quick overview of extant e-service quality research is provided.

Online service quality research

E-services differ from traditional services largely in terms of service delivery. There is no physical place such as an office where the service takes places, and thus there are no tangible aspects to service delivery in a traditional sense. Therefore, some researchers have found the five service quality dimensions proposed by Parasuraman et al. (1988, 25) in SERVQUAL to be insufficient as a measure of e-service quality (e-SQ), determining that e-services merit their own measurement scale (Parasuraman et al. 2005). This is primarily because traditional measurement scales focus on customer-employee interaction without addressing a customer-website interaction scenario (Yang, Jun and Peterson 2004, 1151). Research on e-SQ has primarily focused on two areas of e-services: those of online retail and web services, emphasizing either the purchasing process or website design in determining e-SQ respectively (Cristobal 2007, 319).

For measurement of online retailing quality Zeithaml et al. (2000) proposed the 11-dimension e-SERVQUAL scale, which they later refined into E-S-QUAL and E-RecsQUAL. E-S-QUAL is for standard service encounters, whereas the in conjunction developed E-RecS-QUAL is for the measurement of non-routine service encounters as regards e-service recovery. (Parasuraman et al. 2005). In addition to the models proposed by Parasuraman et al. (2005), several researchers have proposed their own e-SQ measurement scales in online retailing, many of which were adapted from SERVQUAL (Cristobal 2007, 321-322): Gefen (2002) proposed a model based on the original dimensions of SERVQUAL; Wolfinbarger and Gilly (2003) created eTailQual; while Cox and Dale (2001), and Madu and Madu (2002) proposed their own measurement scales. On the website design quality side of e-SQ research, researchers proposed their own measurement scales: Yoo and Donthu (2001) created SITEQUAL; Loiacono, Watson and Goodhue (2000) created Webqual™; and Barnes and Vidgen (2002) created Webqual 4.0. Note Webqual 4.0 has distinct dimensions compared to the dimensions of Webqual™. (Cristobal 2007, 319). See Table 3 for details.

Table 3 Online service quality measurement scales

Author(s)	Dimensions
Doll and Torkzadeh (1988); Doll, Hendrickson and Collins (1994)	*Content, Accuracy, Format, Ease of use, Timeliness.*
Liu and Arnett (2000)	*Information and service quality, System use, Playfulness, System design quality*
WebqualTM Loiacono, Watson and Goodhue (2000)	*Informational fit-to-task. Tailored communications, Trust, Response time, Ease of understanding, Intuitive operations, Visual appeal, Innovativeness, Emotional appeal, Consistent image, On-line completeness, Relative advantage.*
e-SERVQUAL Zeithaml et al. (2000)	*Reliability, Responsiveness, Access, Flexibility, Ease of navigation, Efficiency, Assurance/trust, Security/privacy, Price knowledge, Site aesthetics, Customization/personalization*
Cox and Dale (2001)	*Website appearance, Communication, Accessibility, Credibility, Understanding, Availability*
SITEQUAL Yoo and Donthu (2001)	*Ease of use, Aesthetic design, Processing speed, Security*
Webqual 4.0 Barnes and Vidgen (2002)	*Usability, Information, Service interaction*
Gefen (2002)	*Tangibles, Responsiveness/reliability/assurance, Empathy*
eTailQual Wolfinbarger and Gilly (2003)	*Fulfillment/reliability, Website design, Customer service, Security/privacy*
Madu and Madu (2004)	*Performance, Features, Structure, Aesthetics, Reliability, Storage Capacity, Serviceability, Security and system integrity, Trust, Responsiveness, Product/service differentiation and customization, Web store policies, Reputation, Assurance, Empathy*
Yang and Fang (2004)	*Responsiveness, Reliability, Ease of use, Competence, Access, System reliability, Timeliness, Security, Content, Courtesy, Service Portfolio, Continuous improvement, Communication, Aesthetic, Credibility, System flexibility*
Lee and Lin (2005)	*Website design, Reliability, Responsiveness, Trust, Personalization*
E-S-QUAL Parasuraman et al. (2005) E-RecS-QUAL Parasuraman et al. (2005)	*Efficiency, Fulfillment, System availability, Privacy* *Responsiveness, Compensation, Contact*
Yang, Cai, Zhou and Zhou (2005)	*Usability, Usefulness, Adequacy of information, Accessibility, Interaction*
Cristobal et al. (2007)	*Website design, Customer service, Assurance, Order management*

Table 3 shows that the various measurement scales, despite differences in nuance and number of dimensions, measure many of the same service aspects. This highlights their importance but also shows that the core principles offered by SERVQUAL remain. Here it is important to note, dimensions that may at first glance appear to differ from one another when comparing models are in fact the same. For example, *responsiveness* and *assurance,* core dimensions of SERVQUAL, are exhibited in many of the scales in Table 3. However, in some scales they are labeled as *customer service, credibility, trust,* and *security/privacy* respectively.

Therefore, based on an overview of existing e-SQ measurement scales in Table 3, the scales are found to support the core principles of SERVQUAL. This supports the notion for use of SERVQUAL in e-SQ measurement despite the fact that it is a measurement scale designed for offline services. Furthermore, the findings of Trocchia and Janda (2003), Zeithaml et al. (2000), and Voss (2003) support this notion. They argue that the gaps model, the theoretical foundation for SERVQUAL remains the correct approach when measuring e-service quality. Voss (2003) found the dimensions of SERVQUAL sufficient for e-SQ measurement. According to Voss (2003) the dimensions require simple reformulation that would better fit the e-service environment, giving a counterargument to SERVQUALs inefficiency in measuring e-SQ. Voss (2003) found that it is important to go to the roots of the SERVQUAL model, comprised of the original 10 dimensions proposed by Parasuraman et al. (1985). He identified that online service quality is governed by the same core principles as traditional services. Therefore, *responsiveness, reliability, assurance*, and *tangibles* each play a role in a customer's online service experience. Nevertheless, *empathy* fulfills a lesser role in online services as there is no human contact involved in the service encounter as there would be in an offline service. (Voss 2003, 102-103). This is mirrored by the great majority of scales in Table 3, the majority of which omit the *empathy* dimension. Parts of the dimension are yet present in the form of the dimensions of *understanding* and *access*. These dimensions were their own individual dimensions in Parasuraman et al.'s (1985) original 10-dimension SERVQUAL model before merging into the *empathy* dimension in Parasuraman et al.'s (1988) later research. Note, *customization* and *personalization* can be viewed as synonyms of *understanding* as they aim to understand and accommodate the needs of customers, fitting Parasuraman et al.'s (1985, 47) definition of *understanding.*

The empirical findings of the scales in Table 3, notwithstanding minor differences, thus bring to the forefront the following dimensions when measuring online service quality: website reliability (*reliability*); the aesthetic design of the site (*tangibles*); site customer service experience (*responsiveness*); site security/privacy, credibility, and communication (*assurance*); the sites ability to fulfill customer needs (*understanding*); and the accessibility of the site (*access*). These dimensions each embody the core principles of the dimensions of SERVQUAL after adjusting them to an e-service setting, particularly

when compared with the original 10-dimension scale. Moreover, these core principles are expected to apply to virtual community services such as MMORPGs as well with appropriate adjustments. Therefore, SERVQUAL is found more appropriate for the research setting in question than already adapted e-SQ scales designed for other industries. It will thus form part of the theoretical foundation for the proposed dimensions of MMORPG service quality in the empirical portion of this study.

Virtual community service dimension model

Nonetheless, the dimensions of SERVQUAL on their own are insufficient to fully capture MMORPGs as a service. This is because unlike traditional online services MMORPGs are heavily reliant on sociability, in other words community interaction (Ang 2010, 593). Valtakoski, Peltonen and Laine (2013) referred to online services built around community interaction as virtual community services or peer-to-peer (P2P) services. Therefore, MMORPGS can be viewed as a type of virtual community service. Virtual community services, in their pure form, are created in their entirety from community interaction. Consumers thus both consume and provide the service. However, virtual community services still have what one could call a traditional service provider, which provides the technical infrastructure that facilitates peer-to-peer interaction and service delivery. Nevertheless, the service provider does not play a role in providing the actual service. (Valtakoski, Peltonen and Laine 2013, 16).

Therefore, Virtual community service research provides further insight into what other dimensions possibly govern MMORPG service quality. Valtakoski, Peltonen and Laine (2013, 17) found existing service quality models too focused on the technical aspects of service quality, limiting their application to virtual community service quality measurement. Therefore, they proposed additional dimensions in order to better encompass the services as a whole, proposing that virtual community service quality is comprised of *information quality*, *system quality,* and *service quality*, as seen in Figure 3.

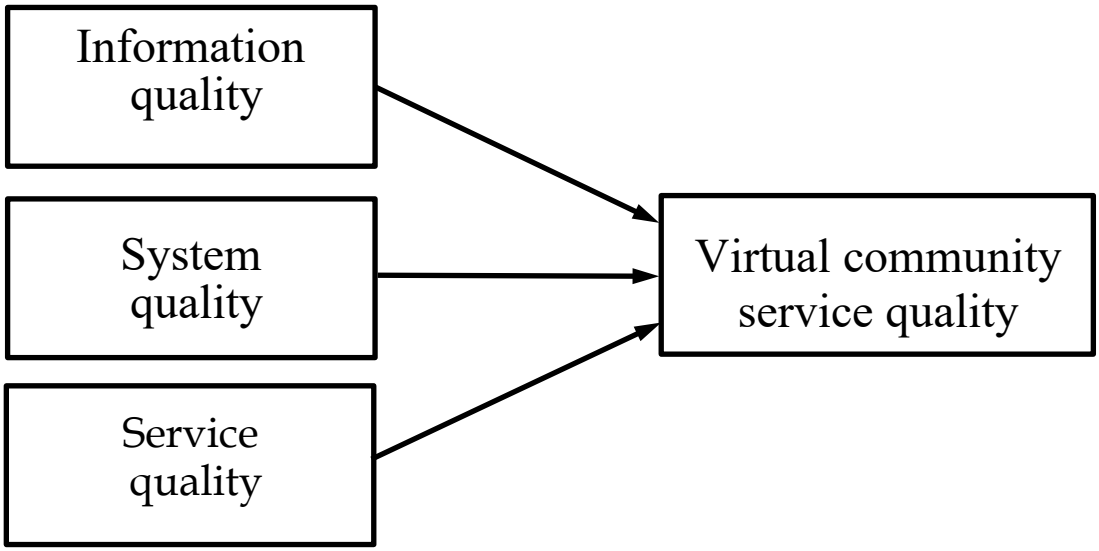

Figure 3 Dimensions of virtual community services as proposed by Valtakoski et al. (2013, 19)

Information quality refers to the quality of service content provided by community members; *system quality* is the quality of facilitation of peer-to-peer communication; and *service quality* of the peer-to-peer service is the quality of the interaction between peers as measured by the dimensions of Parasuraman et al.'s (1988) SERVQUAL. However, Valtakoski et al.'s (2013) proposed model emphasizes peer-to-peer interaction as the sole form of service delivery. In comparison, MMORPGs as a service are equally reliant on traditional service delivery aspects, because they are highly dependent on service content and mechanics, and the service provider still retains a high level of control in terms of service delivery, see 3.1. Therefore, it is important to note that MMORPGs do not perfectly fit Valtakoski et al.'s (2013, 17) definition of virtual community services for these reasons:

> *"Activities carried out by community members for the benefit of other community members" (Valtakoski et al. 2013, 17)*

Valtakoski et al. (2013, 19-20) themselves state that a limitation of their model is that it may not be applicable to other forms of virtual community services. Nevertheless, their model provides additional dimensions to consider in addition to the dimensions of SERVQUAL.

2.3.2 Service quality dimensions proposed by service quality literature review for this study

Based on the literature review thus far certain key dimensions have been identified. SERVQUAL offers the dimensions of *tangibles, responsiveness, reliability, assurance,* and *empathy*. Nevertheless, certain aspects of the *empathy* dimension are more distinct in an online environment than others because unlike in offline services customers do not have a face-to-face encounter with another human being providing the service. Therefore, *empathy* does not appear to exist in the online environment in the same way it does in offline services. Dimensions merged into the *empathy* dimension from Parasuraman et al,'s (1985) original 10-dimension model are yet present, those of *access* and *understanding*, which will substitute the *empathy* dimension. Furthermore, because MMORPGs do not accommodate individualized service elements of *understanding* or *access,* such as office hours or locations, these dimensions will be adapted. *Understanding* will thus be narrowed to general perceptions of the service provider's understanding or attempt to understand and fulfill customer needs. *Access* will be viewed in terms of ease of access to the service such as system requirements, and receiving the service such as purchase process. Additionally, the *assurance* dimension will be split into *trust* and *security* dimensions. This is done to differentiate between trust in the service provider and the technical handling of security infrastructure. Whereas in offline services the two have been intertwined, in online services the two are far more distinct. This is because in online services information security is determined by security infrastructure more so than the trustworthiness of the service provider. Several E-SQ researchers have done the same, as seen in Table 3, including Parasuraman et al. (2005, 219).

Valtakoski et al.'s (2013) model in turn offers additional dimensions necessary for evaluating service quality of virtual community services. Although the dimensions of *information quality, system quality,* and (community) *service quality* proposed by Valtakoski et al.'s (2013) model do not necessarily perfectly fit MMORPGs they add additional dimensions to consider. Therefore, currently a 10-dimension model can be proposed, as seen in Table 4.

Table 4 Identified service quality dimensions for this study based on chapter 2

Dimension	Definition
Information quality	Service content.
System quality	Facilitation of peer-to-peer interaction.
(community) *Service quality*	Quality of peer-to-peer interaction.
Tangibles	Visual and auditory experience.
Reliability	Reliability of the service: prevalence of errors and stable performance.
Responsiveness	Responsiveness and quality of customer service.
Trust	Service provider credibility and ability to accurately communicate service pertinent information.
Security	Security of players' personal and financial information, and game data.
Access	Accessibility of service: system requirements, and purchase process.
Understanding	Service providers understanding and attempt to understand and fulfill customer needs.

Each dimension should be viewed in the MMORPG context. Therefore, they have been adapted to better fit the MMORPG service setting. However, certain dimensions are left loosely defined as further review of MMORPGs is necessary to better understand them in the service context. Therefore, in chapter 3 a better understanding of MMORPGs will be developed after which these dimensions will be re-evaluated.

3 MMORPGS AS A SERVICE

Chapter 2 provided a service dimension framework based on extant service quality and e-SQ research. Nevertheless, MMORPGs as virtual community services are in many ways unique compared to traditional offline and online services, even when compared to other virtual community services. Virtual community services in general are any type of service where consumers are both the consumer and service provider, and they can exist for a variety of purposes ranging from collaboration and information sharing to gaming and C2C retailing (Valtakoski et al. 2013, 15). Simpler forms of virtual community services can be fit into the model by Valtakoski et al. (2013), where service quality is determined by *information quality*, *system quality,* and (community) *service quality*. Nevertheless, MMORPGs are in many ways both a peer-to-peer and service provider controlled service. Therefore, providing a successful service experience for customers, and maximizing service quality, requires taking into consideration the service dimensions of both the peer-to-peer elements of the service as well as the dimensions associated with the functional elements of the service. The framework built in chapter 2 should thus be expanded. First and foremost, any proposed MMORPG service quality model must account for peer-to-peer interaction quality and its facilitation, in addition to considering traditional service provider managed service aspects. Furthermore, developing a holistic understanding of underlying player needs and how to take them into account in game design should be considered. This chapter will thus delve deeper into the research setting and the elements of MMORPGs that make them unique. The goal of which is to propose and refine dimensions in a way not accounted for by current service quality literature.

Nevertheless, research literature on video games is far from extensive, although MMORPGs have garnered particular interest in the fields of information and communications technology, and psychology, because of their unique characteristics as a form of online game. Therefore, insight is hoped to be gained by reviewing literature on MMORPGs across multiple disciplines, supplementing extant business research with those of psychology and information technology.

3.1 MMORPGs

MMORPGs are vast virtual environments where tens of thousands of players can interact with one another. These players assume character roles in order to fulfil certain functions in the game environment. These roles can be combat oriented roles: for example, tank, healer, ranged or melee damage dealer, which each have distinct jobs. Tanks for instance, protect other players from damage in the game. These roles can also be further divided into subcategories depending on the game. For instance, in World of Warcraft tanks can

be paladins, warriors, druids, death knights, or monks. Players assume these roles in order to surpass rewarding challenges, which are not possible to be overcome alone. These challenges thus provide an incentive for players to group together and collaborate. Grouping is a temporary form of collaboration, whereas players may also form persistent communities, commonly called guilds. Players form these communities in order to face particularly difficult challenges, which due to their high degree of difficulty require planning and persistence. Players then adventure with these groups and pursue avenues of character advancement. In addition to combat roles, MMORPGs also have none combat roles. These secondary roles, often referred to as professions, enable players to provide other players with virtual goods. These goods are then traded in a virtual market place for in game currency. Secondary roles also offer alternate forms of character advancement alongside traditional combat roles. Therefore, they appeal to players who are not necessarily interested in the combat aspects of the game. (Yee 2006a, 3-6).

In addition to character roles, players also choose a race for their character (Yee 2006a, 3-6), which determines the outward appearance of the character and often a set of unique traits attached to a race. The choice of race may also affect your faction in the game and or limit your role choices. For example, in World of Warcraft players can choose from a variety of races, but your chosen race will determine your faction: alliance or horde. Human, dwarf, night elf, draenei, and gnome are alliance races; whereas orc, troll, undead, blood elf, and goblin are horde races. Factions can play a prominent role in MMORPGs because they provide an antagonist to rally against. This leads to forms of player collaboration through player-vs-player (PVP) activities (Christou, Law, Zaphiris & Ang 2013, 730).

Therefore, MMORPGs provide various avenues for player interaction, to the extent that MMORPGs are the only games where players' virtual activities mimic those of the real world. This develops social bonds and levels of interaction rarely displayed in other game forms. Furthermore, player time investment is high. The average player spends around the equivalent of an entire day, 24 hours, per week in their favorite MMORPG (Yee 2006a, 10; Griffiths, Davies & Chappell 2004a, 486). This time investment is higher than in other video game forms, but also provides higher levels of enjoyment (Smyth 2007, 717). Moreover, high player time investment leads players to form emotional bonds to both their characters and the communities they are part of. Players are thus emotionally invested in the MMORPGs they play. (Yee 2006a, 10-12). Therefore, social interaction is a core part of MMORPGs, where many core functions are tied to player interaction.

3.1.1 MMORPG sociability

What defines and sets online games aside from other services is that they cannot be experienced in a meaningful way without player interaction. MMORPGs are probably the best example of this fact. (Ang & Zaphiris 2010, 593). MMORPGs are distinguished by sociability (Christou et al. 2013, 724). This sociability leads players to form communities and influences their behavior; leading players to feel a sense of community, but even more so tribal forms of behavior according to Badrinarayanan, Sierra and Taute (2014, 853). What Badrinarayanan et al. (2014, 853) referred to as brand tribalism. This differs from other forms of games as the level of player interaction with other players is far more pronounced with complex dynamics and social interactions (Ang, Zaphiris & Mahmood 2007, 167). Players thus have their own role within the complex social structures of the virtual communities they are part of. This role can take several forms stemming from the motivations for social interaction.

Ang and Zaphiris (2010, 608-610) assigned these roles into blocks based on the level of social interconnection players experienced in their role: core, semi-periphery, and periphery. Core players are players who are experienced players providing other players assistance, managing guilds and groups. Core players can be further divided into those who help and develop communities (guilds), and those who are focused on providing a good community atmosphere. Semi-periphery players are those who both help but also ask and need help from others. Periphery players are those whose primary goal is to receive help or consume community resources without reciprocating. Periphery players can be further divided into 'newbie players' who are new to the game and assume this role because of lack of experience, and freeloaders who despite experience choose this role. From a game design standpoint periphery players are the least desirable role for players to adopt. Therefore, appropriate design for incentivizing the other two player roles is recommended. (Ang & Zaphiris 2010, 608-610).

The importance of game design accounting for facilitation of these social structures is thus essential. Christou et al. (2013) identified six requirements for facilitation of social interaction in MMORPGs: *in-game communication, off-game communication, empathy, grouping and rewards, world design,* and *designed relationships*. In this framework, these requirements can be described as such: *In-game communication* is sociability that takes place in game be that through chat or another medium and is either short or long term such as grouping, which may be persistent or ad-hoc. *Off-game communication* is the support of in-game sociability with structures and artifacts, such as wikis and forums. *Empathy* in this context refers to sociability via creating structures, which lead players to rally together against a common enemy. For example, the previously mentioned player-vs-player content. Players thus empathize with their fellow community members, whereas the enemy community is the antagonist. For example, World of Warcraft is a game where

the player community is divided into the Alliance and the Horde, which are foes. The lore and game design of World of Warcraft facilitate this by providing a story as to why the other is the enemy and providing a means by which to fight against this foe. *Grouping and rewards* is facilitation of sociability through incentivizing players to socialize. This most commonly takes the form of offering players challenges, which can only be surpassed as a group. These challenges can for instance, take the form of dungeons and raids[2], which provide players with rewards that would otherwise be unattainable or far more difficult to get. (Christou et al. 2013, 724-734). Although players have a fun experience during solo play or situations with low interdependency with other players, which emphasize a sense of one's own achievement, players experience even higher levels of enjoyment in high-interdependency situations. For example, when overcoming said challenges, where a collective sense of achievement is experienced. (Choi, Lee, Choi & Kim 2007, 594). *World design* is the facilitation of sociability by placing players with a similar level of experience with the game in the same zone of the game world. For instance, starting and leveling zones for certain level ranges. *Designed relationships* is facilitating sociability by designing the game to encourage player interaction through a degree of player interdependence. For example, MMORPG game economies are run based on this principle because the majority of virtual goods available are bought and sold by players. Nevertheless, Christou et al. (2013) emphasize that whereas *designed relationships* should promote player interaction by making playing more productive, it should not be forced because players may desire a solo play experience at times. (Christou et al. 2013, 724-734).

Moon, Hossain, Sanders, Garrity and Jo (2013) and Teng, Chen, Chen and Li (2012, 489) also identified the importance of enhancing socialization in MMORPGs in their respective papers on MMORPG player commitment and online player loyalty. Moon et al. (2013) identified that enhancing socialization is one of two key strategies developers should employ to improve customer loyalty. The other key strategy to enhance ownership, which emphasizes game design choices that give players a sense of character ownership. See 3.1.2. Teng et al. (2012, 489) identified that player loyalty can be increased by designing sufficiently challenging games that incentive player interaction, in the form of player interdependence. Moon et al.'s (2013, 25-27) and Teng et al.'s (2012, 489) findings thus concur with those of Christou et al. (2013). Moon et al. (2013) identify many of the very same requirements identified by Christou et al. (2013), placing particular emphasis on enhancing social interaction in MMORPGs. They identified the same elements Christou et al. (2013) categorized as *in-game communication, empathy, grouping and rewards,* and *designed relationships.*

[2] Dungeons and raids are party encounters where (3-5 dungeons) (10-25 raids) players engage in a player-vs-environment encounter in the form of progressing through the instance and defeating bosses.

Whereas many researchers have focused on the facilitation of social interaction, Yee (2006a, 15-17) went further in his research on the social interaction of players, exploring the nature of relationships in MMORPGs and how they are formed. He in fact identified that a large portion of MMORPG players (39,4% male and 53,3% female) feel that the bonds they make with other players are actually equivalent if not better than those they make in the material world. Many players had even formed romantic relationships in-game, which led to a physical relationship. Therefore, social interaction in MMORPGs is far more profound than one might expect; giving further evidence in support of the importance of sociability. (Yee 2006a, 15-17)

Player sociability leads to larger social constructs in the form of online communities. Badrinarayanan et al. (2014) and Badrinarayana, Sierra and Martin (2015) studied the role of online communities in MMORPGs. They identified that not only are MMORPGs socially driven, MMORPG communities transcend traditional online and brand communities. The depth of social interaction is thus comparatively more profound. This is a result of MMORPG communities shaping the consumption behaviors of their members because players have intrinsic social roles in these communities. Therefore, they are more inclined to purchase virtual goods, recruit players, and engage in word-of-mouth because of the community they belong to. In addition, identification with a community increases player commitment to an MMORPG because identification with MMORPG communities is tied to player's identification with an MMORPG. Nevertheless, this is also applicable vice versa. The game environment and characteristics of a game shape player identification with the game, and this in turn determines the degree of identification with the game community. (Badrinarayanan et al. 2014, 864-865; 2015, 1050-1051). The findings by Badrinarayanan et al. (2014, 864-865; 2015, 1050-1051) thus add to that of other researchers by suggesting that identification with the game community shapes consumption and player behavior. Their findings support the idea that MMORPG communities are a form of brand community. Brand communities have three common principles: shared consciousness, rituals and traditions, and obligations toward the community and its members, all of which are displayed by MMORPGs (Badrinarayanan et al. 2015, 1050-1051). This suggests that sociability is not only important in regard to player MMORPG service experience but in fact player consumption intentions and brand commitment as well.

3.1.2 MMORPG game design

Whereas facilitating sociability is one of the driving components of MMORPGs, other components should not be overlooked. Overall game design is essential for providing positive service quality experiences and positive customer attitudes. Choi and Kim (2004) researched the importance of game design in building customer loyalty in online games.

Their findings identified two critical elements for increasing player logon time and resulting player loyalty: successful player interaction with the system, and successful social interaction with other players. (Choi & Kim 2004, 11). Successful interaction with the system refers to the game offering, which consists of *proper goals, operators,* and *feedback*. *Proper goals* are for example, stories and achievements; *operators* are for example, characters with abilities with which players can hope to reach said goals; and *feedback* is for example, appropriately rewarding players for achieving said goals. Successful social interaction refers to facilitation of sociability through visual cue, adding additional communication elements to consider in addition to those discussed earlier. Successful social interaction is comprised of *communication place* and *communication tools*. *Communication place* is for example, providing players with visual cues for communication and means of identifying players from non-player characters (NPCs). *Communication tools* are for example, providing players ways to categorize themselves based on gender and occupation, to differentiate themselves from other players. (Choi & Kim 2004, 19-22).

Song and Lee (2007, 719) and Wu, Li and Rao (2008, 226-227) focused more on specific game design elements. Both researchers paid particular attention to system interaction elements, identifying several crucial game design elements for player enjoyment. These elements were categorized by Song and Lee (2007, 719) as *game interface, game play, game narrative,* and *game mechanics.* Wu, Li and Rao (2008, 226-227) in turn categorized them as *game story, graphics, length,* and *control.* Both researchers emphasized that games should have engaging content and storylines with length and replay value that promote player interaction, while providing a sufficient challenge and appropriate rewards. Furthermore, games should have vivid worlds that sufficiently resemble the real world. Games should also have intuitive mechanics, which provide players with feedback and grant players sufficient control of the game environment. All these design elements are ones which players associate with enjoyment. (Song & Lee 2007, 719; Wu, Li & Rao 2008, 226-227).

Jung, Kim and Lee (2014) looked at how specific game design elements affect user attitudes in regard to how well they meet player needs and expectations. They found that *perceived service*[3] *innovation, technological capability, service capability,* and *user-centered design* affect player attitudes toward a game; where *perceived service innovativeness* is determined by *technological capability* and *service capability*. According to Jung et al. (2014, 2172-2173) they are important because perceived desirable innovations such as intuitiveness will produce positive player attitudes. Consequently, the further a service, in this case an MMORPG, can push the boundaries of current technology the more *technologically capable* it is. Therefore, in order to remain *technologically capable,* a service's degree of utilization of current technology should increase over time as should the

[3] Jung, Kim and Lee (2014) used the term 'product' in their paper but in order avoid confusion the term 'service' will be used instead because of equivalent meaning in this context.

technological complexity of the service. *Service capability*, customer perceptions of the degree to which it is capable of meeting their needs, is in turn a determining factor of player perceptions of the fun and value of the MMORPG. *User-centered design*, the games design choices, such as interface and character design, displaying developer understanding of player needs. (Jung et al. 2014, 2172-2173).

According to Jung et al. (2014, 2176*) technological capability* and *service capability* have the most impact on *perceived service innovativeness*. What this signifies, in the case of MMORPGs, in regard to *technological capability* is that game user interface design should develop as technology develops. Games should thus offer differentiation in terms of user design and developers should attempt to improve interface intuitiveness. Therefore, what may have worked before in terms of interface design will not necessarily do so in the future, because players expect a degree of innovativeness as regards *technological capability*. However, Jung et al. (2014, 2176) emphasized the importance of the role of *service capability* in user perceptions of *service innovativeness* over *technological capability*. They identified that *service capability* in MMORPGs was of more importance than *technological capability* in affecting player evaluations of *perceived innovativeness*.

Therefore, in the case of MMORPGs content innovation is of high importance. Based on which player satisfaction can be maximized only by providing creative and meaningful storylines. In addition, the findings of Jung et al. (2014, 2177) emphasize the general importance of good game design because they identified that *user-centered design* plays a prominent role in shaping player attitudes toward a game. Each component of the game thus plays a role in shaping a player's affection or lack thereof for a game: for example, character roles, items, maps, music, dungeons, and player-vs-player options. (Jung et al. 2014, 2176-2177). Many of these items once again display the importance of facilitating sociability through game design.

Moon et al. (2013, 24-25) identified many of the same characteristics discussed by Jung et al. (2014), Song and Lee (2007, 719), and Wu, Li and Rao (2008, 226-227), in their second key strategy for player retention, which underlines enhancing ownership. Ownership in the MMORPG context refers to a player's psychological ownership of their character. This involves a degree of control over their character and game environment, which should be accounted for in game design; stressing the importance of engaging *storylines* and *user-centered design*. According to Moon et al. (2013, 24-25) this involves *character balancing*, *technical components* that both increase player immersion and dynamic social experiences, along with certain *story* and *content design* factors developers should take into consideration.

Character balancing is important in order to put players on an equal playing field so that in a player-vs-player scenario your choice of class does not determine victory. In turn *technical components* can both be used to provide more immersive and dynamic social experiences, because by improving MMORPG fidelity through greater graphical detail

and ability to mimic real-world physics players will become more immersed in the game. This combined with creative design improvements will allow players to better customize their avatars to fit their personalities and preferences. Furthermore, developers should provide *content* that leads to player collaboration. For example, in the form of large scale battles, which create shared community norms in the process; and *storylines*, which can be influenced by player actions, and thus give players a better sense of control. (Moon et al. 2013, 24-25). Therefore, proper *content* and *story design* combined with the proper *technical components* can be used to enhance player collaboration and personal communication; providing a more dynamic social experience.

Nevertheless, although certain design choices can be made based on these game design elements and their relative importance, there are also moderating factors that should be taken into consideration. Moderating factors such as demographics, playtime, player experience, and life situation because they influence the hierarchical importance of certain elements over others. Jung et al. (2014, 2176-2177) analyzed the importance of playtime on player intentions to play. They identified that depending on how much a player played MMORPGs the hierarchical importance of the components they identified slightly shifted. Players who play less value the *technological capability* of the game, whereas players who play extensively value *perceived service innovation* and *user-centered design*. This highlights the fact that players are not a homogenous group and that players can be categorized into many segments, each with slightly differing needs as consumers.

3.1.3 Player types and player motivations

Therefore, players do not all fit the same mold and depending on demographics and life stage players may have differing needs regarding service design. Nevertheless, it should be noted that this thesis is unable to account for these differences between players due to methodological constraints. However, an overview should give insight as to why player evaluations of the games included in the empirical part of this study could differ greatly.

The stereotypical view of gamers as adolescent gamers with poor social skill is far from the truth (Williams, Yee & Caplan 2008, 995). The majority of players are in fact adults between the ages 18–30 with the average player age 28 and a relatively large portion of the player base female (19%). Furthermore, a large portion of players are well educated with 42% of players higher educated and 20% of player's college or graduate students. (Griffiths et al. 2004a, 485).

One of the earliest researchers of player types is Bartle (1996). Bartle's (1996) model of player types, MUDs as he called them, is a well-known and often used means of categorizing players according to their motivations. In Bartle's (1996) model players are categorized into *achievers, explorers, socializers,* or *killers*, as displayed in Table 5.

Table 5 Bartle's (1996) player archetypes

Archetype	Definition
Achievers	*Achievers* desire to control the game and immerse themselves in the experience more so than interact with other players.
Explorers	*Explorers* desire lively worlds they can explore and interact with.
Socializers	*Socializers* desire to interact with other players and collaborate, making friends in the process.
Killers	*Killers* desire to act on other players to show their superiority e.g. PVP. They wish to dominate players more so than collaborate with them.

These archetypes display what he viewed as the underlying motivating factors for why different types of players play video games. Nevertheless, these categorizations are based on assumptions and have not undergone empirical testing (Yee 2006b, 772).

Yee (2006b) explored motivations for playing online games by qualitatively testing the model proposed by Bartle (1996), which he researched empirically in MMORPGs. He identified 10 components that determine player motivation for playing online games, which he divided into three categories: *achievement, social,* and *immersion*. *Achievement* motives are *advancement*, *mechanics,* and *competition*; *social* motives are *socializing, relationships,* and *teamwork*; and *immersion* motives are *discovery, role-playing, customization,* and *escapism*. Yee (2006b, 774) suggests that simplistic player archetypes such as those proposed by Bartle (1996) do not accurately depict the complex nature of player motivations. Furthermore, Yee (2006b, 774) concluded that player motivations do not exclude one another. Players can be motivated by different types of motivations without one motivating factor affecting the other.

However, whereas fitting players into distinct archetypes is a poor method of categorization, player motivations can greatly differ. The motives of one player do not necessarily reflect those of another (Yee 2006b, 774), which also relates to why developers include alternate forms of advancement in their games. One of the clearest differentiators for player motives is demographic: gender and age. Yee (2006b, 774) identified that men tend to be far more motivated by *achievement* components, whereas women are motivated by the *relationship* subcomponent. Women play games to achieve a level of immersion and experience fantasy in order to gain release from their day to day lives. Yet, men are equally motivated by the *social* component, but more so by the *socializing* subcomponent. (Yee 2006b, 774). Lin, Lin and Jhan (2015, 30-31) identified similar findings regarding the social behavior of men and women. While socializing was important for both genders men preferred making casual acquaintances in MMORPGs, whereas women preferred

playing with friends. Lin et al. (2015, 30-31) also identified other distinct differences in the motivating factors of MMORPGs between men and women. They identified that men are more flexible than women regarding the use of complicated interfaces although men also prefer simpler interface design. Furthermore, men desire roleplaying experiences that deviate greatly from reality, whereas women prefer cute audiovisual experiences particularly in regard to character design. Nevertheless, both genders are ultimately equally fulfilled by the online environments of MMORPGs although for different reasons (Yee 2006b, 774; 2006c, 324). However, there is research evidence that age plays an even more prominent role than gender. This is in part because most players under the age of 18 are male. Furthermore, younger players tend to play more than their older counterparts (Griffiths, Davies and Chappell 2004b, 87). Therefore, to an extent differences between preference in games between men and women can be better explained by the younger average age of male players, than by gender preferences. (Yee 2006b, 774; 2006c, 324).

Yee, Duchenaut, Siao and Nelson (2012) further explored what game activities are preferred by certain demographics. They identified that older players prefer casual activities, such as quests and exploration; casual players prefer quests; women prefer exploration; men, those with children, and young players prefer player-vs-player encounters; male, young, childless, and single players prefer dungeons and raids; and female players, older players, and casual players prefer profession activities. Whereas Yee (2006b; 2006c; 2012) focused on the role of demographics in player motivations; Lin et al. (2015) researched level of education, consumption method, and playtime as well.

Lin et al. (2015, 31) identified that college students are attracted to competitive forms of play, in other words player-vs-player encounters, whereas graduate students prefer cooperative forms of play. Likewise, college students held more value in audiovisual effects than graduate students. On the other hand, their research on the role of consumption method, which in this context refers to the games business model (free-to-play or pay-to-play), showed little difference between the player groups. However, they identified that pay-to-play players are more attracted to competitive multiplayer content, whereas free-to-play players are more interested in general social interaction. Concerning playtime Lin et al. (2015, 31) found that compared to casual players, hardcore players are far more demanding of their fellow players in terms of experience and place more value in complicated interfaces, player advancement, and virtual items. In turn casual players are less interested in virtual items or character advancement but are more inclined to play for fun, place less value in experience, have more interest in audiovisual effects, desire an easy to learn interface, and focus on their solo experience.

3.1.4 Initial dimensions of MMORPGs based on literature review

Extant MMORPG research grants substantial insight into the importance of game design elements, which facilitate sociability and player enjoyment. Nevertheless, researchers from the fields of psychology, and information and communications technology have not considered MMORPGs as a service outside of the core service offering. Whereas the service as a whole includes many additional dimensions, such as service reliability and other crucial service provider roles as those proposed in SERVQUAL.

Chapters 3.1.1 and 3.1.2 underline the importance of sociability and game design in MMORPGs. Although they were treated separately in the form of a literature review, they should be viewed as a whole. Moon et al. (2013) identified that both sociability and game design are core parts of player retention. This echoes the findings of researchers on both MMORPG sociability and game design. Furthermore, a strong link is shown between sociability and game design. Game design should both lead to player collaboration while facilitating interaction with the right tools.

Two clear dimensions of MMORPG service quality have thus risen to the forefront in this part of the literature review: *Game sociability* and *Game design*. These give further perspective as to what dimensions govern MMORPG service quality in addition to the dimensions identified in chapter 2. After careful review the following subdimensions were identified as part of these two dimensions. *Game design* is comprised of *interface, communication tools, character design, mechanics, story,* and *content*; whereas *Game sociability* is comprised of *communication tools, community, empathy, grouping and rewards,* and *designed relationships.* However, as one can see there is some overlap between the two dimensions. Therefore, *communication tools* will be attributed to the *Game design* dimension. Nevertheless, future studies through quantitative testing should identify the proper grouping of this particular subdimension. Therefore, the two dimension are made up of a total of 10 subdimensions. See subdimension definitions in 4.3.2. Note, in addition to the discussed subdimensions certain additional subdimensions were identified, which were not attributed to these dimensions: those of *graphics quality* and *service capability.* They were omitted because these subdimensions are already covered by the SERVQUAL dimensions of *tangibles* and *understanding* respectively. Furthermore, certain subdimensions, such as *world design* and *balancing* have been attributed to *designed relationships* and *character design* respectively.

Nevertheless, certain subdimensions remain ambiguous, *grouping and rewards* and *empathy* to be exact. This is due to the fact that there is significant overlap between the two, as based on their definitions. *Empathy* is defined as ‘rallying against a common enemy’; however, this and ‘grouping to overcome challenges and attain rewards’ the definition of *grouping and rewards* cannot be separated in a meaningful way. Separating the two is difficult because the incentives for rallying against a common enemy are most

likely the challenge of the proposed task and the rewards success entails. However, Christou et al. (2013) emphasize player-vs-environment (PVE) activities in *grouping and rewards* whereas player-vs-player (PVP) activities are emphasized in Moon et al.'s (2013) *empathy.* Therefore, these two subdimensions will be treated as equivalents of one another for PVE and PVP respectively, and will be renamed *Group PVE* and *Group PVP.* Thus, based on the literature reviews of chapters 2 and 3, the following dimensions and subdimensions seen in Table 6 are formed.

Table 6 Initial MMORPG service quality dimensions and subdimensions

Dimension and subdimensions	Definition
Game design • *Interface, Communication tools, Character design, Mechanics, Story, Content*	Quality of player interactions with the game and its contents.
Game sociability • *Community, Group PVE, Group PVP, Designed relationships*	Quality of player interaction with other players, its incentivization, and facilitation.
Tangibles • *Visuals*	The visual experience of the game.
Reliability • *Stability, Bugs*	Reliability of the service: prevalence of errors and stable performance.
Responsiveness • *In-game, Phone, Email/website*	Responsiveness and quality of customer service.
Security • *Privacy, Account security*	Security of players' personal and financial information, and game data.
Access • *Access, Purchase process*	Accessibility of service: system requirements, purchase process.
Trust • *Credibility, Communication*	Service provider credibility and ability to accurately communicate service pertinent information.
Understanding	The Service provider's understanding and attempt to fulfill customer needs.

In Table 6 *Game design* and *Game sociability* replace the dimensions previously known as *information quality, system quality,* and (community) *service quality*, which were introduced in 2.3. Furthermore, the auditory experience subdimension has been eliminated from the *Tangibles* dimension because surprisingly it would not appear to be related with player MMORPG enjoyment according to Wu et al. (2008, 226). This notion is further supported by very limited coverage of the dimension in reviewed literature. However, the dimension is briefly discussed by Jung et al. (2014, 2176-2177) and Lin et al. (2015, 31), although it is not treated discretely but as an element of another component. Therefore, the dimensions definitive standing may need to be determined empirically. Table 7 illustrates these changes.

Table 7 Changes to dimensions from chapter 2.3

Previous dimension	New dimension
System quality	*Game design*
Information quality	*Game sociability*
(community) *Service quality*	
Tangibles: visual and auditory experience	*Tangibles: visual experience*

Game sociability is viewed as an accurate depiction of part of the core MMORPG service offering of player interaction, its quality, and incentivization. This dimension is in essence a combination and extension of *information quality* and (community) *service quality* as viewed in a pure virtual community service. This adjustment was made because based on the literature review peer-to-peer interaction quality and the quality of the constructs built to incentivize it are found inseparable in the MMORPG context. This is because in essence what one could view as peer-to-peer created content as described in Valtakoski et al.'s (2013) *information quality* dimension is co-created by players and these constructs. The *Game design* dimension is in part the equivalent of *system quality* as defined. However, the dimension was renamed to better capture the meaning of MMORPG game design, which goes further than merely technologically facilitating peer-to-peer interaction and in addition includes core constructs necessary for the MMORPG service experience. Note, the framework in Table 6 is preliminary and dimensions are subject to change during coding and the frameworks iteration.

3.2 Electronic Word-of-Mouth

Word-of-Mouth has become a common term in marketing as a driving force in peer-to-peer marketing communication. It is of particular interest to marketers as an information source because there is evidence that word-of-mouth influences consumer purchasing decisions (Hu, Liu & Zhang 2008, 202). This gives argument for the value of anecdotal evidence in service quality research. Nevertheless, average customer review scores are not necessarily an accurate measure of a products true quality because of how reviews tend to divide into overly positive or negative reviews (Hu, Pavlou and Zhang 2006, 329); limiting their usefulness for service quality measurement. However, this type of division highlights the importance of certain attributes to consumers as they relate to satisfaction or dissatisfaction with a product (Yang and Peterson 2002, 31).

The great majority of online interaction can be classified as electronic word-of-mouth or eWOM (Brown et al. 2007, 2), which will be referred to from now on. Every time

someone replies to a question online or one searches for something, in all likelihood eWOM takes place in one form or another. After all, the grand majority of online content is provided by individuals acting on their own behalf. Whereas tradition WOM takes place face-to-face, eWOM takes place through a virtual medium, be that a web browser, app or something else. Nevertheless, an important factor to take into account is that one must know how to use the medium in question for eWOM to reliably take place. (Sun, Youn, Wu & Kuntaporn 2006, 1118).

Electronic word-of-mouth can be defined as positive or negative communication about an entity or product by a former, current, or potential customer. Very often these statements are posted freely available online to be seen by customers and individuals. (Hennig-Thurau et al. 2004, 39). However, this definition has been criticized for not considering that eWOM can come from other sources than consumers, and can be multileveled and information exchange dynamic. Opinions can be transmitted by eWOM in addition to purposefully communicated. (Thorson & Rodgers 2006, 35; Breazeale 2009, 312; Xun & Reynolds 2010, 20-21). However, for the purpose of this thesis even a rigid interpretation of eWOM is sufficient.

The most important characteristic of eWOM is that it makes a level of mass communication possible, which simply could not take place in traditional WOM. Traditionally WOM communication takes place between individuals or small groups. In contrast eWOM communication can take place across a massive population. What is particularly interesting is that the quantity of people receiving messages is vast compared to the ones sending them, where one individual could have thousands even millions of people listening to their opinions. Through eWOM and viral spreading of messages new innovations can also be spread and adopted at an unprecedented rate. (Hennig-Thurau et al. 2004, 39-40; Dimbleby & Burton 1998, 4-6).

Furthermore, communication has evolved from the traditional receiver sender paradigm to one of individuals both sending and receiving information simultaneously, becoming both providers and consumers of electronic information. This has empowered people as a whole and people as consumers, granting them the means to create new meaning through their interaction with one another. This increases the amount of information people both have and can access. (Hennig-Thurau et al. 2004, 40; 42-44). Therefore, consumers have ever eased access to information about goods and services, decreasing the costs involved with finding information (Hung & Li 2007, 487). Consumers have gained access to information from both private individuals and professionals; information which in the eyes of the consumer is far more credible than that provided by the marketer (Bickert & Schindler 2001, 36-37; Silverman 1997, 33). Younger generations in particular, often referred to as digital natives or millennials, look to their peers online when looking for information. They often steer away from official channels managed by marketers because of reservations due to preconceptions. This makes anecdotes such as online public

reviews particularly interesting because player evaluations thus potentially affect the purchasing behavior of prospective customers.

eWOM in online communities

Online communities are important in MMORPGs. Therefore, it is more than likely that through eWOM these communities also play a role in forming player expectations and perceptions. Whereas for the purpose of this thesis further review of eWOM is not essential, a brief overview of what eWOM signifies in online communities and MMORPGs to build some context.

The importance of social interaction in MMORPGs has built intricate webs of online communities, which overlap on different levels. Online communities that form cultures, with their own cultural meanings and artifacts. The importance of these communities impacts how players make purchasing decisions and perceive marketing messages. (Kozinets, Valck, Wojnicki & Wilner 2010, 83; Bitner et al. 2010, 216). Therefore, online communities command trust to the extent that marketing messages can be altered. Marketing messages originally intended as positive by the marketer may even lead to negative forms of WOM communication. This is not necessarily entirely a negative phenomenon for marketers, when balanced with positive communication. However, it requires proper narrative strategy. Particularly when one considers the message amplifying nature of WOM. Nonetheless, marketers must understand the malleability of marketing messages in online communities is cultural by nature. (Kozinets et al. 2010, 74-75). Tying into 2.2.2, this plays part in forming customer expectations because of interpreted promises on part of the consumer. This highlights the importance of marketing narratives in strategically accounting for WOM in marketing messages (Kozinets et al. 2010, 74). In the video game industry it is thus prudent to consider how communications may be interpreted in these communities.

While online communities thus pose challenges for marketers they are also useful for spreading marketing messages. Particularly because online communities are a foundation of the service. Nevertheless, communities in MMORPGs perhaps fulfill an even more crucial role in product adoption than traditional goods/service sectors. This is because as Teng et al. (2012, 496) suggest, player interdependency to one another is possibly greater than player game loyalty. Therefore, interdependency between players is potentially a significant factor in how players choose and evaluate competing services in the MMORPG sector. Therefore, new IPs are faced with the challenge of attracting whole communities not just individual players. This makes it difficult to attract player from competing services, but poses its own challenges for player retention as well.

4 METHODOLOGY

The first three chapters of this thesis took the form of a literature review to develop a better understanding of service quality and MMORPGs; building a framework for MMORPG service quality. The empirical part of this study was then used to evaluate and refine this framework by adopting an inductive qualitative research approach. The goal of which was to develop a better understanding of MMORPG service quality; contributing to extant MMORPG and service quality literature. This chapter will go over the research methodology of this study as well as the data coding and analysis process.

4.1 Qualitative research

Research methodologies can be categorized as either quantitative or qualitative. Quantitative research is deductive, whereas qualitative research is inductive. Deductive research methodologies inherently test a theory based on findings, whereas in inductive research methodologies findings are used to build theory. This study adopted a qualitative approach because extant research on MMORPGs does not provide the tools for holistic quantitative measurement of MMORPG service quality. This is because neither extant service quality nor MMORPG research has taken a holistic approach to understanding MMORPGs as a service. Literature on player motivations, player sociability, and game design have not considered additional service quality elements outside of game design or facilitation of community interaction. This is despite the presence of numerous other supporting structures that form the service whole, which range from data security to customer service. Conversely, service quality researchers have to a great extent ignored MMORPGs all together. Therefore, a qualitative approach is appropriate, in this instance, because the current understanding of the overall make up and possible relative importance of MMORPG service quality dimensions is inadequate.

4.1.1 Netnography

Netnography is a qualitative research method adapted from ethnography, which is ideally suited for studying complex social and cultural phenomena that take place during computer-mediated communications in online communities (Kozinets 2009, 72). Therefore, it was chosen as an appropriate method considering the importance of community-mediated interaction in MMORPGs. Furthermore, netnography offers a noninvasive method for tapping into the player psyche because it relies on publicly available information, which is targeted toward appropriate consumer segments, in this case MMORPG players

*(*Kozinets 2002, 62*)*. Additionally, when compared to more traditional forms of qualitative research, netnography is faster and cheaper to perform while providing a large suitable data sample without the risk of researcher interference (Kozinets 2009, 56; Yang & Fang 2004, 310). This fits the purpose of this study very well. In addition, it makes use of anecdotal evidence, consumer service quality evaluations of MMORPGs, which has not been taken advantage of in extant MMORPG literature.

Netnography can take many forms where the researcher is either participatory or non-participatory and participants in the research are either anonymous or pseudo anonymous. Furthermore, netnography can be combined with many different approaches from descriptive statistics, content analysis, videography, semiotic analysis, and a variety of other research methods. (Kozinets 2009, 60, 70; Sigala 2012, 973). This study took the content analysis approach. Therefore, compared to traditional content analysis underlying meanings can be identified, given extensive researcher interaction with each case MMORPG and their respective communities.

4.1.2 Interviews

In addition to netnography, partially structured theme interviews were conducted with MMORPG players for the purpose of data triangulation. Two interviews were conducted face-to-face in Anaheim, California with players participating in the tenth anniversary BlizzCon, and two interviews were performed via skype. Interview details can be seen in Table 8.

Table 8 Theme interviews

Avatar name	Experience	Date	Format	Duration
Faith	6 Years 4 MMORPGs	November 3, 2016	Face-to-face	00:14:31
Thyachalis	12 Years 10+ MMORPGs	November 3, 2016	Face-to-face	00:42:00
El Bagre	10 Years 4 MMORPGs	December 4, 2016	Skype	00:27:35
Angmoh	7 years 1 MMORPG	December 11, 2016	Skype	00:31:18

Interviewees were asked to read the definitions of dimension included in this study before the interview to avoid possible confusion as to the definition of said dimensions. See Table 10 located at the end of 4.3. This was followed by the interview, which was structured by the interview framework found in Appendix Attachment 1.

4.2 Operationalization of the study

Anecdotal data and interviews were used to empirically operationalize theoretical concepts identified in chapters 2 and 3. Table 9 illustrates how the research questions of this study are linked to theoretical concepts covered in the literature review, and empirically operationalized. Therefore, anecdotes and interviews were used to empirically observe findings in relation to research questions 2 and 3, while research question 1 was addressed based on this studies literature review alone. Anecdotes served as the primary data source for empirical findings, whereas interviews were used to triangulate findings and provide further insight.

Thus, as regards research question 2 anecdotes were analyzed for the inclusion of evaluations associated with a disconfirmation approach to service quality. Anecdotes that displayed that players were evaluating their service experience based on expectations would for example, make comparisons to competing services, past service experiences, and implicit and explicit service promises, per theoretical concepts identified in chapter 2.2. Anecdotes were analyzed for evidence of disconfirmation in order to ascertain whether there is support for the use of a disconfirmation approach in future MMORPG service quality research, and how expectations possibly relate to the distribution of dimensions as regards research question 3.

In regard to research question 3, theoretical concepts identified in chapters 2 and 3 were operationalized to form a coding framework with the goal of determining the service quality dimensions that govern the perceived service quality of MMORPGs. Anecdotes were coded into this framework after which they were analyzed in terms of the distribution of their comments, per service quality dimensions and the role of said dimensions. See 4.3.2 for further information regarding the coding framework and coding process.

Table 9 Operationalization framework

Purpose of the study	Research questions	Theoretical concepts	Empirical constructs for netnographic study	Interview Questions
To develop a better understanding of how consumers evaluate their MMORPG service quality experience.	1) How do MMORPGs differ from traditional offline and online services?	Service quality, e-SQ, Virtual community services, MMORPGs	-	-
	2) Do expectations play a role in player evaluations of MMORPG service quality?	Disconfirmation (P-E) vs. Performance only, The gaps model, Adequate expectations, Zone of tolerance, Desired expectations	Comparisons to competing services, Past service experiences, Service promises	1, 2, 3
	3) What are the service quality dimensions that govern the perceived service quality of MMORPGs?	SERVQUAL, e-SQ, Virtual community services, Game sociability, Game design	Game design, Game infrastructure, Game sociability, Tangibles, Reliability, Responsiveness, Security, Access, Trust, Understanding	4, 5, 6, 7

4.3 Data collection and analysis method

Customer reviews were selected as the form of anecdotal evidence to be collected and analyzed. They were selected as the most appropriate data source for this study because researchers have found that customers' willingness to express their evaluations of their service experience implies that the service elements discussed are relevant to them when evaluating their experience post service (Cadotte & Turgeon 1988; Yang & Peterson 2002, 31). Yang and Peterson (2002, 31) underlined that although reviews more than likely are unable to encompass the entirety of a consumer's product or service experience particularly as regards positive or negative comments, reviews stress the service quality dimensions of most significance to the customer. Furthermore, the use of customer reviews alleviates ethical concern as to the use of data. This is because customer reviews are intended for public consumption in a public forum and authors of reviews are anonymous because posts are submitted under an alias.

Four websites were analyzed in order to find the most suitable data source for the study. These sites were *store.steam.com, amazon.com, metacritic.com,* and *gamespot.com.* The websites were chosen based on the following criteria: They were not owned or affiliated in some way to the games reviewed, and they have a large array of customer reviews of video games. These sites were then evaluated based on the following criteria based on those proposed by Yang and Peterson (2002, 31): Players should be able to review and rate MMORPG games based on their MMORPG experience, players should not be incentivized to provide positive reviews, and players should be urged to provide both negative and positive reviews. Ultimately *metacritic.com* was found to be the most appropriate based on these criteria and because of the scope of the reviews, their quantity, availability for all chosen games, and peer reviewing of other player reviews. Other review websites were found unsuitable for a variety of reasons. *Store.steam.com* does not offer World of Warcraft; therefore, it also lacked reviews of the game. *Gamespot.com* in turn did not offer easy categorization of reviews based on score, nor was it possible to limit displayed reviews to only cover the latest expansion. *Amazon.com's* reviews were found to be overly positive, the site also lacked the appropriate quantity of reviews for all chosen games. There were also concerns regarding the veracity of reviews because of *amazon.com's* history with bogus reviews (Rubin 2006).

Metacritic.com has over 1 000 reviews for each of the five games. Therefore, a sample of approximately 200 reviews of each game was decided as an appropriate sample size, totaling 999 reviews. These 999 reviews were collected on 23 July 2016 using an algorithm, which imported the necessary HTML data into a raw text document from where it

was exported into an Excel file. See Appendix Attachments 2 and 3 for algorithms. Reviews were chosen based on the two following criteria: The number of positive, neutral, and negative reviews was proportionate to the overall positive, neutral, and negative reviews received by the game; and the usefulness rating given to the review by other users of the site. Therefore, this study gathered a non-probability convenience sample, collecting the most useful positive, neutral, and negative reviews the games had received. This was done to avoid a disproportionate number of positive or negative reviews in the study, which could skew the results particularly in regard to the importance of specific dimensions as they relate to satisfaction and or dissatisfaction. Furthermore, by using a convenience sample, data quality was ensured by selecting reviews found useful by other users of the site; thus, avoiding inclusion of blank reviews or reviews that did not cover game service quality. This was found to be an appropriate method as the quantity of such reviews, which could be categorized as 'troll' reviews unsuitable as anecdotal data, was relatively low (Kozinets 2009, 103). Therefore, limiting the process of removing such reviews from the data sample. Nonetheless, a limited number of unsuitable and duplicate reviews were removed and replaced.

4.3.1 Case overviews

Anecdotal data was collected for a total of five MMORPGs. A multiple case study was found appropriate in order to attain generalizable results for the MMORPG genre. The chosen games were World of Warcraft: Warlords of Draenor, Final Fantasy XIV: A Realm Reborn, Guild Wars 2, Star Wars The Old Republic, and The Elders Scrolls Online. These MMORPGs were chosen based on size and popularity (Bradley, 2016; Ellie, 2016), as well as prior researcher experience with the games. Prior researcher experience was found an essential part of the research process because netnography as a research method requires a deep understanding of anecdotal evidence. This is essential in order to minimize false and or limited interpretations of comments. (Kozinets 2009, 96). Therefore, all case games have been played by the researcher for a minimum of 50 hours and up to the point of reaching maximum level on at least one character. Case games cover the base game excluding World of Warcraft: Warlords of Draenor, which is an expansion. The most recent expansion, at time of data collection 23 July 2016, was chosen because World of Warcraft was launched over a decade ago. This is unlike other case MMORPGs, which have all launched within five years of data collection. Therefore, it is expected that player MMORPG evaluations have developed in this time; limiting the usefulness of anecdotes for the original game. Furthermore, whereas several case

MMORPGs have received expansions, when possible reviews of the base game were decided as a better indicator of player service quality evaluations than an expansion. A brief overview of each case game.

World of Warcraft: Warlords of Draenor

World of Warcraft or 'WoW', first launched in November 2004, is a game developed by California based Blizzard Entertainment (Blizzard Entertainment 2017a). Blizzard Entertainment was founded in 1991. The company merged with Activision in 2008 to form their parent company Activision Blizzard (Blizzard Entertainment 2017b). At the time of data collection 23 July 2016, World of Warcraft had received five expansions since its inception: World of Warcraft: The Burning Crusade, World of Warcraft: Wrath of the Lich King, World of Warcraft: Cataclysm, World of Warcraft: Mists of Pandaria, and World of Warcraft: Warlords of Draenor (Blizzard Entertainment 2017a). The latest of which is used as a case study. Since data collection a sixth expansions World of Warcraft: Legion has been released (Blizzard Entertainment 2017c). World of Warcraft is a subscription based MMORPG (Blizzard Entertainment 2017d).

World of Warcraft has become a phenomenon, which places the game at the peak of the genre, and is often regarded as an MMORPG benchmark. In the game, players adventure into the fictional world of Azeroth where the Alliance and Horde are locked in an age-old struggle. The Warlords of Draenor Expansion, launched November 2014, takes players to the plains of the world of Draenor where players are tasked with fending off the invading forces of the iron horde. (Blizzard Entertainment 2017a). World of Warcraft's popularity peeked in 2010 during the Wrath of the Lich King expansion with 12 million subscribers (Statista 2015). Subscription numbers have been on the decline since, with jumps occurring near expansion launches. Blizzard Entertainment no longer provides public information about subscription numbers since Q3 2015 (Makuch 2015). Subscriptions dropped to 5.5 million at the time the lowest they had been since 2005 (Statista 2015).

Final Fantasy XIV: A Realm Reborn

Final Fantasy XIV: A Realm Reborn is an MMORPG developed by Tokyo based Square Enix. The game was launched in August 2013. (Final Fantasy Wiki 2017a). Square Enix was formed as a merger of the companies Square and Enix in 2003 (Square Enix Holdings 2017). Final Fantasy is a brainchild of the former, and to this day is one of Square Enix's most valuable IPs (Fujii 2006). Final Fantasy XIV: A Realm Reborn has in part been credited for the company's return to profitability, particularly thanks to the game's subscription based service model, and the game reaching an aggregate total of 6 million players as of July 2016. (Brightman 2014; Sarkar 2014; Gamasutra 2016)

Final Fantasy: A Realm Reborn was essentially a do-over of the company's Final Fantasy XIV, which launched September 2010. After Final Fantasy XIV's overwhelmingly negative reception it was taken down less than two years later in 2012. This was done in anticipation of A Realm Reborn, which was headed by a new development team. A Realm Reborn is a reimagining of the prior installment from the game engine, to the gameplay, and story. (Final Fantasy Wiki 2017a). The original Final Fantasy XIV was unceremoniously ended by an apocalyptic world event, which wreaked havoc on the fictitious realm of Eorzea. In A Realm Reborn players are transported five years after the event where players help rebuild and defend the recovering realm. (Final Fantasy Wiki 2017b).

Guild Wars 2

Guild Wars 2 is an MMORPG published in August 2012 by ArenaNet and works as a sequel to the developer's competitive/co-operative online role playing game Guild Wars. (Guild Wars Official Wiki 2017). ArenaNet is a studio, which was founded by former Blizzard employees credited for working on IPs, such as the original Diablo, Warcraft, and Starcraft games (ArenaNet 2008). Whereas exact player number are not available, ArenaNet announced that Guild Wars 2 had a total of 7 million created accounts as of October 2015. This was leading up to the launch of the game's first expansion Heart of thorns. (Karmali 2015). Guild Wars is a buy-to-play game. Therefore, players do not incur additional fees after the initial purchase to play. However, since the launch of the Heart of thorns expansion, access to the base game has been free. (O'Brien 2015). Although the game is buy-to-play, an in-game store is available. There players can use real currency to purchase in game currency, cosmetic items, and boost items. (Guild Wars 2 Official Wiki 2017). In Guild Wars 2 players enter the world of Tyria 250 years after the events of Guild Wars. There players face a changing world wreaked by the havoc brought on by the return of the elder dragons. (Guild Wars Official Wiki 2017).

Star Wars The Old Republic

Star Wars The Old Republic is an MMORPG developed by Bioware and published by Electronic Arts. Bioware is particularly well known for its Mass Effect and Dragon age series. (Bioware 2017a). Electronic Arts is a leading game publisher and holds the rights to all Star Wars games until 2023 (Electronic Arts Inc. 2017; Olivetti 2013). Star Wars The Old Republic is notorious for being one of the most expensive video games ever developed. Reportedly development costs may have reached nearly $200 million (Williams 2012). Star Wars The Old Republic was launched in December 2011 with a subscription based revenue model. However, the game was made free-to-play at the end of 2012 (Corriea 2012). Nevertheless, compared to subscribing players significant limitations remain for non-subscribers (EAHELP 2016). Whereas player and subscriber numbers for Star Wars The Old Republic are not public, Q3 2015 financial results from Electronic Arts indicated that subscriber numbers were the highest they had been in three years (Electronic Arts Inc. 2016). Star Wars The Old Republic throughs players into the Star Wars universe during the time of the old republic, thousands of years before the events of the movies. There players have the opportunity to fight for the republic or the sith empire. (Bioware 2017b).

The Elder Scrolls Online

The Elder Scrolls Online first launched in April 2014 (Firor 2014). The game is the first MMORPG in publisher Bethesda Softworks' popular Elder Scrolls series. However, unlike previous single player titles in the series, The Elder Scrolls Online was not developed by the publisher's in house studio. The Elder Scrolls Online was developed by Zenimax Online Studios, Bethesda's sister studio. Both studios are part of Zenimax Media. (Zenimax Media Inc. 2017a). The game originally launched with a subscription model but transitioned to a buy-to-play model in March 2015. However, an optional subscription system remains in place, which offers unique subscriber benefits, called ESO Plus (Zenimax Media Inc. 2017b). In addition to The Elder Scrolls series, Bethesda is well known for major IPs such as the Fallout series. The Elder Scrolls Online had over 7 million accounts created as of March 2016 (Firor, 2016). In The Elder Scrolls Online players adventure the continent of Tamriel hundreds of years before the events of the single player games, as part of one of three factions: Aldmeri Dominion, Daggerfall Pact, or Ebonheart Pact (The Elder Scrolls Wiki 2017).

4.3.2 Data coding and analysis

Data coding was conducted via an iteratively built coding framework, which was developed both based on the literature review section of this study chapters 2 and 3, as well as empirical data coding. The framework consists of a total of 10 dimensions comprised of 22 subdimensions, which have been further categorized into three areas of service: game quality, technical quality, and service provider quality. The purpose of these parent categories is to ease identification of a dimension's service role as they are discussed in this study. During the iterative process dimensions were further defined and certain changes were made to the structure of dimensions from those initially proposed in 3.1.4.

The subdimensions of *Interface* and *Communication tools* were separated from the *Game design* dimension into their own dimension *Game infrastructure.* This was done because of the disparity of comments for the dimensions compared to other *Game design* dimensions. Therefore, they were found to merit their own dimension, because their role in the service process appears to significantly differ from other *Game design* dimensions. This is also supported by the fact that the *Communication tools* dimension was equally associated with sociability as it was with game design in reviewed literature. The *Communication tools* dimension was also further refined to include grouping tools, replacing the dimension with *Communication and grouping tools.* This change was made because grouping tools were often discussed in anecdotes; yet, they were also deemed inseparable from communication tools because the two perform a joint function in the player experience. Additional changes were made to the dimensions of *Responsiveness*, and *Tangibles* as well. Three subdimensions of *Responsiveness* were merged into one dimension because comments rarely singled out the form of responsiveness/customer service in question. In turn, an auditory experience subdimension *Sound* was added to *Tangibles*, despite initial indications to the contrary per reviewed literature. See Table 10 for details.

Data was coded by analyzing each comment individually and categorizing it into a specific dimension and subdimension in the developed coding framework. Comments were then further classified into positive or negative comments. The coding framework was refined throughout the coding process by adopting a within and across case-context coding approach. Therefore, as the framework was refined through this process, already coded data was re-evaluated. Comments that could not be attributed to deduced dimensions were cross coded in order to determine the possibility to develop new dimensions. Nevertheless, the number of such comments remained extremely low, aside from the aforementioned refinements and the clear need for an auditory experience dimension. Therefore, it was determined they did not merit further study and the comments were found inconsequential.

Coding was performed with the assistance of Microsoft Excel by allocating comments from each anecdote individually into the coding framework. Whereas coding was predominately conducted manually, the use of Excel made re-evaluating coded data more efficient. Excel was selected because it was found to offer sufficient tools for the coding process without the required learning process of using dedicated computer-assisted qualitative data analysis software.

This process resulted in a total of 4 150 identified comments from the 999 collected anecdotes. Average anecdote length was 192 words. Anecdotes and comments were analyzed for findings in regard to research questions 2 and 3. Therefore, as regards research question 2 anecdotes were analyzed for players presenting expectations in their evaluations. For example, players making comparisons to competing services, past service experiences, and implicit and explicit service promises. In turn, pertaining to research question 3 coded comments were analyzed in terms of their distribution per dimensions. Whereby dimensions and their corresponding subdimensions were analyzed according to their general distribution and in terms of satisfaction/dissatisfaction – how the two differed – as well as how these distributions differed between case MMORPGs. Analysis of results was conducted both within and across cases to improve their generalizability. In addition, findings were juxtaposed with interviews to provide discourse and a form of data triangulation. Table 10 presents the final coding framework, with identified dimensions, their definitions as well as relevant sources from where dimensions were adapted.

Table 10 MMORPG service quality dimension coding framework

	Dimension and subdimensions	Definition	Adapted from
Game quality	Game design		
	• Mechanics	Player interactions with the system, characters, and other game elements.	Choi and Kim (2004); Song and Lee (2007); Wu et al. (2008)
	• Character design	Character tuning, customization, skills, and ownership.	Jung et al. (2014); Moon et al. (2013); Song and Lee (2007)
	• Story	Game story quality, and storytelling features such as cinematics.	Moon et al. (2013); Song and Lee (2007); Wu et al. (2008)
	• Content	Content quality, length, and control. For example, quests, exploration, zones, and other activities.	Jung et al. (2014); Song and Lee (2007); Wu et al. (2008)
	Game infrastructure		
	• Interface	Interface ease of use and customizability.	Jung et al. (2014); Lin et al. (2015); Song and Lee (2007); Wu et al. (2008)
	• Communication and grouping tools	In-game communication and grouping tools, and visual cues.	Choi and Kim (2004); Christou et al. (2013); Moon et al. (2013); Teng et al. (2012)
	Game sociability		
	• Group PVE	Appropriate difficulty PVE group content, goals, and rewards, such as dungeons and raids.	Choi and Kim (2004); Christou et al. (2013); Moon et al. (2013); Teng et al. (2012)
	• Group PVP	Appropriate PVP balancing, goals, and rewards.	Choi and Kim (2004); Christou et al. (2013); Moon et al. (2013); Teng et al. (2012)
	• Designed relationships	Quality of interdependency elements, such as trade, professions, and world design in incentivizing and facilitating player collaboration.	Christou et al. (2013); Moon et al. (2013); Teng et al. (2012); Valtakoski et al. (2013)
	• Community	Quality of peer-to-peer interaction within game environment.	Ang et al. (2007); Ang and Zaphiris (2010); Badrinarayanan et al. (2014); Valtakoski et al. (2013); Yee (2006a)
	Tangibles		
	• Visuals	Graphics, physics modeling, environment design etc.	Cox and Dale (2001); Lee and Lin (2005); Lin et al. (2015); Loiacono et al. (2000); Madu and Madu (2004); Moon et al. (2013); Parasuraman et al. (1985;1988); Song and Lee (2007); Wu et al. (2008); Yoo and Donthu (2001); Zeithaml et al. (2000)
	• Sound	Music, voice overs etc.	Jung et al. (2014); Lin et al. (2015); Parasuraman et al. (1985;1988)

Reliability			Technical quality
• Game stability	Game's reliability during high server load, and other performance problems such as latency issues.	Lee and Lin (2005); Madu and Madu (2004); Parasuraman et al. (1985;1988;2005); Yang and Fang (2004); Zeithaml et al. (2000)	
• Bugs	Prevalence of errors in the game, and the extent of their impact on a player's MMORPG experience.	Lee and Lin (2005); Madu and Madu (2004); Parasuraman et al. (1985;1988;2005); Yang and Fang (2004); Zeithaml et al. (2000)	
Responsiveness			
• Responsiveness	Responsiveness to service requests: in-game, online, email, phone etc.	Lee and Lin (2005); Loiacono et al. (2000); Madu and Madu (2004); Parasuraman et al. (1985;1988;2005); Yang and Fang (2004); Zeithaml et al. (2000)	
Security			
• Privacy	Security of personal and financial information.	Barnes and Vidgen (2002); Cristobal et al. (2007); Madu and Madu (2004); Parasuraman et al. (1985;1988; 2005); Yang and Fang (2004); Zeithaml et al. (2000)	
• Account security	Player account security.	Barnes and Vidgen (2002); Cristobal et al. (2007); Madu and Madu (2004); Parasuraman et al. (1985;1988; 2005); Yang and Fang (2004); Zeithaml et al. (2000)	
Access			
• Access	Game's overall performance and availability on different PC systems.	Parasuraman et al. (1985; 2005); Yang and Fang (2004); Yang et al. (2005)	
• Ease of purchase	Ease of gaining access to the game: purchase process, download.	Parasuraman et al. (1985; 2005); Yang et al. (2005)	
Trust			Service provider quality
• Credibility	Player's trust or lack thereof for the service provider.	Barnes and Vidgen (2002); Cristobal et al. (2007); Loiacono et al. (2000); Madu and Madu (2004); Parasuraman et al. (1985;1988; 2005); Yang and Fang (2004); Zeithaml et al. (2000)	
• Communication	Accurate communication of service offering, and keeping players informed of service pertinent information.	Barnes and Vidgen (2002); Cox and Dale (2001); Loiacono et al. (2000); Parasuraman et al. (1985); Yang and Fang (2004)	
Understanding			
• Understanding	Displaying understanding, attempt to fulfill customer needs, and catering to different playstyles.	Jung et al. (2014); Lee and Lin (2005); Parasuraman et al. (1985; 1988); Zeithaml et al. (2000)	

5 RESULTS

This section of the thesis will analyze the coded data for all five case MMORPGs. First chapter 5.1 will briefly analyze the results in regard to research question 2, evaluating whether there is evidence that expectations are a part of how MMORPG consumers evaluate service quality. This is followed by an extensive within and cross-case analysis in chapter 5.2 in regard to research question 3. The chapter will commence with an overall comparison of the research results for the distribution of comments across dimensions in case MMORPGs. The results as they present themselves for different dimensions will be reviewed in terms of satisfaction and dissatisfaction along with how results compare across different subsamples: positive, neutral, and negative anecdotes. This will then be followed by individual case analyses where the results for each MMORPG are analyzed by subdimensions. Throughout this chapter results will be juxtaposed with both review anecdotes and interview comments. All results are based on data as collected on 23 July 2016. Tables and Figures are color coded per the coding framework. Additional figures can be found in the Appendix if not present.

5.1 Expectations as part of service quality evaluations

Based on an analysis of a total of 999 anecdotes, 716 anecdotes display evidence of disconfirmation. The evidence constitutes of comments where reviewers evaluated their service experience based on expectations formed prior to experiencing the service in question. Much of such evidence consists of comparisons to past service experiences. For example, the following reviewer anecdote for Final Fantasy XIV: A Realm Reborn:

> *"Excellent game. Perhaps not as deep as FFXI or as action packed as WoW, but it offers a happy medium that I think people are really going to enjoy for years. This is the first time I've truly been excited for an MMO since vanilla WoW's release." (Hexxus)*

Therefore, an analysis of all sample anecdotes indicates that 71.67% of anecdotes display evidence of disconfirmation, which suggests that the use of a disconfirmation approach in study of MMORPG service quality has empirical support. This is further supported by interview findings where three out of four interviewees felt that expectations play a role in how they evaluate their service experience. For illustration, the following quote from interviewee Thyachalis:

> *"Expectations play a role because It tends to build on the fantasy of the types of MMORPG I go for. So, most of the time I will be comparing them to competing products." (Thyachalis)*

This notion is supported across all games with low variance. Final Fantasy XIV: ARR, Guild Wars 2, Star Wars The Old Republic, and The Elder Scrolls Online are all within a 1% range of one another between 72% and 73%. The only exception is World of Warcraft with 66.83% of anecdotes presenting disconfirmation.

Nevertheless, despite a slightly lower percentage of reviews displaying disconfirmation the result continues to support the notion. Furthermore, the lower percentage can be explained by several factors: One factor is World of Warcraft's benchmark status as an MMORPG, based on the number of referrals in anecdotes and interview discussions such as the following with El Bagre:

> *"WoW has really defined the genre and so almost all other MMOs that are popular right now define themselves based on the WoW experience, and so it almost feels that you're not seeing too much variation based on the structure of an MMO that WoW established." (El Bagre)*

Another factor is the indication that expectations appear to form differently in new IPs vs. MMORPG expansions, further discussed in 5.2.2.

5.2 Service quality evaluations of MMORPGs

The coding of all 999 anecdotes across the five case MMORPGs resulted in a total of 4 150 comments, of which 2 473 comments were identified as positive and 1 677 as negative. Excluding the *Privacy* subdimension all included MMORPG service quality dimensions received a number of comments. Nevertheless, another *Security* dimension, *Account security*, received very few comments. Therefore, the dimension as that of *Privacy* is excluded from further analysis. Whereas the low number of comments for *Security* dimensions gives little indication as to why the dimensions were discussed very little, this may suggest that *Security* is not very important to players when evaluating service quality.

This notion is supported by the conducted interviews. For example, the following comment from interviewee Faith:

> *"I would put security kind of lower, I mean it's not an issue until it becomes an issue for me." (Faith)*

The reason as to why players give little thought to security when evaluating their service experience can be contributed to players taking security for granted as suggested by interviewees. For example, the following quote from interviewee Angmoh:

> *"I expect things to be inherently secure. Unless I'm hearing for example, about people stealing money, accounts and stuff, it's not really a concern to me. I guess I take it for granted." (Angmoh).*

This is particularly the case in AAA+ titles, such as those used as case studies, where security is well managed by service providers. Interviewee Thyachalis admitted that even he as a security conscious individual does not really think about *Security* in AAA+ titles:

> *"It won't be as high in alert in my head, it won't be something that I will probably seriously go through." (Thyachalis).*

Therefore, it would appear that *Security* rarely plays a role in player evaluations of MMORPG service quality. However, the role of *Security* in evaluating one's service experience would appear to become more important if one experiences service failure in the area. Whereas service failure in terms of *Security* is rare for big studios, its likelihood increases in titles from smaller studios with limited resources. Interviewee Thyachalis suggests this while discussing personal experiences of *Security* failure in such games:

> *"Both games really good games. I had played them for a while already without a hitch until I heard a news report that the company itself had been compromised at certain points. That's when I have to stop and evaluate that they're coming out with this new game and I know that this had an issue at some point in time, do I really wana go this way? As good as the game was am I really willing to risk the extra loss?" (Thyachalis)*

Consequently, whereas S*ecurity* may not appear to be of importance based on the gathered anecdotal data, the dimension is perhaps the most important dimension if poorly managed. Failures in this regard have been shown to result in consequences, with prime examples in the gaming sector as well. For example, the hack of Sony's PlayStation network in 2011 (Quin & Arthur 2011).

Moving on to the results of coded data, preliminary coding results indicate the following distribution of comments amongst the primary service quality dimensions: *Game design* is by far the dimension to receive most comments with 46.19%, followed by *Game sociability* 17.08%, *Tangibles* 15.16%, *Reliability* 7.06%, *Trust* 6.75%, *Game infrastructure* 2.15%, *Understanding* 1.93%, *Access* 1.71%, *Responsiveness* 0.89%, and *Security*

0.07%. Table 11 breaks these down in terms of subdimensions and satisfaction/dissatisfaction. Certain subdimensions are accentuated where they form a significant portion of comments, or align with either satisfaction or dissatisfaction while carrying corresponding weight. Color codes for Table 11 each represent an area of service quality: red symbolizes game quality, blue symbolizes technical quality, and green symbolizes service provider quality. Subsequent tables and figures follow the same logic.

Table 11 Total comments for all MMORPGs, N=999[4]

		Satisfied			Dissatisfied			Total	
		n.	% S.	% T.	n.	% D.	% T.	n.	%
Game design									
46.19%	Mechanics	284	11.48%	6.84%	182	10.85%	4.39%	466	11.23%
	Character design	261	10.55%	6.29%	161	9.60%	3.88%	422	10.17%
	Story	333	13.47%	8.02%	69	4.11%	1.66%	402	9.69%
	Content	391	15.81%	9.42%	236	14.07%	5.69%	627	15.11%
Game infrastructure									
2.15%	Interface	26	1.05%	0.63%	48	2.86%	1.16%	74	1.78%
	Communication and grouping tools	8	0.32%	0.19%	49	2.92%	1.18%	57	1.37%
Game sociability									
17.08%	Group PVE	138	5.58%	3.33%	94	5.61%	2.27%	232	5.59%
	Group PVP	139	5.62%	3.35%	89	5.31%	2.14%	228	5.49%
	Designed relationships	74	2.99%	1.78%	116	6.92%	2.80%	190	4.58%
	Community	25	1.01%	0.60%	34	2.03%	0.82%	59	1.42%
Tangibles									
15.16%	Visuals	351	14.19%	8.46%	72	4.29%	1.73%	423	10.19%
	Sound	176	7.12%	4.24%	30	1.79%	0.72%	206	4.96%
Reliability									
7.06%	Stability	34	1.37%	0.82%	105	6.26%	2.53%	139	3.35%
	Bugs	17	0.69%	0.41%	137	8.17%	3.30%	154	3.71%
Responsiveness									
0.89%	Responsiveness	6	0.24%	0.14%	31	1.85%	0.75%	37	0.89%
Security									
0.07%	Account security	-	0.00%	0.00%	3	0.18%	0.07%	3	0.07%
Access									
1.71%	Access	37	1.50%	0.89%	24	1.43%	0.58%	61	1.47%
	Ease of purchase	-	0.00%	0.00%	10	0.60%	0.24%	10	0.24%
Trust									
6.75%	Credibility	112	4.53%	2.70%	97	5.78%	2.34%	209	5.04%
	Communication	14	0.57%	0.34%	57	3.40%	1.37%	71	1.71%
Understanding									
1.93%	Understanding	47	1.90%	1.13%	33	1.97%	0.80%	80	1.93%
	Total 21 items	2473	100.00%	59.59%	1677	100.00%	40.41%	4150	100.00%
	Total 22 items	2473	100.00%	59.59%	1677	100.00%	40.41%	4150	100.00%

[4] % S.= Percentage of total satisfied comments
% D.= Percentage of total dissatisfied comments
% T.= Percentage of total comments.

However, further analysis is necessary to understand why comments are distributed in this manner, and if and why these results may vary in different MMORPGs. A certain degree of disparity is expected as the games are not identical, and thus perform differently in different service areas. To start with a closer look at primary dimensions.

Looking at the distribution of comments per primary dimensions forms a clear trend, which is visible in all case MMORPGs, visualized in Figure 4.

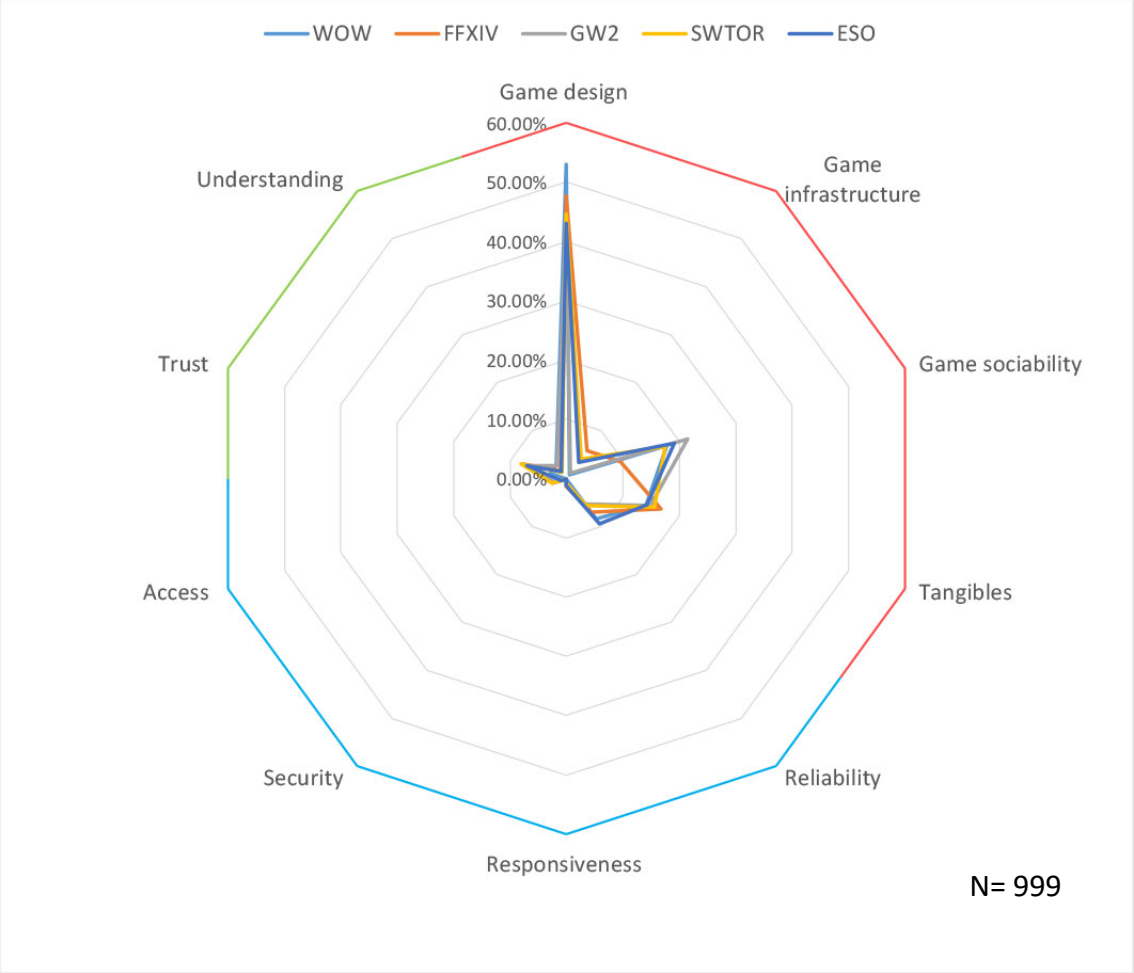

Figure 4 Total comments (4 150) for all MMORPGs[5]

When comments are viewed in terms of satisfaction and dissatisfaction as seen in Figures 5 and 6 respectively, further distinctions can be made. In Figure 5 the distribution of comments in terms of satisfaction indicates that with the exclusion of the *Reliability* dimension, the trend seen in Figure 4 is to a great extent maintained.

[5] WOW= World of Warcraft FFXIV= Final Fantasy XIV GW2= Guild Wars 2 SWTOR= Star Wars The Old Republic ESO= The Elder Scrolls Online

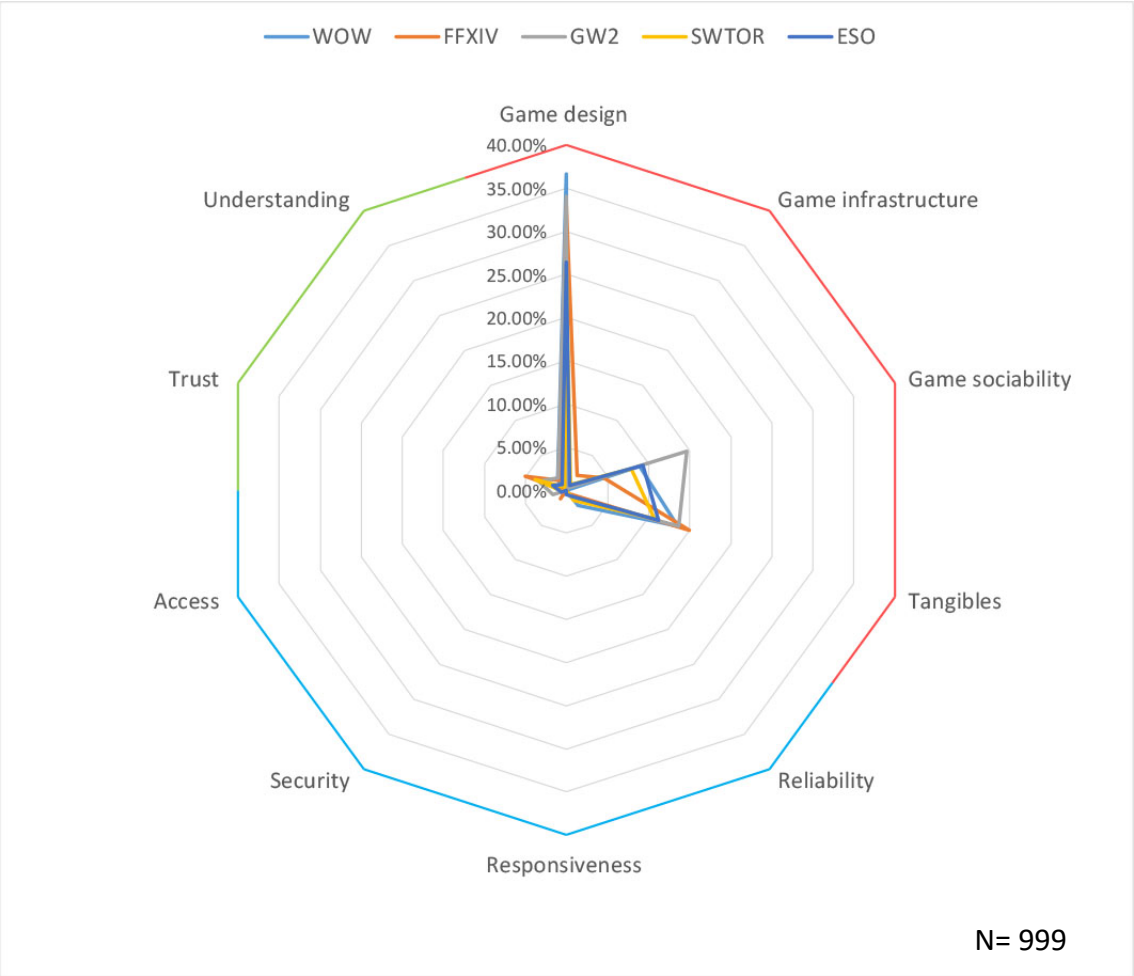

Figure 5 Satisfied comments (2 473) for all MMORPGs

Figure 6 in turn indicates that the distribution of dissatisfied comments is more spread out compared to positive comments. Nevertheless, apart from the decreased importance of *Tangibles* and conversely increased importance of *Reliability,* a similar distribution as displayed in Figure 4 is maintained. None withstanding slight differences between case MMORPGs becoming more distinct.

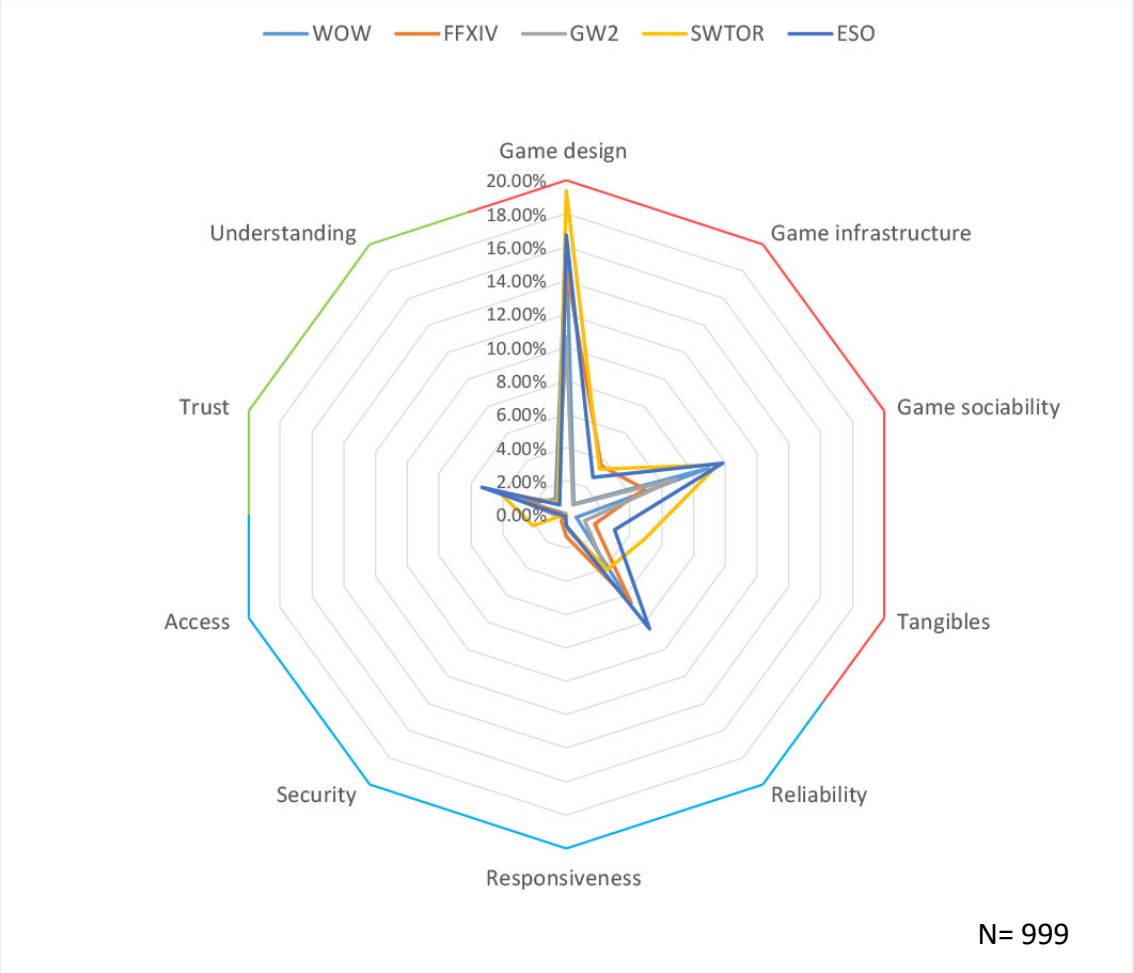

Figure 6 Dissatisfied comments (1 677) for all MMORPGs

Therefore, based on Figures 4-6 some initial findings can be made. For example, that *Tangibles* are primarily associated with satisfaction, whereas *Reliability* is primarily associated with dissatisfaction. However, further study of each individual case and how the distribution of comments depend on the overall service experience is necessary before definitive conclusions are made. To determine why certain dimensions are associated with satisfaction or dissatisfaction respectively, or why certain dimension are important in some case MMORPGs more so than others. However, before moving on to a case by case overview a look at how comments were distributed differently depending on the subsample they were from: positive, neutral, and negative anecdotes.

5.2.1 Distribution of anecdotes in subsamples

Starting with the distribution of comments in positive review subsamples. The general distribution of comments, and that of positive comments, indicates the same trend as the previous overview. See Appendix for Attachments 4 and 5. However, one can see from Figure 7 that players who felt that their overall service experience was positive tend to primarily have negative service encounters in specific areas: *Game design, Game sociability,* and *Reliability.*

Figure 7 Dissatisfied comments (267) from positive anecdotes

Reliability the dimension players have the most problems with. Neutral reviews mirror the overall results seen in 5.2 very closely. Therefore, they will not be analyzed separately. See Appendix Attachments 6, 7, and 8.

Negative reviews display interesting results, however. Whereas the anecdotes follow the trend set in 5.2, displaying a very similar distribution, the *Trust* dimension becomes significantly more important than it has been for players who gave positive or neutral reviews, as seen in Figure 8.

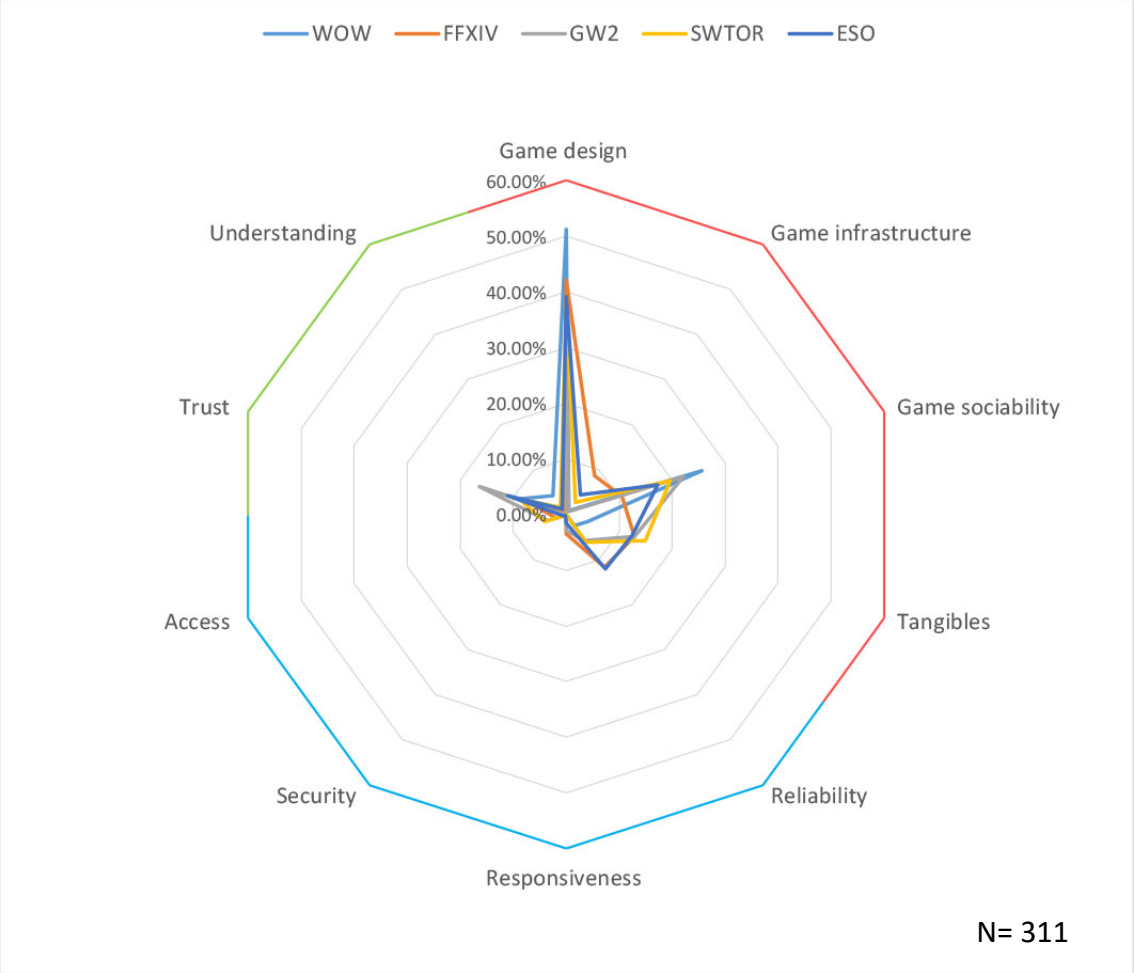

Figure 8 Total comments (1 008) from negative anecdotes

Furthermore, when results are filtered for only negative comments, as seen in Figure 9, the *Trust* dimension presents as a significant contributor to dissatisfaction. The dimension receives more comments than the *Reliability* dimension in many MMORPGs. This may indicate that the relative importance of *Trust* and *Reliability* dimensions changes as the overall service experience suffers. The relative importance of Trust increases, whereas Reliability's relative contribution to dissatisfaction decreases.

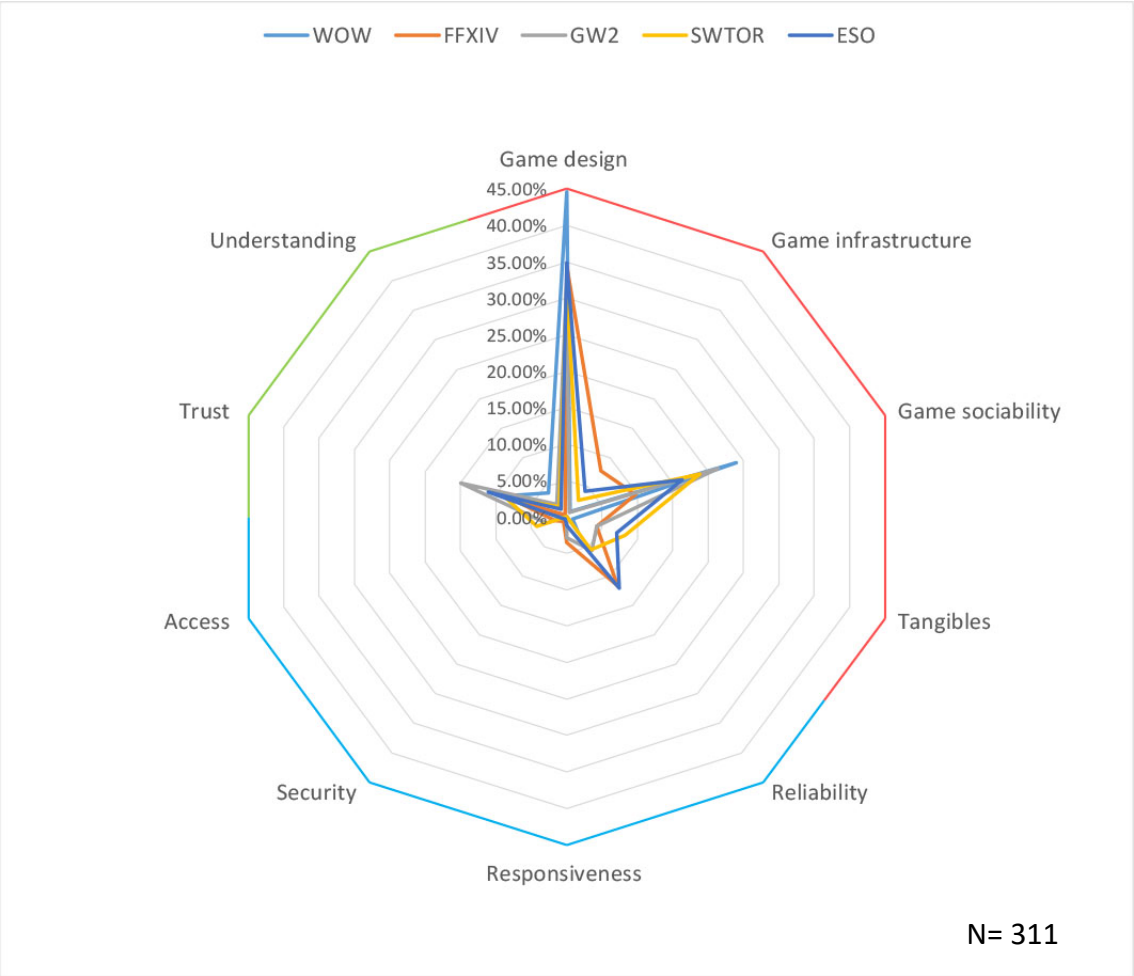

Figure 9 Dissatisfied comments (830) from negative anecdotes

However, the distribution is otherwise similar to other samples, with comments for *Game design* and *Game sociability.*

Satisfied comments for negative anecdotes reveal interesting results as well, as seen in Figure 10. Based on the distribution of comments, *Game design* and *Tangibles* would appear to be the service dimensions where players who gave negative reviews had the most pleasant experiences.

Figure 10 Satisfied comments (178) from negative anecdotes

This supports the notion that *Tangibles* is a dimension primarily associated with satisfaction. Furthermore, its suggests that even if a player's experience is positive in terms of *Game design* and or *Tangibles*, negative experiences in other service areas can still lead to an overall dissatisfying experience.

Based on an overall analysis, preliminary findings suggest that when players evaluate their service experience certain dimensions have more importance than others. Select dimensions would also appear to relate more to satisfaction or dissatisfaction. Moreover, there are indications that player evaluations are not static across all subsamples as they relate to the importance of dimensions in terms of satisfaction and dissatisfaction. Nevertheless, these results indicate that there are clear trends in how players evaluate their MMORPG service experience. Chapter 5.2.2 will continue with a case by case analysis starting with World of Warcraft: Warlords of Draenor.

5.2.2 World of Warcraft: Warlords of Draenor

The first of the five MMORPGs to be analyzed individually is World of Warcraft: Warlords of Draenor. Chapter 5.2 gave an overall understanding of how anecdote comments were distributed in terms of primary dimensions. Therefore, individual case analyses will focus on their respective subdimensions. Based on a general overview of the reviews for World of Warcraft the dimensions of *Content, Story, Visuals, Group PVE, Mechanics,* and *Character design* are emphasized, as seen in Table 12.

Table 12 Total comments for World of Warcraft: Warlords of Draenor, N=199

		Satisfied			Dissatisfied			Total	
		n.	% S.	% T.	n.	% D.	% T.	n.	%
Game design									
53.03%	Mechanics	32	8.00%	5.10%	27	11.84%	4.30%	59	9.39%
	Character design	31	7.75%	4.94%	27	11.84%	4.30%	58	9.24%
	Story	64	16.00%	10.19%	13	5.70%	2.07%	77	12.26%
	Content	103	25.75%	16.40%	36	15.79%	5.73%	139	22.13%
Game infrastructure									
0.80%	Interface	-	0.00%	0.00%	2	0.88%	0.32%	2	0.32%
	Communication and grouping tools	-	0.00%	0.00%	3	1.32%	0.48%	3	0.48%
Game sociability									
17.83%	Group PVE	41	10.25%	6.53%	27	11.84%	4.30%	68	10.83%
	Group PVP	11	2.75%	1.75%	13	5.70%	2.07%	24	3.82%
	Designed relationships	4	1.00%	0.64%	12	5.26%	1.91%	16	2.55%
	Community	-	0.00%	0.00%	4	1.75%	0.64%	4	0.64%
Tangibles									
14.17%	Visuals	62	15.50%	9.87%	3	1.32%	0.48%	65	10.35%
	Sound	23	5.75%	3.66%	1	0.44%	0.16%	24	3.82%
Reliability									
8.44%	Stability	10	2.50%	1.59%	32	14.04%	5.10%	42	6.69%
	Bugs	4	1.00%	0.64%	7	3.07%	1.11%	11	1.75%
Trust									
2.87%	Credibility	4	1.00%	0.64%	7	3.07%	1.11%	11	1.75%
	Communication	-	0.00%	0.00%	7	3.07%	1.11%	7	1.11%
Understanding									
2.87%	Understanding	11	2.75%	1.75%	7	3.07%	1.11%	18	2.87%
	Total 17 items	400	100.00%	63.69%	228	100.00%	36.31%	628	100.00%
	Total 22 items	400	100.00%	63.69%	228	100.00%	36.31%	628	100.00%

There are certain key differences here when compared to the overall results across all five games. The *Content, Group PVE,* and *Stability* dimensions are relatively high in importance, whereas *Designed relationships* and *Credibility* are lower than average. Nevertheless, when dimensions are viewed solely in terms of their distribution in relation to satisfied or dissatisfied comments, *Stability, Designed relationships,* and *Group PVP* dimensions carry significantly more weight in relation to dissatisfaction than satisfaction;

whereas *Story, Content,* and *Tangibles* dimensions receive a significantly higher relative number of satisfied comments. The negative comments for *Content* are significant, nonetheless. Interestingly, a significant portion of dimensions (3) in addition to *Security* dimensions, which have already been excluded, received no comments at all. The dimensions of *Responsiveness, Access,* and *Purchase process*. In terms of satisfaction the range of comments is even narrower with a further four dimensions denied comments. Based on the collected anecdotes conclusions as to why these differences occur can be made.

Regarding the importance of *Stability* there is the fact of reported incidents in anecdotes of significant stability issues with the service during the time of the expansions launch. This is illustrated by reviewer comments such as the following:

> *"So here we are with wow, its lagging 100x more, and it's having at least 1000x more bugs and glitches, even though this expansion is bringing nearly zero new content!!! It's not a launch it's just a damn expansion, terrible server managment." (freak99)*

These comments indicate that because Warlords of Draenor is an expansion players are less tolerant of temporary *Stability* issues compared to the launch of a new IP. The importance of *Content* and *Group PVE*, and the lower than average importance of *Designed relationships* and *Credibility* can be attributed to that World of Warcraft: Warlords of Draenor is an expansion as well. This is because there is an increased emphasis in players making comparisons to previous expansions, in other words service experiences with World of Warcraft than to competing services. For example, the following quote from interviewee Thyachalis:

> *"With a new MMORPG, you come in at the new. So, the expectations you form are based purely on concept, maybe some visual design, whereas an expansion you have the previous experience of having lived through what those particular developers have gone with. Therefore, the expectations you come with are based on tangible experience in a way vs. just theoretical." (Thyachalis)*

Therefore, how expectations are formed differ between expansions and new MMORPG releases. This is most likely because expansions primarily offer new iterations of existing dimensions with the greatest changes in areas, such as new *Content* and *Group PVE*. Whereas there are less changes to many core service functions regarding the game, technical performance, and the service provider, which explains the low number or lack of comments for several dimensions. On the other hand, some dimensions have more weight in terms of falling above or below desired or adequate expectations, if they are

service areas where changes are significant or changes are expected. Thus, certain dimensions were emphasized in review comments. For example, comments for *Story* and *Content* such as the following:

> *"Warlords of Draenor is one of the best expansions World of Warcraft has ever seen. The world is extremely unique, and being able to only use ground mounts makes the world seem so much bigger. The main quest line throughout Draenor is amazing, and after playing through it once I want to go back and experience the amazing world again!" (Hallowbeen)*

This finding is supported by interviews. For example, the following thoughts from El Bagre regarding MMORPG expansions, particularly World of Warcraft:

> *"So, I think that WoW as an MMORPG has had strong expansion packs that align with my expectations, but it has also had expansion packs that have not really expanded on the core gaming experience. For example, cataclysm, where WoW ended up losing half of its subscribers, because they essentially just gave a different skin to areas that already existed, and didn't introduce any content or gameplay mechanics or anything at all." (El Bagre)*

El Bagre's thoughts echo that certain dimensions become emphasized, because he as a player expects expansions to expand the service experience in particular areas.

When reviews are further inspected in terms of how their distribution differed between positive, neutral and negative anecdotes, there is clear overlap in how comments are distributed in different samples, as seen in Figure 11.

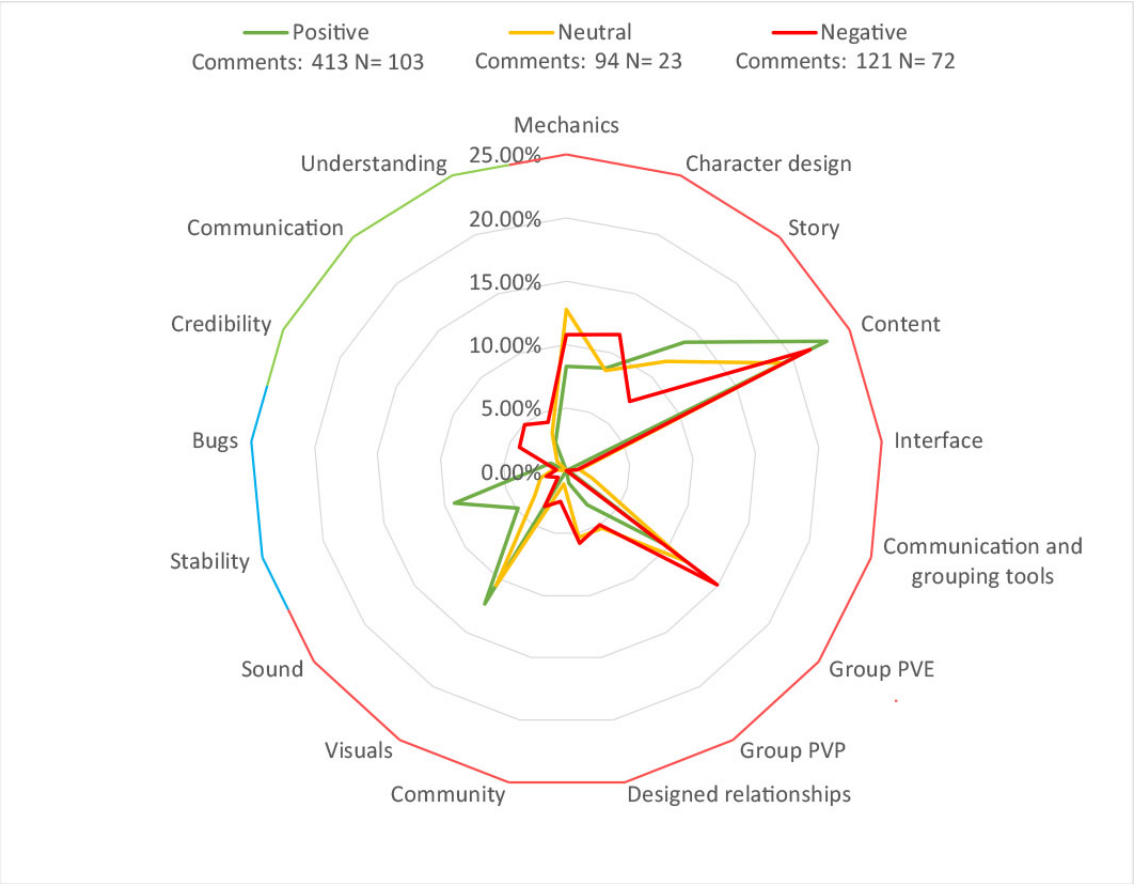

Figure 11 Total comments per subdimensions in each sample, World of Warcraft

Nevertheless, there are clear peaks for certain dimensions in some samples, which are absent in others. For example, *Group PVP* and *Designed relationships* receive around 5% of comments in neutral and negative samples; comments for *Group PVP* are yet significantly lower in the positive sample, whereas comments for *Designed relationships* are negligible. Correspondingly *Visuals* attracts attention in positive and neutral anecdotes but is neglected by negative anecdotes, *Stability* is important in positive anecdotes, and *Credibility* and *Communication* are significant in negative anecdotes. However, when these are broken down in terms of satisfaction and dissatisfaction, as seen in Figures 12 and 13, spikes for dimensions in certain samples can be explained by their relationship with satisfaction or dissatisfaction respectively.

Displayed in Figure 12 both positive and neutral anecdotes found *Visuals* of particularly high importance in relation to satisfaction. However, overall there is little difference across populations as to how dimensions relate to satisfaction, with most comments distributed across *Game design, Group PVE,* and *Visuals* dimensions.

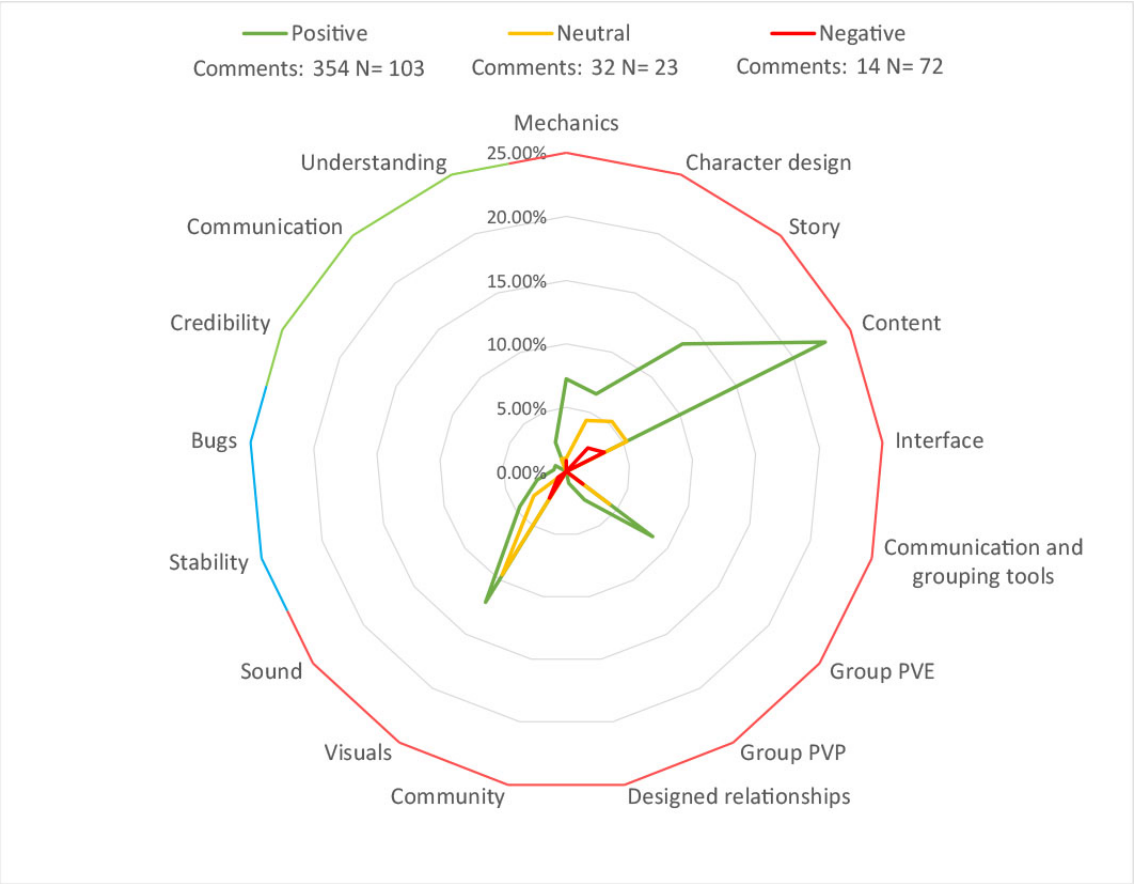

Figure 12 Satisfied comments per subdimensions in each sample, World of Warcraft

Note that here and moving forward that the proportional number of satisfied comments is far lower in neutral and negative anecdotes compared to positive anecdotes, and vice versa.

However, Figure 13 indicates that based on the distribution of dissatisfied comments, differences between samples become more apparent. For example, *Stability* is the principal contributor to dissatisfaction in positive reviews. However, only contributing a small portion of comments in other samples. This can be attributed to the trend identified in 5.2 that *Reliability* dimensions contribute less to dissatisfaction as the overall service experience suffers.

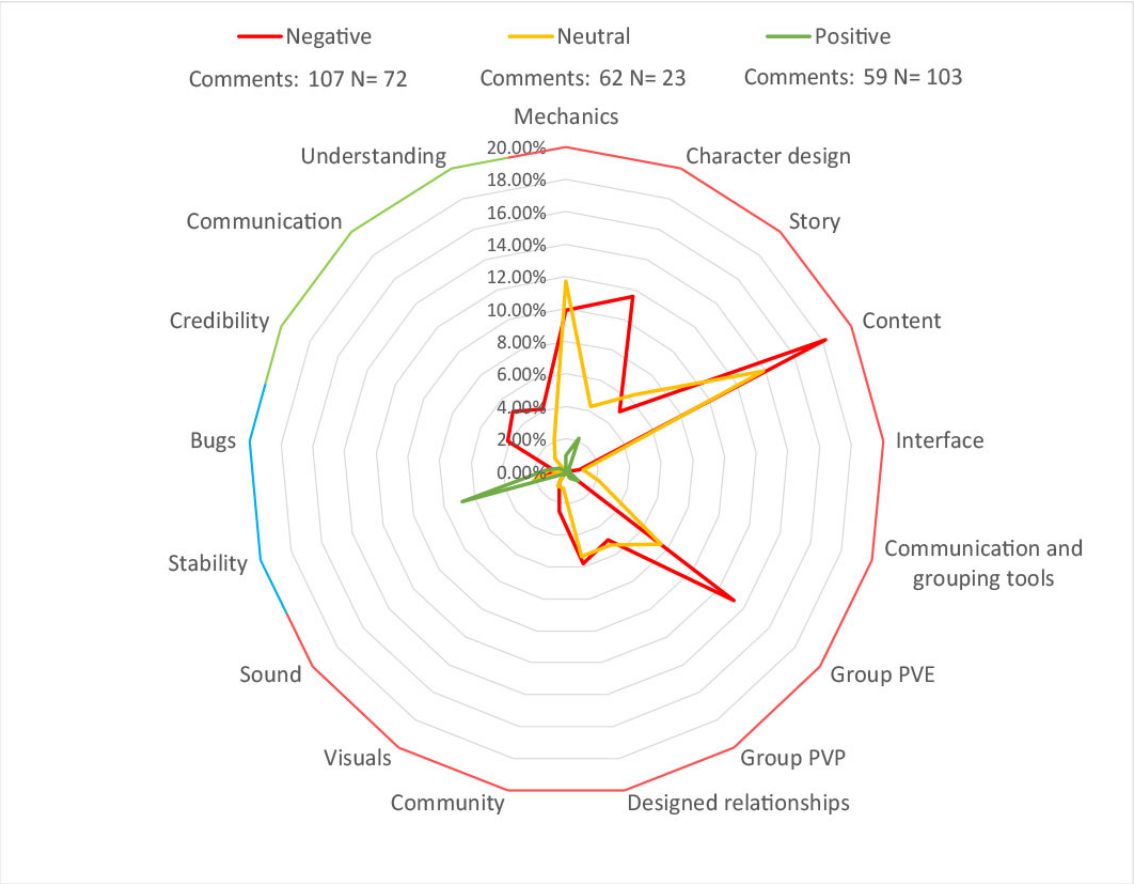

Figure 13 Dissatisfied comments per subdimensions in each sample, World of Warcraft

Compared to positive anecdotes, negative comments in neutral and negative anecdotes are mostly distributed across dimensions, which in positive anecdotes contributed to satisfaction: *Game Design* and *Group PVE*. This suggests that most dimensions are equally important for both satisfaction and dissatisfaction. Although comments are more evenly spread in terms of dissatisfaction, at least in the case of World of Warcraft. For example, looking at Figure 13 certain *Game design* dimensions, *Mechanics, Character design,* and *Content*, are closer in relative importance than they were in Figure 12 where *Content* was a clear outlier. However, akin to *Visuals* and *Reliability* dimensions, the dip in comments for the *Story* dimension would appear to indicate that certain dimensions are predominantly associated with either satisfaction or dissatisfaction.

Nevertheless, negative comments are distributed across many additional dimensions to those discussed, such as *Group PVP, Designed relationships, Communication, Credibility,* and *Understanding.* In the case of *Group PVP* comments for the dimensions are easily explained by poor player experiences with balancing; based on reviewer comments such as the following:

"The PvP balance is shoddy at best." (KharaAlKabeer)

However, the relationship of many dimensions to dissatisfaction is more complex because comments display that a dimension's performance and design can influence that of another. For example, the comments for *Designed relationships* suggest that *Content* design decisions had reduced player encounters with other players especially in regard to where players spent their time in game. The following reviewer comment to exemplify:

> *"im sorry but who the hell wants to create there own city aka garrison can we please go back to hanging out at the main cities outside the gates. Everyones wandering alone now and forget it if you dont have real life friends that play." (qqbearz)*

In turn, respective comments for *Communication* and *Understanding* referred to the lack of transparency regarding *Stability* issues, and failure to listen to player feedback, as seen in the following comments:

Communication:

> *"Absolutely broken launch prevents players from actually playing the game. Which is more the response or lack of it from the community managers has been abysmal." (FrostWind)*

Understanding:

> *"What's even worse is that the developers are ignoring the community feedback." (Rouce)*

Here the comments for *Designed relationships*, *Communication,* and *Understanding* show how dimensions interact with one another either unintentionally or because the developer failed to address issues, which led to negative player service encounters. Consecutive negative service experiences at worst led players to feel 'cheated' and question the developer's *Credibility*. This is illustrated by reviewer comments such as the following:

> *"People just stay away from Blizzard products from now on, there isn't 1 gaming company that is more greedy." (nohope88)*

Therefore, as failures in different service areas add up player dissatisfaction will spread outside core service areas.

5.2.3 Final Fantasy XIV: A Realm Reborn

The comments for Final Fantasy: A Realm Reborn were distributed amongst 21 dimensions, whereas comments for World of Warcraft only covered 17 dimensions in comparison. Nevertheless, the same dimensions of *Content, Story, Mechanics, Visuals,* and *Character design* receive the highest number of comments, although the hierarchy of comments is slightly different, as seen in Table 13.

Table 13 Total comments for Final Fantasy XIV: A Realm Reborn, N=200

		Satisfied			Dissatisfied			Total	
		n.	% S.	% T.	n.	% D.	% T.	n.	%
Game design									
47.73%	Mechanics	69	13.14%	8.25%	42	13.50%	5.02%	111	13.28%
	Character design	68	12.95%	8.13%	20	6.43%	2.39%	88	10.53%
	Story	78	14.86%	9.33%	16	5.14%	1.91%	94	11.24%
	Content	61	11.62%	7.30%	45	14.47%	5.38%	106	12.68%
Game infrastructure									
5.74%	Interface	14	2.67%	1.67%	11	3.54%	1.32%	25	2.99%
	Communication and grouping tools	4	0.76%	0.48%	19	6.11%	2.27%	23	2.75%
Game sociability									
9.45%	Group PVE	28	5.33%	3.35%	16	5.14%	1.91%	44	5.26%
	Group PVP	-	0.00%	0.00%	8	2.57%	0.96%	8	0.96%
	Designed relationships	3	0.57%	0.36%	10	3.22%	1.20%	13	1.56%
	Community	7	1.33%	0.84%	7	2.25%	0.84%	14	1.67%
Tangibles									
16.75%	Visuals	97	18.48%	11.60%	6	1.93%	0.72%	103	12.32%
	Sound	28	5.33%	3.35%	9	2.89%	1.08%	37	4.43%
Reliability									
7.06%	Stability	2	0.38%	0.24%	37	11.90%	4.43%	39	4.67%
	Bugs	2	0.38%	0.24%	18	5.79%	2.15%	20	2.39%
Responsiveness									
1.32%	Responsiveness	-	0.00%	0.00%	11	3.54%	1.32%	11	1.32%
Access									
2.39%	Access	12	2.29%	1.44%	4	1.29%	0.48%	16	1.91%
0.12%	Ease of purchase	0	0.00%	0.00%	4	1.29%	0.48%	4	0.48%
Trust									
7.78%	Credibility	36	6.86%	4.31%	12	3.86%	1.44%	48	5.74%
	Communication	6	1.14%	0.72%	11	3.54%	1.32%	17	2.03%
Understanding									
1.67%	Understanding	10	1.90%	1.20%	4	1.29%	0.48%	14	1.67%
	Total 20 items	525	100.00%	62.80%	310	99.68%	37.08%	835	99.88%
	Total 22 items	525	100.00%	62.80%	311	100.00%	37.20%	836	100.00%

For example, *Content* is not an outlier in comments for Final Fantasy as it is in World of Warcraft, instead the *Game design* dimensions all receive a similar amount of attention. Furthermore, certain dimensions, such as *Credibility* and *Group PVE* receive comparatively more and less attention respectively. Comments for *Game sociability* appear relatively low in general. However, this can to a great extent be explained by the lack of player-vs-player gameplay in the first months after the games launch. Full implementation of player-vs-player activities delayed by nearly a year post launch. See Appendix Attachment 9 for visual representation of Table 13.

Visualized in Figure 14 the distribution of positive comments follows the same trend as the compiled anecdotes for Final Fantasy XIV. This is in line with findings from 5.2. However, certain interesting characteristics can be identified. Positive anecdotes place a high emphasis on *Credibility*, whereas negative and neutral anecdotes show a distinct spike in the *Character design* dimension in addition to the expected spike for *Visuals*.

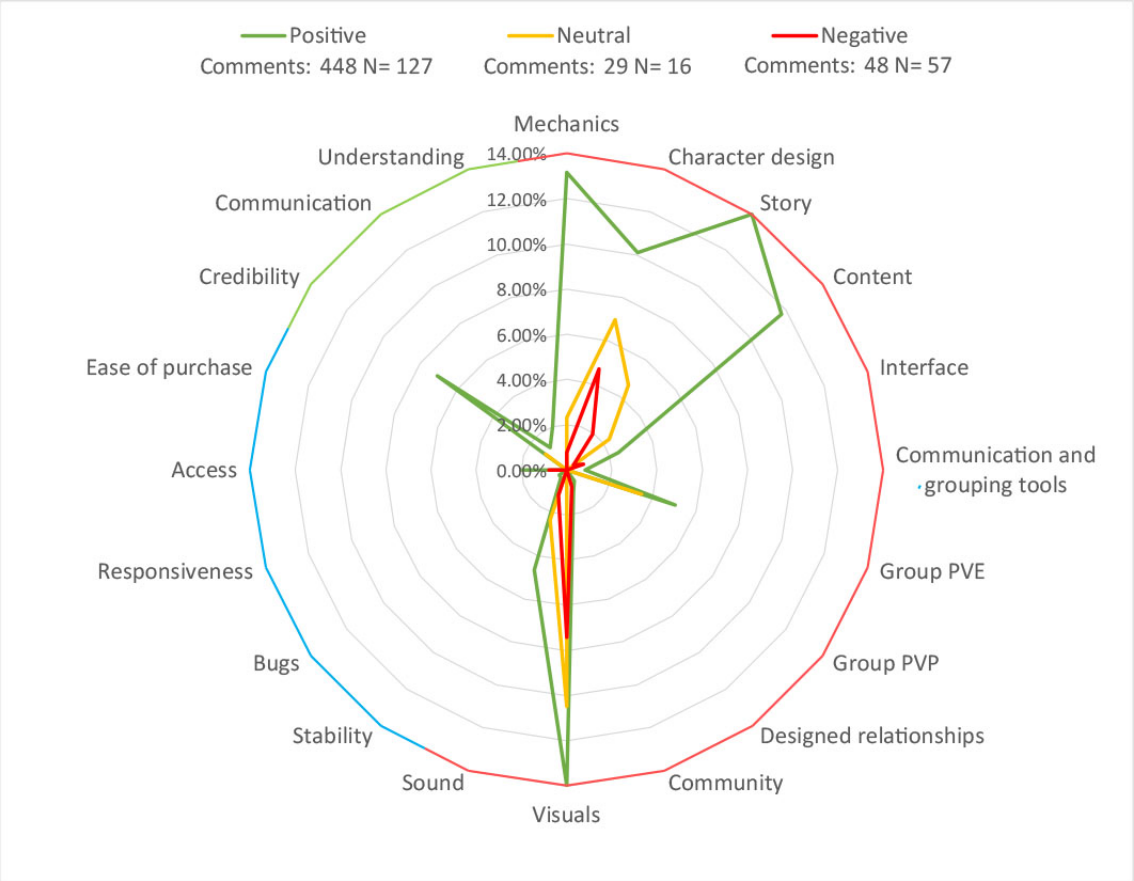

Figure 14 Satisfied comments per subdimensions in each sample, Final Fantasy XIV

Based on a review of comments for *Credibility* the cause for the spike in positive comments can be credited to overall service quality exceeding player expectations. Therefore, a positive impact on the impressions players have of the developer, as suggested by comments such as the following from reviewer Jimmyhen:

> *"Yoshi-P and team have taken something that I didn't even recognize as a FF game and turned into something brilliant." (Jimmyhen)*

This also explains why *Credibility* is shown to be of importance in relation to satisfaction in some games but not in others.

Whereas the spikes for *Visuals* and *Story* are expected and give further support for the dimensions primarily relating to satisfaction. The spike for *Character design* in neutral and negative anecdotes can be explained by design decisions unique to Final Fantasy XIV, as suggested by comments such as the following from reviewer Azyurel:

> *"Jobs/Class system: One word, Awesome. You'll be able to play each job with a single character. No more need for alts, unless you're moving servers, since you'll have access to the full experience on one character. At level 10 you'll be able to learn other jobs, so you'll quickly be able to move to something else if you are not a fan of your initial job pick." (Azyurel)*

This is supported by a significant dip in the dimension's relation to dissatisfaction in comparison, as seen in Figure 15.

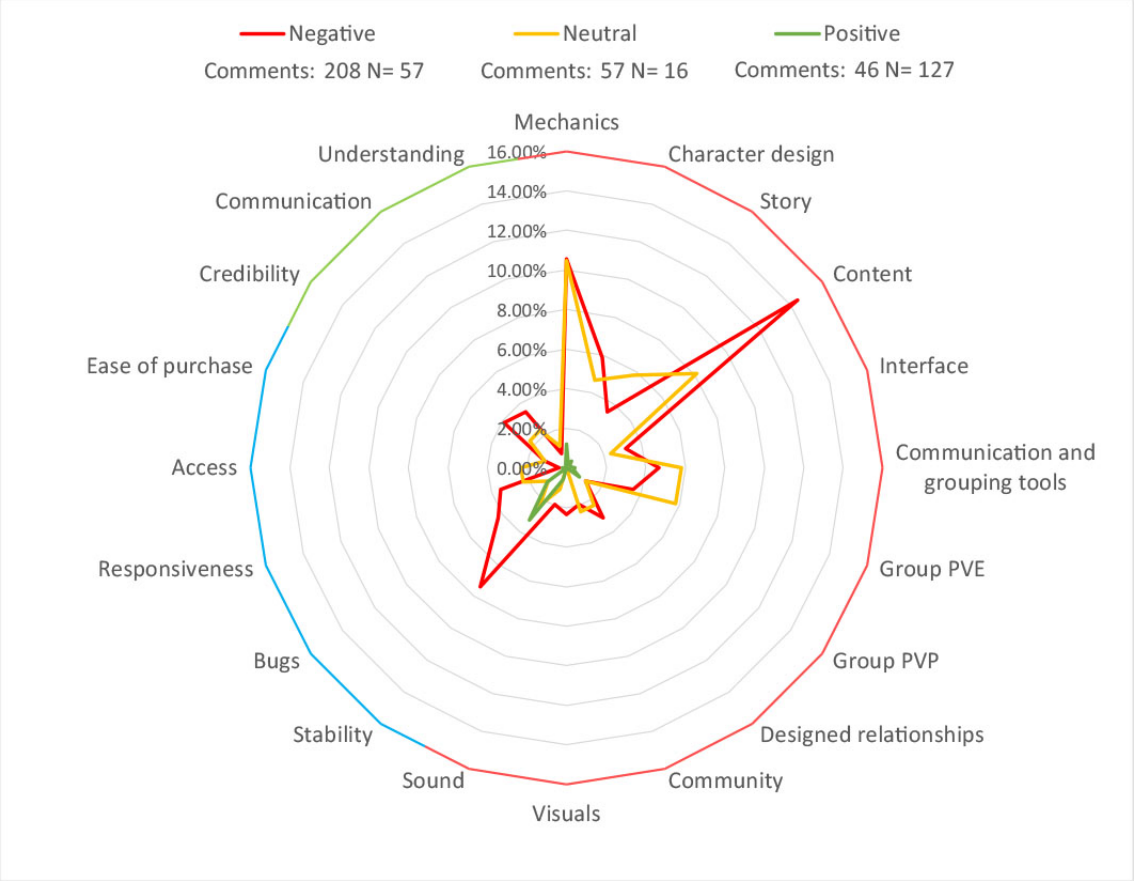

Figure 15 Dissatisfied comments per subdimensions in each sample, Final Fantasy XIV

However, overall *Game design* dimensions were the dimensions most associated with dissatisfaction, with expected spikes and dips in line with the findings from other case MMORPGs and 5.2. However, distinct characteristics for the distribution of negative comments for Final Fantasy can be identified in comments for *Communication and grouping tools, Stability,* and *Responsiveness.* The spike in comments for *Communication and grouping tools* is interesting because it is a dimension mostly ignored in other case MMORPGs. However, anecdotes suggest that the functionality of the dimension was sub-par in comparison to competing services, based on reviewer comments such as the following:

> *"The tool used to find a group for dungeons is probably the slowest I've encountered. Especially when considering it can group you with anyone in the NA servers." (Just_thetip)*

As discussed earlier this would suggest that dimensions, which ordinarily may not be noteworthy are elevated when falling below adequate expectations.

Whereas the spike for *Responsiveness* is quite small it is interesting because the combined number of comments for the dimension are few in total across all case MMORPGs.

Based on anecdotal evidence this relates to the service provider's exceptionally poor performance in customer service areas, which according to comments such as the following are normally performed well by competing services:

> *"Oh - and customer service is terrible. When a bug totally blocked the main story quest progression on my server, it took three days for SE to repair it. It took four for them to respond to my report - and then it was only to say that I should have submitted the report in a different fashion (which was not obvious from the report form). In other MMOs, when a bug has blocked quest progression, GMs have responded to the report within minutes and made it possible for characters to progress." (SkillyD)*

Nevertheless, the number of comments for the dimension remain low, which suggests the need for customer support on an individual level is rare. Interviewees felt the same way. For example, the following comment from Angmoh:

> *"In terms of per person the need for customer service is infrequent." (Angmoh).*

However, Angmoh and other interviewees pointed out that regardless, good and prompt customer service is important:

> *"If you need to take time out of your experience to talk to the developers or the customer service, it's because something has annoyed you to the point that your gameplay is hampered to the point that you need to say something about it." (Angmoh).*

This is because there is usually a good reason for a player's need for customer service, as Angmoh suggests, which can quickly lead to players having a negative service experience if problems they are facing are left unaddressed.

Although negative comments for one or both *Reliability* dimensions are seen in all case MMORPGs, the spike for *Stability* in Final Fantasy XIV is noteworthy because the relative number of comments is greater than average. World of Warcraft the only case MMORPG with a higher relative number of comments, in which case the reason as to why was tied to poor launch performance. However, based on a review of comments for the dimension, it is apparent that Final Fantasy XIV merits said comments for similar reasons, as discussed in reviewer comments such as the following:

> *"Constant server outages, massive queues for logging in, and the inability to even create characters. The game as it stands right now is unplayable. These problems have been going on for days and have not improved since early access. Even as of the official launch, it is almost impossible to get in an play the game." (bluejay6463)*

However, as indicated by comments such as the previous one, in the case of Final Fantasy XIV server issues after launch lasted for a relatively long time, which is seen as spikes in comments across all samples. This suggests that in the case of Final Fantasy XIV what service quality literature refers to as a situational factor was not managed in time. This thought is echoed by interviewee El Bagre in his thoughts about service reliability:

> *"Reliability causes short term frustrations but as long as these companies are able to fix the problems then I think they're just that they're short lived. You might be frustrated while you can't log in but then you log in and the gameplay takes over, and as long as that experience is seamless I think that gamers can be very forgiving about that. But if it's something that literally affects the playability of the game then it becomes unforgivable especially if it's not fixed." (El Bagre).*

Therefore, the negative comments show as an indicator that many players felt the impact of *Stability* on the playability of Final Fantasy XIV exceeded what many felt as acceptable.

The challenges with the games *Stability* spill over to negative reviewer comments for C*ommunication* as well. For example, the following comment from reviewer Roketsu86:

> *"Did we suddenly go back to 1995 or something? Just telling me "We're sorry you can't play, please try later" and not giving me ANY way of knowing when a good time to come back is is just asinine." (Roketsu86)*

This is because players felt the lack of transparency regarding the problems plaguing the games performance exacerbated the issue. Consequently, this further illustrates the complex nature and interaction of service quality dimensions, as discussed in 5.2.2 in the case of World of Warcraft.

5.2.4 Guild Wars 2

The anecdotes for Guild Wars 2 display similarities to the anecdotes of World of Warcraft and Final Fantasy XIV. Accordingly, they highlight the dimensions of *Content*, *Visuals, Character design,* and *Mechanics*, as seen in Table 14. See Appendix Attachment 10 for visual representation.

Table 14 Total comments for Guild Wars 2, N=200

		Satisfied			Dissatisfied			Total	
		n.	% S.	% T.	n.	% D.	% T.	n.	%
Game design									
44.63%	Mechanics	75	12.38%	8.76%	17	6.80%	1.99%	92	10.75%
	Character design	71	11.72%	8.29%	25	10.00%	2.92%	96	11.21%
	Story	33	5.45%	3.86%	15	6.00%	1.75%	48	5.61%
	Content	112	18.48%	13.08%	34	13.60%	3.97%	146	17.06%
Game infrastructure									
1.05%	Interface	1	0.17%	0.12%	2	0.80%	0.23%	3	0.35%
	Communication and grouping tools	2	0.33%	0.23%	4	1.60%	0.47%	6	0.70%
Game sociability									
21.50%	Group PVE	19	3.14%	2.22%	18	7.20%	2.10%	37	4.32%
	Group PVP	65	10.73%	7.59%	21	8.40%	2.45%	86	10.05%
	Designed ´ relationships	34	5.61%	3.97%	15	6.00%	1.75%	49	5.72%
	Community	7	1.16%	0.82%	5	2.00%	0.58%	12	1.40%
Tangibles									
14.84%	Visuals	101	16.67%	11.80%	7	2.80%	0.82%	108	12.62%
	Sound	16	2.64%	1.87%	3	1.20%	0.35%	19	2.22%
Reliability									
5.26%	Stability	7	1.16%	0.82%	9	3.60%	1.05%	16	1.87%
	Bugs	4	0.66%	0.47%	25	10.00%	2.92%	29	3.39%
Responsiveness									
0.93%	Responsiveness	1	0.17%	0.12%	7	2.80%	0.82%	8	0.93%
Access									
2.10%	Access	14	2.31%	1.64%	1	0.40%	0.12%	15	1.75%
	Ease of purchase	-	0.00%	0.00%	3	1.20%	0.35%	3	0.35%
Trust									
6.89%	Credibility	25	4.13%	2.92%	18	7.20%	2.10%	43	5.02%
	Communication	4	0.66%	0.47%	12	4.80%	1.40%	16	1.87%
Understanding									
2.69%	Understanding	15	2.48%	1.75%	8	3.20%	0.93%	23	2.69%
	Total 20 items	606	100.00%	70.79%	249	99.60%	29.09%	855	99.88%
	Total 22 items	606	100.00%	70.79%	250	100.00%	29.21%	856	100.00%

However, distinct characteristics can be identified. For example, *Group PVP* receives proportionally more comments compared to other MMORPGs included in this study. This can be explained by the increased focus and innovativeness of player-vs-player gameplay

in Guild Wars 2 compared to other games, as suggested by reviewer comments such as the following:

> *"The game's PvP content is also innovative, including an awesome server-vs-server-vs-server option where three servers duke it out. These battles can get absolutely massive - even classic "Huge" battlefields in MMOs like old school Alterac Valley from WoW or Warhammer's massive battle-grounds don't compare." (Danomen)*

Furthermore, we see an increase in comments for the *Designed relationships* dimension compared to World of Warcraft and Final Fantasy XIV. Based on reviewed anecdotes this can most likely be attributed to the use of innovative design decisions, which incentivize player collaboration:

> *"I really enjoy the big "group dynamic events" where 100+ people show up to take down a baddie. That is always a blast to enjoy." (tluv)*

The comments in these dimensions suggest that innovating in areas of design, which usually follow a specific design philosophy can yield positive results in how players experience the service. Therefore, dimensions that are not necessarily traditionally viewed as areas where service excellence can be achieved, can be of significant value when they are innovated upon. This notion is further supported by conducted interviews. For example, Angmoh's experience with World of Warcraft:

> *"I thought that at least in terms of WoW, for example, adding the whole keystone thing was really smart. You can go through a whole dungeon without needing to speak to anyone, but if you go to the really high levels you will need to interact as you'll need to plant cc's and coordinate. I think difficulty has been a simple and smart way of getting people interacting with one another. If you can just steamroll through a thing its easy just not to get involved with speaking." (Angmoh).*

Angmoh found that a simple change to an otherwise conventional and often dull part of gameplay incentivized interaction, and provided a more dynamic experience.

Nevertheless, design decisions that stray from a traditional paradigm can have the opposite effect as well, if players perceive the resulting experience negatively. This is seen in numerous negative comments for *Designed relationships,* which explains the dimension's association with both satisfaction and dissatisfaction. For example, the following

comment by reviewer ZteamOverlord, which draws some parallels with Angmohs previous quote:

> *"As I am going through playing multiple classes and multiple levels feeling real lonely because the quest system does not encourage teaming up, instead if you happen to be in the same area as another player, guess what, you are a team, and once the event is over you all disperse, never exchanging names or talking at all because well, what the point?" (ZteamOverlord)*

Therefore, anecdotal evidence suggests that design decisions that were experienced positively by many players in Guild Wars 2, were experienced negatively by others.

Moving on to the distribution of comments in terms of satisfaction, certain characteristics can be identified when viewing comments for each subsample, as seen in Figure 16.

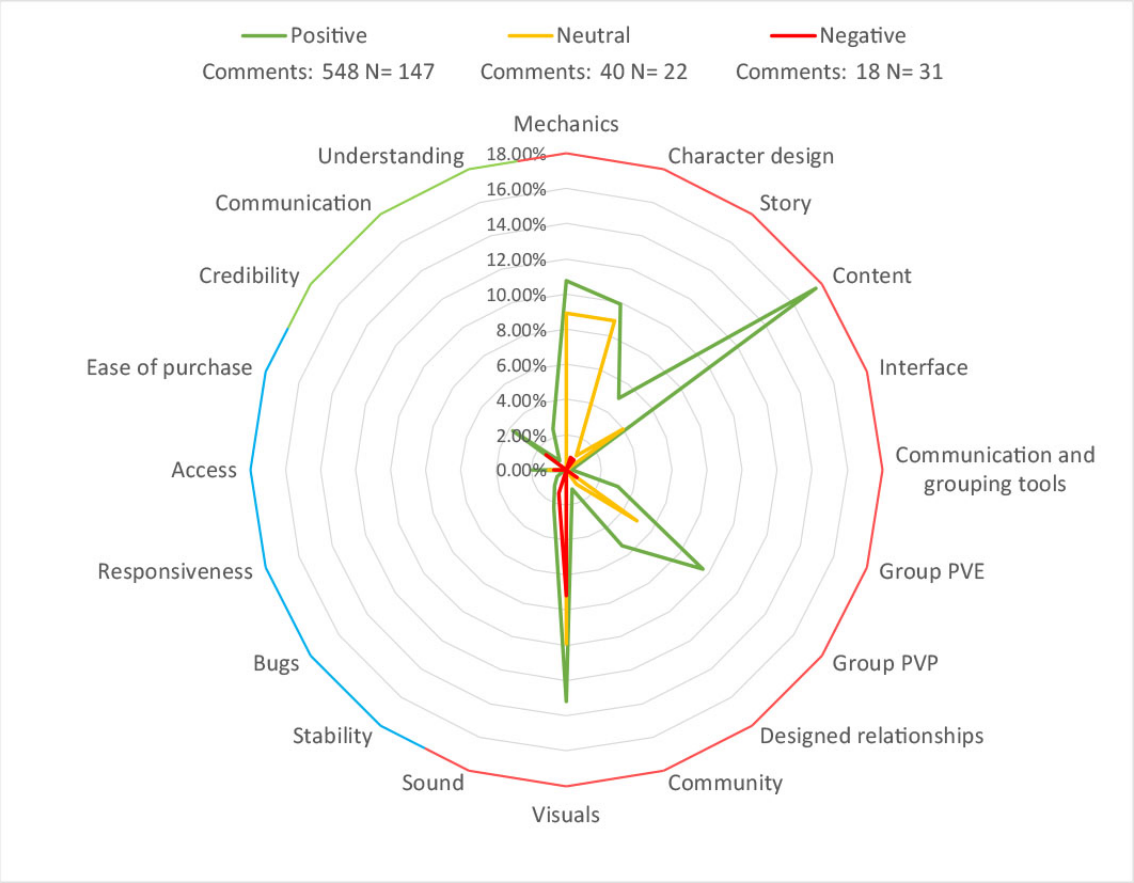

Figure 16 Satisfied comments per subdimensions in each sample, Guild Wars 2

When compared to other case MMORPGs there is a dip in the proportional number of positive comments for the *Story* dimension, and there is a clear emphasis in comments for *Group PVP*. The spike for *Group PVP* relates to the developer's increased focus on the area, as discussed. However, the dip for the *Story* dimension is harder to explain and

there is no clear indicator as to why, because negative comments do not show anything out of the ordinary. Therefore, this is likely a situation where the performance of the dimension was adequate but decidedly average in not contributing to player satisfaction in its usual manner, but not contributing to dissatisfaction either. Nevertheless, overall the distribution of positive comments is quite similar to other case MMORPGs. For example, the almost singular focus of positive comments in negative anecdotes for the *Visuals* dimension gives further evidence for the dimension's relationship with satisfaction.

Looking at the distribution of negative comments in Figure 17, general trends are apparent in spikes for *Game design* dimensions, and the *Bugs* dimension. However, when *Game design* dimensions are looked at closely areas of interest become noticeable.

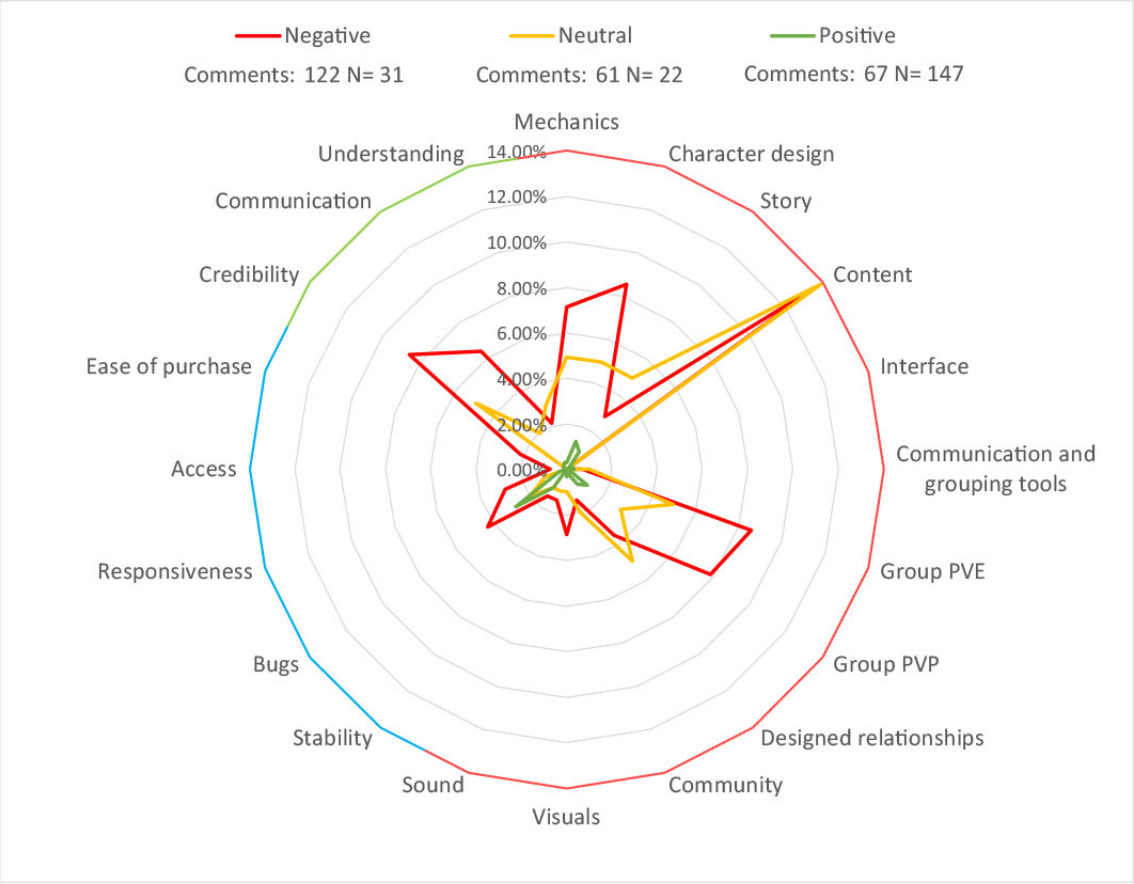

Figure 17 Dissatisfied comments per subdimensions in each sample, Guild Wars 2

Comparing Figures 16 and 17 shows interesting behavior from *Mechanics* and *Character design* dimensions, which is not immediately apparent when viewing the two separately. This is seen in Figure 16 as a spike of positive comments in neutral anecdotes; reciprocated as a dip in negative comments from neutral anecdotes in Figure 17. Whereas closer inspection reveals that the behavior of *Character design* is quite characteristic of the dimension in terms of positive and negative comments, negative comments for the *Mechanics* dimensions are comparatively low to other case MMORPGs. Analysis of anecdotes

suggests that this is most likely because players found gameplay fluid and enjoyable based on reviewer comments such as the following:

> *"I was very pleased, the gameplay is smooth" (BrosefStalin)*

Therefore, indicating that performing exceptionally well in dimensions usually split between satisfaction and dissatisfaction can shift the balance in favor of a satisfying player experience. This is similar to what was seen with the *Character design* dimension in Final Fantasy XIV, and is noteworthy because *Game design* dimensions tend to be the greatest source of player dissatisfaction. Therefore, although compared to many other dimensions the number of negative comments remains high, significant drops from the norm are observed.

Nevertheless, clear sources of dissatisfaction are apparent in other areas. In addition to negative comments for the *Bugs* dimension, particularly in positive anecdotes, significant spikes are visible for *Group PVE* and *Communication.* In and of itself the relatively high importance of *Group PVE* as it relates to dissatisfaction is not particularly noteworthy. However, the high number of negative comments, compared to the relatively low number of positive comments for the dimension, suggests that focusing overly on its counterpart *Group PVP* has a negative impact on player satisfaction in relation to *Group PVE*. This is interesting because the opposite in relation to *Group PVP* was not apparent in other case MMORPGs, which primarily focus on *Group PVE*. Therefore, although how these dimensions relate directly to satisfaction is similar, neglecting *Group PVE* has a greater impact on dissatisfaction. This can perhaps be explained by the notion that MMORPGs are inherently PVE games, which is illustrated by how negative anecdotes for Guild Wars 2 discussed the problems with *Group PVE,* attributing them to PVP:

> *"PVE: GW1 was a mainly PvP game and it shows, GW2's PvE is the standard mix of kill x quests and Dynamic Events set on a repeat cycle, quickly becoming boring and degenerating into a zerg train." (Epsilum).*

This notion is further supported by interview data summed up by the following quote from interviewee Faith:

> *"An MMORPG would be defined more as a PVE game. The PVE side of it will affect the experience more." (Faith)*

However, as seen in Figure 17 the *Group PVP* dimension receives a significant number of negative comments as well. Nevertheless, based on a review of comments for the di-

mension a distinct reason cannot be established, because negative player experiences appear to be predominately associated with the same reasons others enjoyed Guild Wars 2 PVP. Therefore, the most logical conclusion is that an increased focus on PVP also increases its importance in relation to dissatisfaction, which is expected as a result of its more prominent role.

The negative comments for Guild Wars 2 concerning the *Communication* dimension display interesting characteristics as well. Whereas the overall number of comments is akin to other case MMORPGs, proportionally the *Communication* dimension sees a spike particularly in the negative review sample. Based on the anecdotes for the dimension, negative comments can be credited to the developer contradicting themselves, which contributed to negative comments for *Credibility* as well:

> *"They broke ALL their promises, they went against their own manifesto. They went for an HEAVY grind style, a terrible gear treadmill. On top of that, the economy is ruined and prices are a real problem, especially for new players. So, if you want to buy or craft something now you pretty much have to buy money from their shop, making this a Pay to Win game." (Fuz)*

The relatively higher number of comments suggests dimensions that are usually of little importance can become more profound if developers are negligent in their implementation. In this case their external communication.

5.2.5 Star Wars The Old Republic

The anecdotes for Star Wars The Old Republic emphasize the dimensions of *Story, Content, Character design, Mechanics,* and *Sound*; followed by *Group PVE, Group PVP, Designed relationships, Graphics*, and *Credibility*, as seen in Table 15. See Appendix Attachment 11 for visual representation.

Table 15 Total comments for Star Wars The Old Republic, N=201

		Satisfied			Dissatisfied			Total	
		n.	% S.	% T.	n.	% S.	% T.	n.	%
Game design									
44.61%	Mechanics	46	9.56%	4.86%	56	12.04%	5.92%	102	10.78%
	Character design	43	8.94%	4.55%	56	12.04%	5.92%	99	10.47%
	Story	110	22.87%	11.63%	11	2.37%	1.16%	121	12.79%
	Content	40	8.32%	4.23%	60	12.90%	6.34%	100	10.57%
Game infrastructure									
4.12%	Interface	6	1.25%	0.63%	18	3.87%	1.90%	24	2.54%
	Communication and grouping tools	1	0.21%	0.11%	14	3.01%	1.48%	15	1.59%
Game sociability									
17.44%	Group PVE	28	5.82%	2.96%	13	2.80%	1.37%	41	4.33%
	Group PVP	20	4.16%	2.11%	34	7.31%	3.59%	54	5.71%
	Designed relationships	23	4.78%	2.43%	40	8.60%	4.23%	63	6.66%
	Community	4	0.83%	0.42%	3	0.65%	0.32%	7	0.74%
Tangibles									
15.54%	Visuals	27	5.61%	2.85%	36	7.74%	3.81%	63	6.66%
	Sound	74	15.38%	7.82%	10	2.15%	1.06%	84	8.88%
Reliability									
5.60%	Stability	9	1.87%	0.95%	9	1.94%	0.95%	18	1.90%
	Bugs	5	1.04%	0.53%	30	6.45%	3.17%	35	3.70%
Responsiveness									
0.74%	Responsiveness	-	0.00%	0.00%	7	1.51%	0.74%	7	0.74%
Access									
2.64%	Access	5	1.04%	0.53%	18	3.87%	1.90%	23	2.43%
	Ease of purchase	-	0.00%	0.00%	2	0.43%	0.21%	2	0.21%
Trust									
8.03%	Credibility	33	6.86%	3.49%	25	5.38%	2.64%	58	6.13%
	Communication	3	0.62%	0.32%	15	3.23%	1.59%	18	1.90%
Understanding									
1.27%	Understanding	4	0.83%	0.42%	8	1.72%	0.85%	12	1.27%
	Total 20 items	481	100.00%	50.85%	465	100.00%	49.15%	946	100.00%
	Total 22 items	481	100.00%	50.85%	465	100.00%	49.15%	946	100.00%

Whereas the distribution of comments resembles other analyzed games. The anecdotes for Star Wars The Old Republic are characterized by the dimensions of *Story* and *Sound*. The importance of *Sound* can most likely be attributed to Star Wars The Old Republic incorporating full voice acting into the game. For example, the following comment from reviewer IronLily:

> *"The voice acted cut scenes replacing the standard paragraphs of npc quest dialogue, and Mass Effect style conversations serve to not only break up the flow of the game, giving the player a brief break before jumping back into the action, it serves to make you truly attached to your character." (IronLily)*

This once again illustrates that when a dimension exceeds desired service expectations, dimensions that are not necessarily always found of importance can stand out. This is also displayed by the importance of the *Story* dimension, which is the most important dimension in the anecdotes for Star Wars The Old Republic. This is a shift from the general trend of *Content* as the most important dimension, particularly in regard to satisfaction as seen in Figure 18.

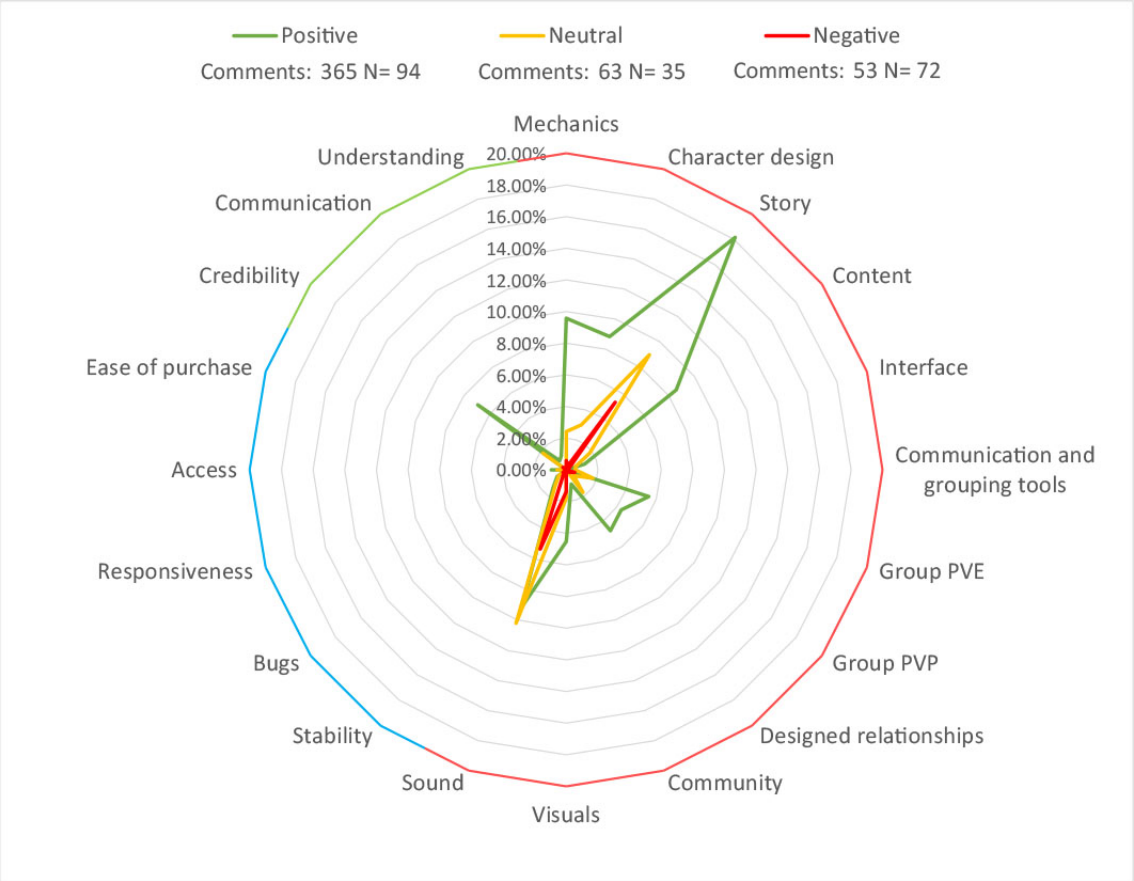

Figure 18 Satisfied comments per subdimensions in each sample, Star Wars The Old Republic

The distribution of satisfied comments characterized by the dimensions of *Story* and *Sound.*

Comments such as the following from reviewer Khas particularly refer to immersion when discussing *Story,* explaining why *Story* is found exceptionally important compared to its role in other case MMORPGs:

> *"The Old Republic gives the immersion of a single player game, while allowing more traditional social options, such as PVP and grouping for PVE content." (Khas)*

Furthermore, interviewee Thyachalis mentions that the role of *Story* is core to the essence of what makes an MMORPG:

> *"The core concept of an MMORPG is the role-playing game. Therefore, there is no real MMO without a good story." (Thyachalis).*

Therefore, based on anecdotal evidence and interviews the notion can be made that in the case of Star Wars The Old Republic the *Story* dimension enhanced the core asset of what makes an MMORPG by improving the role-playing experience through immersion.

This is further illustrated by predominately positive player experiences with *Group PVE,* Star Wars The Old Republics dungeons called flashpoints. There players as a group influence the narrative, which is seen as positive comments for *Designed relationships* as well. For example, the following comment from reviewer drakinor:

> *"Flashpoints (or dungeons) are very entertaining with entire stories that can play out in multiple ways depending on how the group chooses to go about it. Whenever there is a conversation each party member gets to chose a response and whoever wins the roll says their choice." (drakinor)*

Player experiences with *Group PVE* such as these are a prime example of how innovativeness in design choices can positively impact the player experience. This is especially the case with positive interactions between dimensions, in this case *Story, Group PVE,* and *Designed relationships.*

Whereas the *Story* and *Sound* dimensions are predominately associated with satisfaction, other dimensions are distributed amongst both satisfied and dissatisfied comments. Interestingly this is seen in dimensions that often are associated more with satisfaction or dissatisfaction respectively. For example, *Credibility* sees a relatively large number of positive comments, similar to what was seen in the comments for Final Fantasy XIV. This is interesting because for the most part *Credibility* tends to have more relative weight in regard to dissatisfaction than it does to satisfaction. Positive comments for the dimension

actually exceed negative comments both in terms of absolute and relative figures. However, similar to Final Fantasy XIV the comments can be credited to the developer exceeding player expectations. For example, given comments such as the following:

> *"There hasn't been a benchmark in the industry like this since the WoW juggernaut and if the smooth Early Access Launch is any indication, Bioware is going to be a top MMORPG developer for years to come." (Cabrien).*

Conversely, the opposite can be identified in the *Visuals* dimension, which has thus far been associated to a great extent with satisfaction, but displays a significant spike in negative comments for Star Wars The Old Republic, as seen in Figure 19.

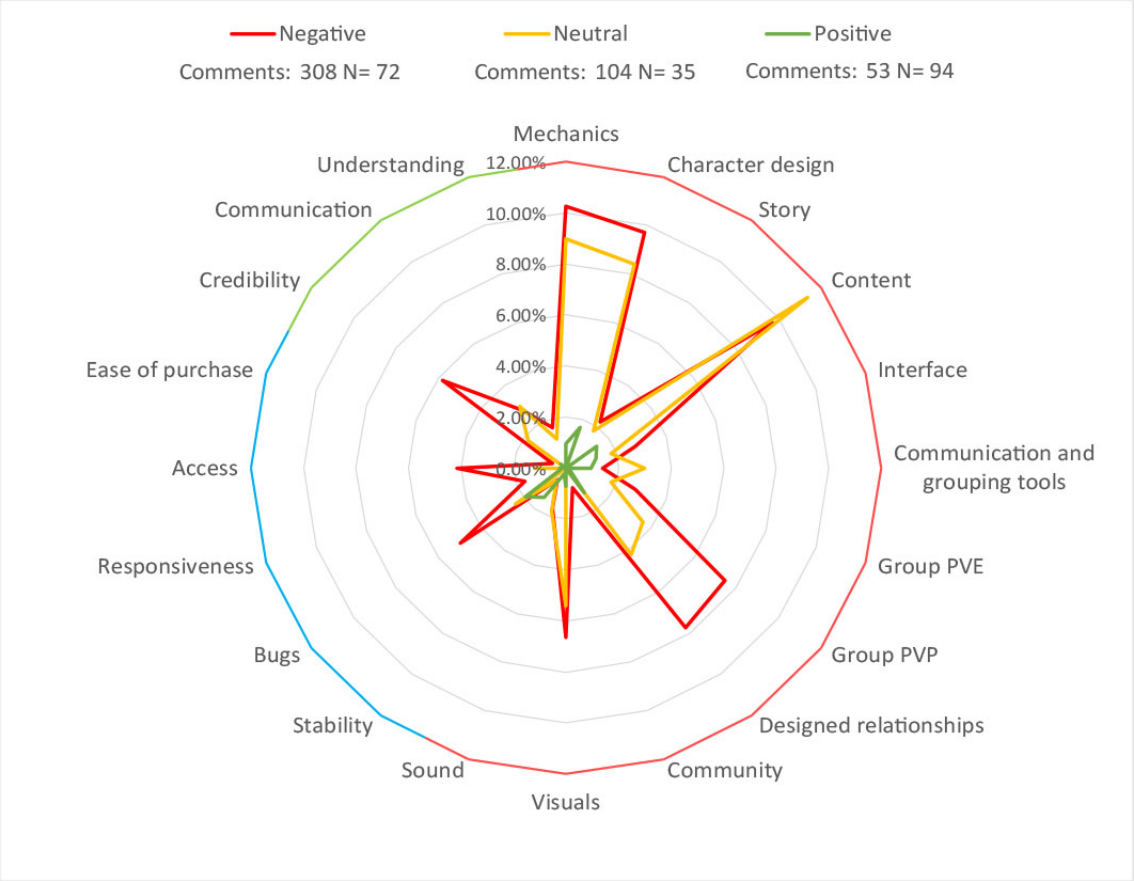

Figure 19 Dissatisfied comments per subdimensions in each sample, Star Wars The Old Republic

Furthermore, an overview of the distribution of negative comments reveals additional interesting characteristics. In addition to the notable number of comments for *Visuals,* both *Designed relationships* and *Access* see larger spikes than displayed in other case MMORPGs.

In the case of the *Visuals* dimension, player expectations for graphics in MMORPGs do not tend to be very demanding and developers have a lot of leeway in their design as suggested by interviewees. For example, the following quote from interviewee El Bagre:

> *"Mostly because people are currently very focused on gameplay. Therefore, designers have a lot of leeway when it comes to tangibles, because as long as the core mechanics of the game work, as long as it doesn't look terrible, you can pretty much do what you want." (El Bagre).*

However, as the previous quote suggests a certain level of quality must be met to meet adequate expectations. Therefore, blatantly outdated *Visuals* that fall short of the competition do not meet this requirement, as seen in anecdote comments such as the following from reviewer Jounar:

> *"The graphics are very dated for a modern MMO and are easily put to shame by the likes of AoC, LOTRO, Rift and even WoW." (Jounar)*

Otherwise a meaningful portion of players will be displeased as suggested by gathered data.

Looking at *Designed relationships,* anecdotal evidence suggests that the spike for the dimension relates to design areas negatively impacting others, similar to what was seen in Guild Wars 2. For example, the following reviewer quote:

> *"This game is not an MMO, the hole world is instanced, creating a rather empty feel when you play it. You'll run into other players but not a whole lot. Once too many players enter a zone another instance is created and you'll always have the same feel. While that may be good for immersion, it is blasphemy in MMO country." (JoeCool)*

Based on JoeCool's and similar comments the increased focus on single player gameplay and the use of instancing[6], which improved the *Story* experience had a negative impact on player collaboration. Akin, the spike in *Group PVP* can be attributed to character gameplay design decisions, as seen in comments such as the following by reviewers Goosebump and rakista:

[6] Instancing refers to the placing of players in subzones based on their activity and progress. Players in different instances are unable to interact with one another outside of messaging.

> *"PvP - just don't bother. Dire combat mechanics for melee - WoW is light years ahead in terms of combat fun for a melee class in this regard. Ranged combat seems ok and doesnt feel anywhere as awkward or clunky as melee combat." (Goosebump)*

> *"The engine alone is just dreadful with delays beyond the global cooldown on skills making PVP an exercise in anger management at times." (rakista)*

The relatively high number of comments for *Access* in turn relates to the poor performance of the game on otherwise reliable systems, illustrated by reviewer comments such as the following:

> *"The graphics engine is dire and on the 3 systems I have seen it running on it has issues with random frame-rate drops, hitching and poor resource loading (the PC I am writing this on runs most PC games just fine - Deus Ex HR, Eve Online, Payday: The heist, etc but fails to run SWTOR smoothly all of the time on even the lowest settings)" (FattyMooMooMan)*

This and similar quotes suggest players clearly expect adequate performance in an MMORPG especially when they can comfortably play other games.

Nevertheless, based on a review of anecdotes the negative comment spikes for some dimensions in Star Wars The Old can in part be explained by how player expectations were formed. Anecdotes indicate that expectations were possibly formed for many reviewers by games from other genres from the developer Bioware, rather than other MMORPGs. For example, the following comment, which berates the animation for not improving from the developer's single player games:

> *"let's see here, animations are basically the same stock animations from the Dragon Age and Mass Effect series." (tallanx)*

However, games from other genres face very different design requirements and limitations; thus, they provide an unreliable comparison. For instance, single player games tend to have better visuals than MMORPGs, illustrating the disconnect of expectations that reviewer tallanx and others experienced. Similar comments for a variety of dimensions could be found in the negative comments for Star Wars The Old Republic. For example, the following negative comment about the games *Story* from reviewer garland_spqr:

> *"The dialogue and codex writing is very mediocre and not anywhere near the quality of Mass Effect or Dragon Age." (garland_spqr)*

Consequently, players even felt that their view of the developer's *Credibility* had been tarnished, which is perhaps most significant of all. For example, the following comment from reviewer Sethendal:

> *"As a long time Bioware fan, this game couldn't be more disappointing. While the tell-tale storytelling is there as you would expect from a Bioware game, there's strong evidence that the game itself was rushed and is a cash-in on the hopes the rabid Star Wars fanbase would clamor for any chance to have a Star Wars MMO that wasn't Galaxies." (Sethendal)*

This also explains in part why despite the significant number of positive comments for the *Credibility* dimension, the dimension was nearly equally associated with dissatisfaction. Therefore, preparing for how customer expectations are formed may be necessary, particularly in the case of developers who have an established reputation in other game genres. This is because meeting the expectations set by a different game genre are difficult if not impossible to meet. Nevertheless, one should note that such expectations were not the sole contributor of negative comments in any single dimension but part of the sum.

5.2.6 The Elder Scrolls Online

The distribution of comments for Elder Scrolls Online is similar to other case MMORPGs. Most comments are seen for *Content, Mechanics, Visuals,* and *Character design*; followed by *Story, Bugs, Group PVP, Designed relationships, Credibility, Group PVE,* and *Sound,* which all receive a similar number of comments, as seen in Table 16. See Appendix Attachment 12 for visual representation.

Table 16 Total comments for The Elder Scrolls Online, N=199

		Satisfied			Dissatisfied			Total	
		n.	% S.	% T.	n.	% D.	% T.	n.	%
Game design									
43.10%	Mechanics	62	13.45%	7.01%	40	9.46%	4.52%	102	11.54%
	Character design	48	10.41%	5.43%	33	7.80%	3.73%	81	9.16%
	Story	48	10.41%	5.43%	14	3.31%	1.58%	62	7.01%
	Content	75	16.27%	8.48%	61	14.42%	6.90%	136	15.38%
Game infrastructure									
3.39%	Interface	5	1.08%	0.57%	15	3.55%	1.70%	20	2.26%
	Communication and grouping tools	1	0.22%	0.11%	9	2.13%	1.02%	10	1.13%
Game sociability									
19.12%	Group PVE	22	4.77%	2.49%	20	4.73%	2.26%	42	4.75%
	Group PVP	43	9.33%	4.86%	13	3.07%	1.47%	56	6.33%
	Designed relationships	10	2.17%	1.13%	39	9.22%	4.41%	49	5.54%
	Community	7	1.52%	0.79%	15	3.55%	1.70%	22	2.49%
Tangibles									
14.25%	Visuals	64	13.88%	7.24%	20	4.73%	2.26%	84	9.50%
	Sound	35	7.59%	3.96%	7	1.65%	0.79%	42	4.75%
Reliability									
9.39%	Stability	6	1.30%	0.68%	18	4.26%	2.04%	24	2.71%
	Bugs	2	0.43%	0.23%	57	13.48%	6.45%	59	6.67%
Responsiveness									
1.24%	Responsiveness	5	1.08%	0.57%	6	1.42%	0.68%	11	1.24%
Access									
0.90%	Access	6	1.30%	0.68%	1	0.24%	0.11%	7	0.79%
	Ease of purchase	-	0.00%	0.00%	1	0.24%	0.11%	1	0.11%
Trust									
7.01%	Credibility	14	3.04%	1.58%	35	8.27%	3.96%	49	5.54%
	Communication	1	0.22%	0.11%	12	2.84%	1.36%	13	1.47%
Understanding									
1.47%	Understanding	7	1.52%	0.79%	6	1.42%	0.68%	13	1.47%
	Total 20 items	461	100%	52.15%	422	99.76%	47.74%	883	99.89%
	Total 22 items	461	100%	52.15%	423	100.00%	47.85%	884	100.00%

However, when dimensions are viewed in terms of satisfaction and dissatisfaction clearer distinctions can be made.

Regarding satisfaction, *Game design* dimensions, *Group PVP,* and *Tangibles* dimensions are particularly associated with satisfaction. This distribution is seen across all samples, as seen in Figure 20.

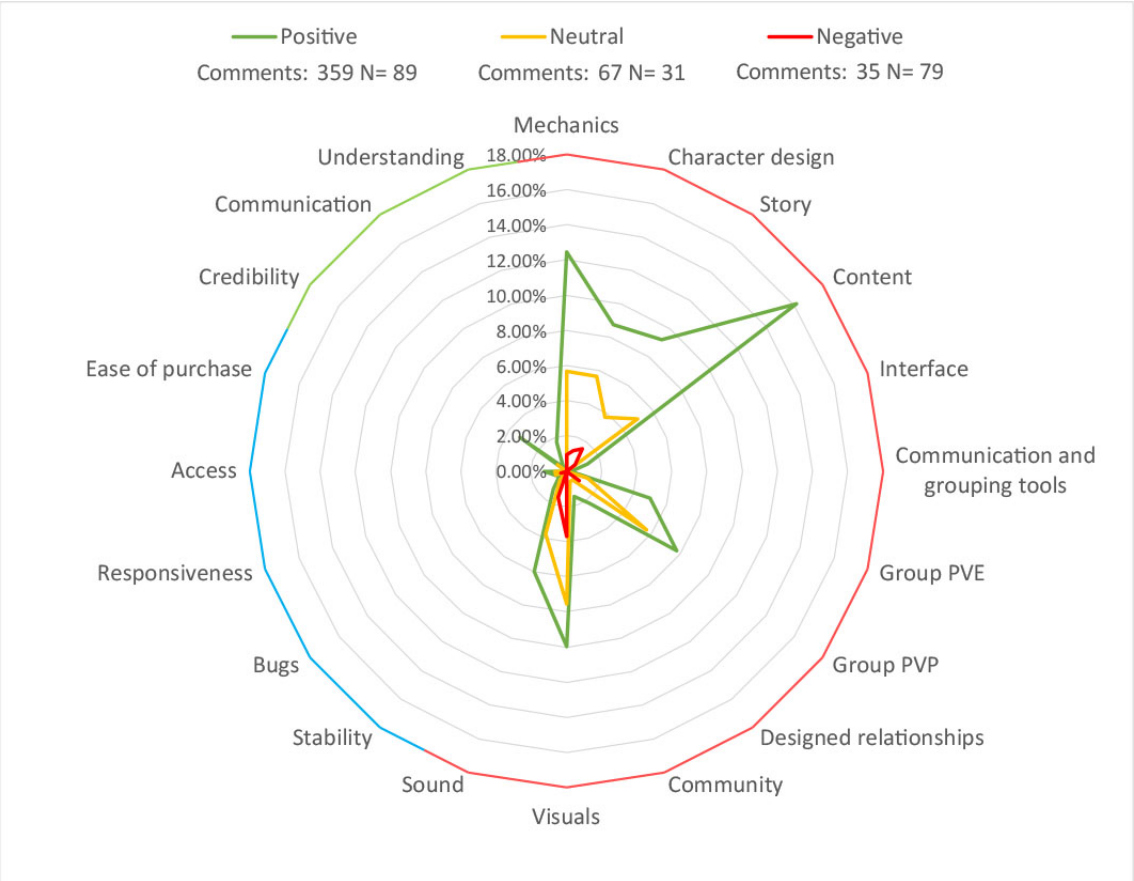

Figure 20 Satisfied comments per subdimensions in each sample, The Elder Scrolls Online

Whereas the distribution of comments is otherwise expected, the number of comments for *Group PVP* is interesting. This is because outside of Guild Wars 2 the relative number of comments for the dimension has been comparatively low. Based on anecdotal evidence the high number of comments for *Group PVP* can be attributed to design decisions in the area similar to what was seen in Guild Wars 2. For example, the following comment from reviewer cjwilke:

> *"PVP. Even the "haters" of this game admit that the PVP in this game is some of the best ever seen in a MMORPG. It is based on DAOC, which most gamers see as the epitome of PVP. Cyrodiil is huge, just as big as Oblivion, and not only offers RVR style PVP with siege weapons and keeps, but the zone offers PVE elements including crafting nodes, treasure maps, chests, dungeons, towns with quests, etc." (cjwilke)*

This further enforces the finding made across other case MMORPGs that innovation plays a key part in achieving player satisfaction by providing players with new and improved experiences.

Moving to the distribution of comments in terms of dissatisfaction. The dimensions of *Designed relationships* and *Bugs* see notable spikes in all samples, as seen in Figure 21.

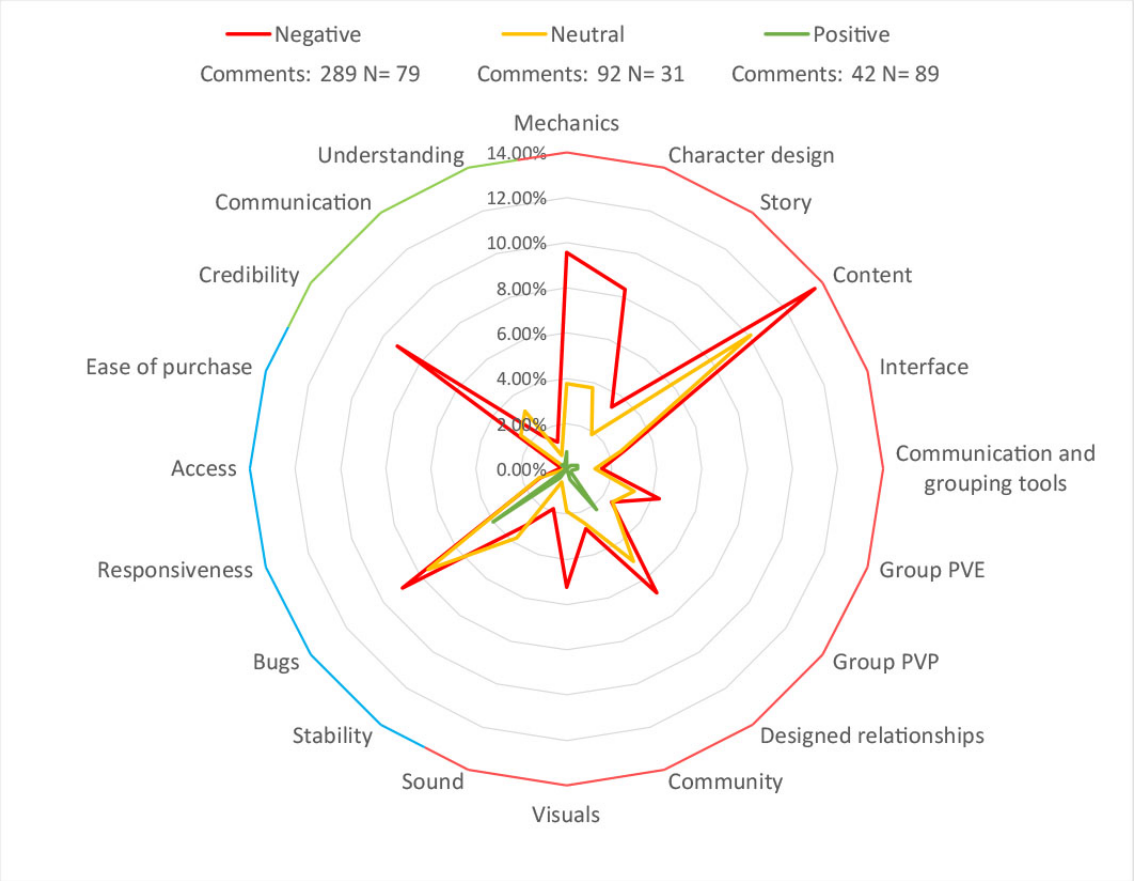

Figure 21 Dissatisfied comments per subdimensions in each sample, The Elder Scrolls Online

The negative comments in relation to *Designed relationships* appear to be caused by player collaboration becoming a hindrance more than an advantage for many players in The Elder Scrolls Online, based on reviewer comments such as the following:

> *"As a multiplayer experience, it's practically not there! There is absolutely no teamwork involved in the quests, even if you're in a group, you have to finish quests separately. This means that the only thing other players are good for is getting in your way and stealing your resources." (DarkJinks)*

This highlights the importance of incentivizing and facilitating social interaction. Interviewees discussed this as well. For example, the following quote from interviewee Angmoh:

> *"For me the saving point of MMOs is playing with other people. When I feel that I'm playing by myself for myself it's a lot easier for me to go pick up a single player game with maybe more development, a better story. I think because MMOs are so open ended you do need a community for it simply to be fun and engaging." (Angmoh)*

Therefore, as discussed in literature and throughout this study, MMORPGs cannot be meaningfully experienced without player interaction, and thus diluting it is at odds with the very essence of the genre.

The significant association of the *Bug* dimension with dissatisfaction across all populations shows that design areas when performed subpar can become a significant source of service dissatisfaction. This is even if they receive little notice when performed adequately. This potential problem relating to reliability issues was discussed in interviews as well, as already discussed in 5.2.3 with a quote from El Bagre. The *Bug* dimension was exceptionally prevalent in Elder Scrolls Online compared to other games where comment numbers were significantly lower. These negative associations can be explained by poor performance. For example, the following quote from reviewer Isca:

> *"The quests are EXTREMELY BUGGED, at least 1/3 quests have NPCs missing, or they are doing something so that you can't forward the quest." (Isca)*

This follows the same reasoning as discussed in other case MMORPGs, giving further support for how the importance of dimensions becomes emphasized when performing below or above adequate or desired expectations respectively.

In the case of Elder Scrolls Online poor service performance in vital service areas impacted the player experience to such an extent that they felt that especially a developer with a proven track record should have done better, as seen in reviewer comments such as the following:

> *"A shameless cash grab - tons of bugs, and none of the fun of the single player games." (TrouzzzerSnake)*

Many saw this as almost intentional and greedy instead of unintentional poor design, resulting in a negative comment spike for *Credibility*. This also underlines that expectations are intertwined with the reputation of the developer, and players are more likely to be forgiving to smaller up and coming studios than they are for veterans of the industry. This illustrates that dissatisfaction spreads from core service dimensions to dimensions with a support role, which was displayed in other case MMORPGs as well.

Furthermore, when viewed solely in terms of subsamples, there is a noticeable association of the *Visuals* dimensions with dissatisfaction in negative anecdotes. Nevertheless, this association, as in the case of Bioware's Star Wars The Old Republic, indicates that developers face significant challenges if players compare their service to games of other genres. For example, indicated by reviewer comments such as the following:

> *"I am a huge Skyrim and Oblivion fan and was expecting something so much better. I played the beta for a while and found that it didn't measure up in any shape or form to my expectations. The graphics are poor and I just can't stand playing in a world littered with people doing things that make no sense whatsoever." (Tinz)*

The forming of expectations further explains the significant spike for *Credibility* as well. Based on comments it would appear that, in the case of The Elder Scrolls Online, many customers had placed adequate service expectations for the game quite high because of their trust in the service provider. Thus, the high impact on *Credibility* when these service expectations were not met. For example, the following comment from reviewer magnusnet:

> *"Fan of TES franchise since Morrowind, I've sadly seen the decline and the dumbing down of the franchise, at first in Oblivion (which was still extremely enjoyable) and afterwards in Skyrim where the game was dumbed down enough to apeal to the console crowd and thus making millions and putting to light a sad fact about nowadays gaming." (magnusnet)*

Therefore, the reason for these expectations can once again be tied to players' expectations forming from games of a different genre, supporting findings from 5.2.5. In the case of The Elder Scrolls Online this conflict was perhaps further exacerbated by players making comparisons to previous titles of the same IP, which belong to a different genre.

5.3 Discussion on findings

The analysis and comparison of empirical evidence for case MMORPGs provides several insights as to how players evaluate MMORPG service quality. Foremost, in relation to research question 2, MMORPG players evaluate service quality based on expectations. This was evident in both anecdotes and interviews. For example, the following comment from reviewer z1RoadRunner1z regarding The Elder Scrolls Online:

> *"I dared to think it would be something different. I was wrong, same old MMO you have already played if you have played any others. Boring generic quests. Poor graphics but not bad compared to competition, however the tone and style is the most dull feeling thing I have ever seen, could use some colour and is so much worse than other MMOs in that regard." (z1RoadRunner1z)*

Interviewees discussed this as well. For example, the following quote from interviewee El Bagre:

> *"Moving into a different MMO, I suppose then the expectations goes, you're looking for the little difference the things that make it more interesting. Because you know WoW has been around for ten years and a lot of these competing MMOs are literally trying to pull subscribers from WoW by offering these little differences. The things that WoW doesn't offer but they do better." (El Bagre)*

Additional findings were made in relation to expectations as well. It was identified that how players evaluate their experience slightly differs in expansions compared to new IPs. This is because expectations form differently for expansions. This was illustrated by interviews, and a narrower focus of anecdote comments in World of Warcraft compared to other case MMORPGs. This suggests that the role of certain service areas diminish, whereas core areas become emphasized in player evaluations of expansions. Another finding of interest is that developers face challenges in meeting player expectations if expectations have been inadvertently formed by a different game genre.

In regard to research question 3, the distribution and review of comments across different dimensions indicates that there are distinct characteristics as to how players evaluate service quality depending on service performance. Whereas broadly speaking the distribution of positive and negative comments do not greatly differ, and *Game design* and *Game sociability* dimensions receive the most comments, certain dimensions are clearly

associated more with satisfaction or dissatisfaction. This relates to the role of the dimension in the mind of the player. Therefore, referring to 2.2, dimensions have differing zones of tolerance and higher or lower desired and adequate expectation levels. Achieving desired levels and falling above adequate levels is thus far easier in some areas compared to others and vice versa. This is most apparent in the dimensions of *Tangibles* and *Reliability*, of which the former was encountered primarily in positive comments and the second in negative comments. Akin, *Story* a *Game design* dimension is predominately associated with positive experiences as well. Nevertheless, every single dimension can have a significant impact on either satisfaction or dissatisfaction when dimensions excel or underperform. Table 17 displays how certain dimensions related predominately with either satisfaction or dissatisfaction in case MMORPGs.

Table 17 Dimensions that significantly relate to either satisfaction or dissatisfaction per case MMORPGs

MMORPG	Satisfaction	Dissatisfaction
World of Warcraft: Warlords of Draenor	*Story, Visuals, Sound*	*Group PVP, Designed relationships, Stability*
Final Fantasy XIV: A Realm Reborn	*Character design, Story, Visuals, Credibility*	*Communication and grouping tools, Stability, Bugs*
Guild Wars 2	*Mechanics, Visuals*	*Group PVE, Bugs, Credibility, Communication,*
Star Wars The Old Republic	*Story, Group PVE, Sound*	*Group PVP, Designed relationships, Bugs*
The Elder Scrolls Online	*Story, Group PVP, Visuals, Sound*	*Designed relationships, Bugs, Credibility*

In Table 17, it is visible how similar to dimensions, such as *Tangibles, Reliability,* and *Story* many dimensions were associated with either satisfaction or dissatisfaction. However, the alignment of some dimensions changes from one MMORPG to another. *Game sociability* dimensions are seen to align with both satisfaction and dissatisfaction; whereas certain *Game design* dimensions stand out in relation to satisfaction owed to developer innovativeness; and *Trust* dimensions are predominately a source of dissatisfaction, barring Final Fantasy XIV where the developer exceeded expectations to such an extent player perceptions changed. These dimensions display that there are certain trends in terms of how dimensions relate to satisfaction and or dissatisfaction, and that there are even differences between how dimensions behave within a primary dimension. However,

they also show how despite these trends dimensions can behave in unexpected ways depending on service performance. Therefore, illuminating areas where developers often underperform such as *Designed relationships*; or areas where developers have through innovativeness or overall service performance surpassed expectations and positively improved the player experience.

Further distinctions can be made between dimensions when comments are viewed in terms of the sample they are from. The overall distribution of comments in samples is very similar. Nevertheless, whereas neutral and negative anecdotes display a similar distribution in terms of positive and negative comments, they differ from positive anecdotes. Dissatisfaction in positive anecdotes primarily focuses on *Reliability*, either *Bugs* and or *Stability,* depending on where service failure occurred. However, as the service experience deteriorates dissatisfaction occurs in numerous additional service areas indicated by neutral and negative anecdotes. Therefore, dissatisfied comments in negative and neutral anecdotes are not limited to *Game design, Game sociability*, and *Reliability.* This is often seen as a spike in *Trust* dimensions and, depending on the MMORPG, as minor spikes in dimensions, such as *Game infrastructure, Access, Understanding,* and *Responsiveness.* Comments thus indicate that many dimensions become relatively more important as the service experience suffers. This can be attributed to zones of tolerance and service performance. Therefore, as a result players evaluate a broader spectrum of the service during service failure because dimensions become emphasized. Interviewees discussed this as well. For example, the following comment from Faith about the importance of dimensions shifting depending on her service experience:

> *"Any game where you have positive or negative game design it doesn't matter, but understanding and the customer service that's where it really comes into play." (Faith)*

Nevertheless, whereas minor spikes and a wider distribution of comments are seen, there remains the question of as to why many dimensions receive few comments. In *Responsiveness*, this was attributed to the infrequent need for customer service on an individual level. In turn, in the case of *Security* this was identified as players taking it for granted. Similar indications are apparent in other dimensions as well. For example, *Understanding* would appear to be an inherent part of the MMORPG paradigm, illustrated by the following comment from interviewee Thyachalis:

> *"I completely agree that MMORPGs are designed to appeal to a large audience. However, they also try and appeal to specific niches of groups. So, while they are trying to appeal to everyone, at the same time they are trying to pin point certain groups." (Thyachalis)*

Therefore, players pay less attention to dimensions, which inherently tend to fall within the zone of tolerance. This is especially evident in dimensions that are less important and where adequate performance can be sufficient such as *Interface.* For example, the following comment from interviewee Thyachalis discussing the role of *Interface*:

> *"It has to be easy enough for one to be able to get the grasp of it, but it's not a majorly important one. You can get over it, it'll stress you out for about half an hour, but afterword's unless you can't get a hold of it it's not as impactful." (Thyachalis)*

Therefore, certain dimensions while part of the service experience, have a lesser role in contributing to satisfaction or dissatisfaction barring extensive service failure.

However, there are indications that a dimension's design may impact the performance of other dimensions, particularly in terms of game quality. This was apparent in several of the case MMORPGs where decisions in *Game design* had a negative impact on *Game sociability*. For example, the following comment from reviewer Poopypants regarding *Designed relationships* in Star Wars The Old Republic:

> *"This game isn't an MMO. It's an instanced Co-op game. I could write a novel on why but the simple fact is that the world is missing from this game as a character. You move about the world in transitions / instances and never really get the feeling you're in a massive world but a simulator of sorts. It's highly jarring given the setting that you end up feeling as though you're playing a a co-op RPG that decided to throw in some MMO features. Many of the innovations and foundations built as standards for MMO's are missing making the game feel like it's missing something at all angles based on the MMO expectation it sets." (Poopypants)*

Interviewees discussed this as well. For example, Angmoh felt that *Communication and grouping tools* are decreasing communication between players; thus, diluting the social experience:

> *"For MMOs specifically the most important for me is basically the community and being able to engage, feeling like you need other people to be able to get the things you really want to do. But I think in some games they are making it so that you can interact very little. Like the looking for group tool, you know yea it makes it a lot easier but sometimes you can go through the whole thing and not speak to anyone." (Angmoh)*

Therefore, developers should carefully test and evaluate how dimensions interact with one another. This can be particularly challenging when design decisions inadvertently cause service hiccups in other areas because end results may be unexpected. Experiences between players may also drastically differ. However, the opposite also holds true where dimensions improve the effectiveness of other service areas, as was seen in the case of Star Wars The Old Republic where *Sound* improved immersion, and thus the *Story* experience.

Therefore, comments and their distribution suggest that dimensions affect one another, and that satisfaction and dissatisfaction spread from different service areas to other service areas. This relates to how players evaluate their service experience during and after the service encounter, and zones of tolerance. Evaluations would thus generally appear to happen in the following manner, when broken down in terms of service area, as seen in Figure 22.

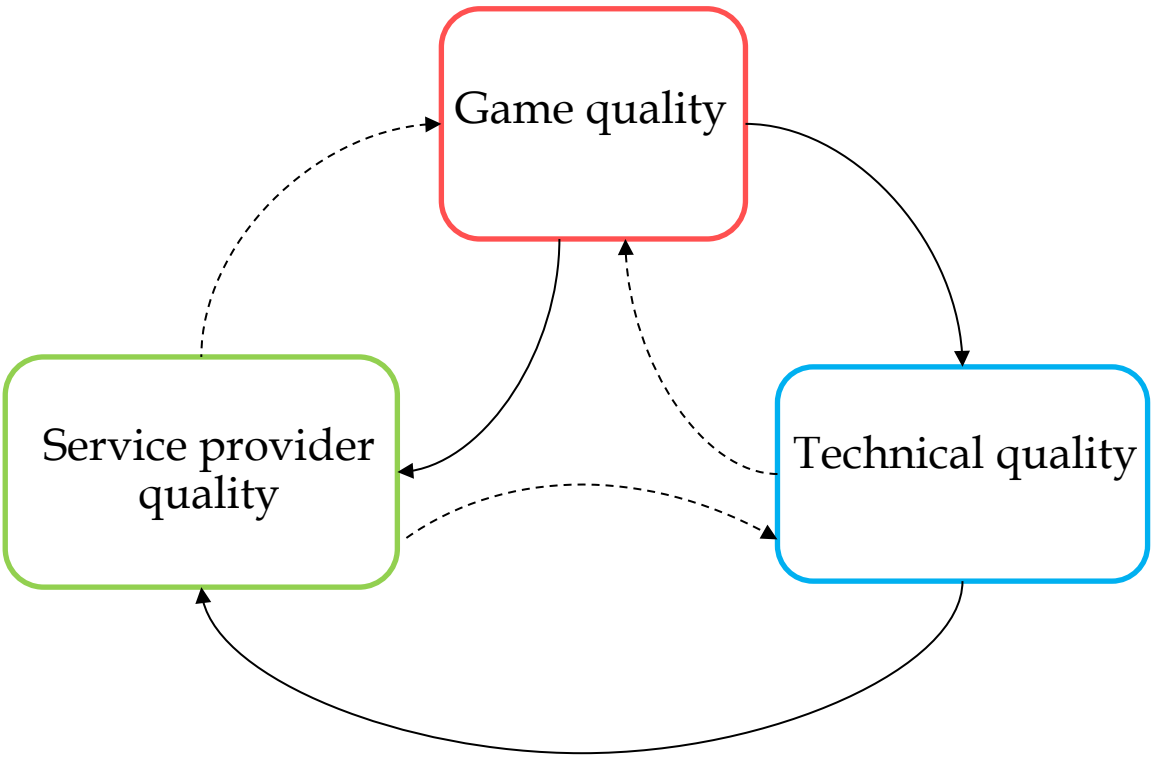

Figure 22 Player evaluations of MMORPG service quality

Therefore, game quality has the greatest impact on how the service is evaluated. Nevertheless, technical quality can hamper this experience or in some cases such as with exceptional customer service result in the opposite. However, the final part of evaluation is evaluating service provider quality, which is dependent on the performance of game qual-

ity and technical quality. Nevertheless, because of the nature of MMORPGs, service encounter duration and its repetition, this process becomes cyclical. Therefore, technical quality and service provider quality can impact how game quality is evaluated, and service provider quality can affect evaluations of technical quality.

Consequently, certain dimensions make the service core: *Game design, Game sociability, Tangibles, Reliability,* and *Trust.* This was illustrated in comments, their distribution, as well as interviews. Some interview comments to exemplify. *Game design* dimensions were by far the dimensions to receive the most comments and regarded the most important dimensions by all interviewees:

> *"Definitely everything in game design is my first pick. Story is definitely going to be highest, followed by character design." (Faith)*

Game design was followed by *Game sociability* in both comments and interviews. Interviewees found *Game sociability* a core tenant of MMORPGs akin to what was seen in anecdotes throughout this chapter:

> *"Essentially the thing that an MMO has over a single player game is usually the interactions. The things that you can do with other people. I mean otherwise you could probably go for a single player game that has a better story experience, better graphics etc. But an MMO game kind of sacrifices a little bit on graphics, might sacrifice a little bit on narrative. Of course, you know with exceptions like Star Wars The Old Republic had very strong narrative in its first iteration. But for the most part MMOs are all about experiencing a game with a lot of different people and being able to interact with these people in these kinds of environments. Essentially the expectations that go along with that are: What can you do? And I suppose there are two main branches: One is PVP, being able to compete against other players; or PVE, being able to co-operate against in game challenges." (El Bagre)*

Whereas *Tangibles* was found to have a complimentary role, the large number of anecdote comments, and interviewee comments suggest the dimension can significantly enhance satisfaction, which highlights its importance. Furthermore, the dimension is one where adequate performance remains crucial:

> *"Especially with MMOs which have a big emphasis on big worlds and that kind of stuff, I think when you can enhance that exploration feel with beautiful design, I think its great. But I wouldn't necessarily ask for the latest in technology. I mean as long as you make the game visually appealing, then I think that's pretty much the minimum I'm asking for." (Angmoh)*

Reliability is the dimension most associated with dissatisfaction, illustrating its crucial role in potentially hindering the service experience. Interviewees found its importance in parallel to that of game quality dimensions:

> *"Parallel to the actual gameplay is where I would put these other aspects. By parallel they are equally important as will I stick to that MMO or not. If you have something that is not stable, every game will have bugs and mistakes, but if they are not taken care of in a relatively good speed, if they're not sloppy about it, if they're not responsive, all of those factors end up affecting conversely everything else. If you found the perfect game, that fits every category: story, the immersiveness, all of that. If that is a perfect ten, and you come into a game who is constantly failing on servers, it has plenty of bugs, poor responsiveness. That will outright kill that perfect score." (Thyachalis)*

Trust was seen to have a major impact on how players felt about the service provider after the service encounter. Therefore, displaying the likelihood for continued or repeat business:

> *"When you are seriously considering something then developer trustworthiness and how well they communicate plays a major role of what you are doing". (Thyachalis)*

Therefore, developers need to be particularly careful in these areas. Nevertheless, there is evidence that all dimensions included in this study have a role in forming the MMORPG service experience, and many are crucial as Thyachalis discussed *Responsiveness* in conjunction with *Reliability*. Therefore, despite a lack of comments all dimensions need to perform adequately. For example, it is important to note that the *Security* dimension is a crucial part of the service experience, albite omitting service failure a hidden one. Interviewee El Bagre expressed this well:

> *"If you are not careful with players' financial information, if that information gets stolen, then that becomes a news item, then you know your game gets hurt." (El Bagre)*

However, outside of the service core, the role of many dimensions is situational and dependent on whether players feel the dimensions made an impression. Interviewee Angmoh discussed this based on his own experience:

> *"A lot of these things I don't rank important because they work fine, but the moment they start not working that great, and the moment they start impacting the way you feel about the game or experience then obviously, they rise up in importance. So for example, while I was playing Mists of Pandaria and a lot of PVP I didn't have problems with engagement or community, because I had my own community and we did that. And then the new expansion, it turned things much more individualistic. Then you do feel that impact and you realize how important community is to you. So, I do feel like priorities do change when you have a bad experience with one part. It's just human nature that we don't tend to be that grateful for the things we do have, that we do like, but we will notice when they displace us." (Angmoh)*

Therefore, certain dimensions may easily be overlooked and not innovated upon. This is perhaps particularly the case in service areas, which are part of the MMORG paradigm, and thus accepted in their traditional iteration by both players and developers. However, this study shows that it is possible to achieve satisfaction in players in almost all service areas through innovation. Nevertheless, the opposite holds true as well; thus, emphasizing that ensuring service excellence is important in all areas.

6 CONCLUSIONS

The findings of this thesis have several implications of both theoretical and managerial interest. This chapter will discuss those implications and how they should be addressed, whilst laying the groundwork for future MMORPG service quality research.

6.1 Theoretical implications

The findings of this study propose several areas of theoretical interest. In relation to research question 1, MMORPGs as a service are distinguished in several ways from traditional offline and online services. MMORPGs are defined by long and recurring service encounters. Therefore, MMORPGs face higher quality requirements than traditional services due to raised service level expectations per Zeithaml et al. (1993), which concurs with Jung et al.'s (2014) research findings regarding game development and innovation. Furthermore, as a result the service encounter becomes emphasized, which is formed by player interactions with other players and the system. The system is the games design, and social interaction is the games sociability; the two characterizing the MMORPG service process. These add additional dimensions crucial to experiencing an MMORPG, which are not considered in traditional service literature models, such as SERVQUAL or the array of e-SQ models. Nevertheless, the core principles of service quality remain evident in MMORPGs.

In relation to research question 2, there is empirical support for the use of a disconfirmation approach. This is in line with extant service quality literature, and indicates that a performance only approach to MMORPG service quality would be insufficient, particularly due to its inability to take into account external factors. Furthermore, the way how customers evaluate service performance in different dimensions is in line with extant customer expectations literature, supporting the notion of the existence of the zone of tolerance, and adequate and desired expectation levels in MMORPGs. In addition, findings indicate that service quality is evaluated slightly differently in expansions and new MMORPGs because of differing expectations. This is interesting because World of Warcraft is a commonly used case study in MMORPG research despite its maturity. Therefore, older MMORPGs that have received multiple expansions may be poor analogs in and of themselves of the wider MMORPG land scape.

The findings of this study in relation to research question 3, suggest that service experience is to a large extent primarily formed by certain dimensions, namely *Game design, Game sociability, Tangibles, Reliability,* and *Trust.* However, depending on service performance all dimensions identified in this study are pertinent to how players evaluate the

quality of their service experience. These results support empirical findings in past literature in regard to the importance of game design and sociability, and the use of these in combination with traditional service quality metrics. However, certain distinctions should be made. For example, although Wu et al. (2008) found that sound does not play a role in player enjoyment of MMORPGs, the results of this study indicate that when exceptionally executed a games auditory experience can be a major contributor to player satisfaction. Particularly in the case of Star Wars The Old Republic this was a contributor to immersion and the overall game experience. Therefore, whereas its role as a motivator may not be direct, there are indications it does so indirectly. Researchers should thus not discount dimensions without first evaluating their possible moderating or mediating role.

6.2 Managerial implications

These findings have several managerial implications. Developers should place particular care in the management of certain dimensions that form the service core, namely *Game design, Game sociability, Tangibles, Reliability,* and *Trust.* These core design areas should always be designed as well as possible because these are the areas where players will experience the most satisfaction and or dissatisfaction. However, developers may easily overlook the importance of adequate performance in other service areas. This is where developers may encounter challenges, possibly leading to player dissatisfaction. Nevertheless, the opposite holds true as well. Developers can achieve player satisfaction in unexpected service areas; underlining the importance of innovation when considering any dimension.

Therefore, in MMORPGs merely meeting expectations is insufficient and only by delighting players can developers achieve service excellence, attract new players, and retain customers. Therefore, developers should also observe areas of difficulty where inadvertent service failure may occur. Development teams thus need to avoid conflicts between dimensions particularly in terms of their performance. Furthermore, developers with existing IPs should be careful to avoid situations where players new to the genre may become confused and underwhelmed by the service offering due to misleading expectations. Whereas on the part of the developer this is unintentional, inexperienced players may make misguided comparisons. Therefore, proper communication and player access to trial phases of development are important.

6.3 Limitations and validity

Research validity is an important concern particularly in inductive qualitative research methods such as netnography, where interpretations and findings may become personalized, limiting objectivity (Sigala 2012, 978). Furthermore, the generalizability of results is limited in netnography because of the lack of background information on the individuals posting comments, and the methods restricted scope of online communities (Kozinets, 2002, 62). These concerns were addressed by conducting a multiple case content analysis and through data triangulation.

A multiple case content analysis improves generalizability by forming findings through within and cross-case coding and analysis. Therefore, findings are triangulated between different community samples, and consequently can be generalized for communities that fit the sample profile, in this case MMORPGs. However, the lack of reviewer background information removes the possibility to determine in what way findings relate to how service quality evaluations differ in player segments. This is a valid concern particularly as to how player needs may differ in terms of hierarchy, per research into player types. Nevertheless, by dividing samples based on review score some further distinctions could be made about findings concerning service quality levels.

Data triangulation was performed in order to limit possible questions as to the objectivity of findings. This was done to triangulate findings with a data source impartial of researcher interpretation. Whereas researcher triangulation would have been ideal, data triangulation was selected because researcher triangulations was not possible. This was due to time constraints and the required interpretive skill of the researcher, which would require intimate knowledge with the game genre. Therefore, for the purpose of triangulation partially structured theme interviews were conducted.

This study also faces several other limitations in generalizing differences between expansions and new IPs in terms of player evaluations and expectations, and accounting for the possible role of price in player perceptions of service quality. Nevertheless, both limitations are ultimately quite small. The findings concerning differences between expansions and new IPs were unexpected. Whereas accounting for this difference would have been ideal, due to lack of foresight it was not possible to account for it in research design. However, the finding ultimately presents more value to this thesis than adversely affect the purpose of this thesis. Accounting for the role of price in player perceptions is in turn a common shortcoming in service quality literature. Furthermore, there were methodological constraints in accounting for price in service evaluations, further exacerbated by several case MMORPGs either shifting or diversifying business models post launch.

6.4 Future research

This study has shown that marketing research of MMORPGs is of theoretical and managerial value. Therefore, future research in the field is desirable particularly given the ever-growing size of the video game industry. Whereas MMORPGs prove a fruitful source of research avenues, such as customer experience management, the findings and shortcomings of this study present several areas of potential future research.

First, this study was unable to account for different player types. Therefore, different types of players should be accounted for in future research to better understand how evaluations may differ in different player segments. Second, further quantitative study and validity testing of this studies proposed MMORPG service quality framework is necessary in order to understand the precise relationship of identified dimensions. Therefore, offering an area for future research in applying this framework to MMORPG service quality measurement. Third, how service quality evaluations and expectations differ between expansions and new IPs presents an area of further study. This study proposes several insights in this area. However, conclusions as to the exact nature of how expectations and evaluations differ between the two remain limited, because World of Warcraft was the only analyzed expansion. Fourth, a common shortcoming of service quality research is the inability to take into account how price performance ratio affects perceptions of service quality. Nevertheless, research has shown that game price point influences player evaluations of product value. Therefore, achieving higher levels of satisfaction can be achieved by lower service levels at lower price points. In the case of MMORPGs this is a particularly interesting area of research because of the various business models in place for different MMORPGs; combined with the fact that it is not uncommon for MMORPGs to change business models.

7 SUMMARY

The purpose of this study was to develop a better understanding of how consumers evaluate their MMORPG service quality experience by answering three research questions: 1) How do MMORPGs differ from traditional offline and online services? 2) Do expectations play a role in player evaluations of MMORPG service quality? 3) What are the service quality dimensions that govern the perceived service quality of MMORPGs? The study took the form of a literature review and netnographic analysis. Netnographic results were data triangulated with partially structured theme interviews.

Based on the literature review it was identified that service quality has to a large extent been evaluated based on SERVQUAL. However, it was determined that based on e-SQ literature SERVQUAL should be modified in an online setting, and that virtual community service research offers additional dimensions necessary for the holistic understanding of services such as MMORPGs. Nevertheless, it was identified that MMORPGs differ from traditional service offerings, and that literature on MMORPGs offers additional insight into the importance of the dimensions of *Game design* and *Game sociability.* In relation to research question 1, it was thus identified that the MMORPG service experience differs from traditional online and offline services in two crucial ways: MMORPG service encounters are long and recurring; and the service experience is based on interaction with the system, and interaction with other players. Therefore, emphasizing the importance of game design and sociability in conjunction with traditional service quality elements.

Furthermore, the literature review identified that extant service quality research can be divided into two schools: disconfirmation theory and the performance approach. This study preliminarily accepted the disconfirmation approach, although in accordance with research question 2 this was evaluated empirically as well. Therefore, a portion of the literature review discussed customer expectations and gave the tools for understanding disconfirmation theory, and evaluating evidence of disconfirmation in anecdotes. Consequently, based on an analysis of collected data it could be identified in relation to research question 2 that players do in fact evaluate their MMORPG service experience based on expectations. Past service encounters with competing services forming player expectations in particular.

In relation to research question 3, this study used netnography in order to within and cross-case code and analyze 999 customer reviews collected from five MMORPGs: World of Warcraft: Warlords of Draenor, Final Fantasy XIV: A Realm Reborn, Guild Wars 2, Star Wars The Old Republic, and The Elder Scrolls Online. Anecdotes were coded into an iteratively built coding framework consisting of 10 primary dimensions and 22 subdimensions, which resulted in a total of 4 150 comments. These were then analyzed and juxtaposed with partially structured theme interviews based on which several findings

could be made. The findings highlighted that certain dimensions make the service core, namely *Game design, Game sociability, Tangibles, Reliability,* and *Trust.* Nevertheless, all 10 primary dimensions and their respective 22 subdimensions were found to have a role in player evaluations. However, their emergence in service evaluations was dependent on service performance and or situational factors. This underlined the importance of service innovation, which is essential for achieving satisfaction in MMORPGs. Conversely it emphasized that poor service performance in areas of less importance can still have a significant adverse effect on the service whole, leading to player dissatisfaction.

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APPENDIX

Attachment 1 Interview questions

1. What is your experience with MMORPGs?

2. Do you evaluate your MMORPG service experience based on expectations?

3. Do you think how expectations are formed for new MMORPGs vs. expansions is different? Why?

4. Based on the definitions of MMORPG service quality dimensions, how would you order these dimensions in terms of their importance when you evaluate your MMORPG experience?

5. Why the aforementioned order, are certain dimensions extremely important while others are unimportant or situational?

6. Do you think some dimensions relate more to satisfaction or dissatisfaction, and why?

7. Do you agree or disagree with the following statements and why?

   7.1 Reliability is primarily associated with dissatisfaction.

   7.2 Tangibles are primarily associated with satisfaction.

   7.3 Poor developer communication has a greater impact than well managed communication.

   7.4 MMORPGs are PVE games. Therefore, poorly implemented PVE has a greater impact on the service experience than poorly implemented PVP.

   7.5 MMORPGs are inherently designed to appeal to a large audience. Therefore, a variety of activities are available to fit different play styles

   7.6 MMORPGs are inherently designed to be accessible to a large audience with a variety of PC systems.

7.7 Security is taken for granted by players to a certain extent.

7.8 The need for customer service is infrequent on an individual level.

7.9 Innovativeness in dimensions can make them stand out.

Attachment 2 Import HTML

```
import urllib2, re, sys

url = sys.argv[1]
pages = int(sys.argv[2])
game = sys.argv[3]

site = url+"?page="
```

Attachment 3 Export HTML to excel

```
for x in range(0,pages):
        url = site+str(x)
        hdr = {'User-Agent': 'Mozilla/5.0'}
        req = urllib2.Request(url,headers=hdr)
        page = urllib2.urlopen(req)
        file = open(game+'-user-reviews-'+str(x)+'.txt', 'w')
        for line in page:
                file.write(line)
        file.close()
        self.ups = ''
                self.thumbs = ''
                self.ratio = ''
                self.helpfulness = ''

reviews = {}

user_order = []
```

```
helpfulness = 0

for x in range(0,pages):
	file = open(game+'-user-reviews-'+str(x)+'.txt', 'r')

	text_flag = 0
	span_flag = 0
	expanded_flag = 0
	user = ''
	text = ''
	date = ''
	rating = ''
	ups = ''
	thumbs = ''
	ratio = ''

	for line in file:
		#getting user
		if re.match('.*<a href="/user/', line) and not re.match('.*All this user\'s re-
views', line):
			user = re.sub('<.*?>', '', line)
			user = re.sub('\s*', '', user)
			reviews[user] = review(user)
			reviews[user].helpfulness = helpfulness
			helpfulness += 1
			user_order.append(user)

		if not re.match('^$', user):
			#getting date
			if re.match('.*<div class="date">', line):
				date = re.sub('<.*?>', '', line)
				date = re.sub('^\s*', '', date)
				date = re.sub('\n', '', date)
				if re.match('^$', reviews[user].date):
					reviews[user].date = date

			#getting rating
			if re.match('.*<div class="metascore_w user', line):
				rating = re.sub('<.*?>', '', line)
```

```
                    rating = re.sub('\n', '', rating)
                    reviews[user].rating = rating

                #getting ups
                if re.match('.*<span class="total_ups', line):
                    ups = re.sub('<.*?>', '', line)
                    ups = re.sub('^\s*', '', ups)
                    ups = re.sub('\n', '', ups)
                    reviews[user].ups = ups

                #getting thumbs
                if re.match('.*<span class="total_thumbs', line):
                    thumbs = re.sub('<.*?>', '', line)
                    thumbs = re.sub('^\s*', '', thumbs)
                    thumbs = re.sub('\n', '', thumbs)
                    reviews[user].thumbs = thumbs

                #getting text
                if re.match('.*<div class="review_body">', line):
                    text_flag = 1
                if text_flag == 1:
                    if re.match('.*<span', line):
                        if re.match('.*<span class="inline_expand_collapse', line):
                            expanded_flag = 1
                        elif not re.match('.*<span class="blurb blurb_expanded', line):
                            span_flag = 1
                    if expanded_flag == 1 and span_flag == 0 and re.match('.*<span class="blurb blurb_expanded', line):
                        line = re.sub('.*<span class="blurb blurb_expanded\">', '', line)
                        span_flag = 1
                    if span_flag == 1:
                        text = text+line
                    if re.match('.*</span', line):
                        expanded_flag = 0
                        span_flag = 0
                        text_flag = 0
```

```
                                        text = re.sub('<.*?>', '', line)
                                        text = re.sub('^\s*', '', text)
                                        text = re.sub('&hellip.*$', '', text)
                                        text = re.sub('\r', ' ', text) #Do we care about in-
tended review layout?
                                        text = re.sub ('\n', '', text)
                                        if re.match('^$', reviews[user].text):
                                                reviews[user].text = text

        file.close()

out_pos = open(game+'-data-positive.txt', 'w')
out_pos.write("User Date Rating Ups Thumbs Ups/Thumbs Helpfulness
Rank (Metacritic) Text Dimension 1 Dimension 2 Dimension 3 Dimension 4
        Dimension 5 Dimension 6 Dimension 7\n")
out_neut = open(game+'-data-neutral.txt', 'w')
out_neut.write("User Date Rating Ups Thumbs Ups/Thumbs Helpfulness
Rank (Metacritic) Text Dimension 1 Dimension 2 Dimension 3 Dimension 4
        Dimension 5 Dimension 6 Dimension 7\n")
out_neg = open(game+'-data-negative.txt', 'w')
out_neg.write("User Date Rating Ups Thumbs Ups/Thumbs Helpfulness
Rank (Metacritic) Text Dimension 1 Dimension 2 Dimension 3 Dimension 4
        Dimension 5 Dimension 6 Dimension 7\n")

pos_count = 0
neut_count = 0
neg_count = 0

total = float(positive_total+negative_total+neutral_total)

pos_max = int(positive_total*300/total)
neut_max = int(neutral_total*300/total)
neg_max = int(negative_total*300/total)


for i in range(0, len(user_order)):
        if float(reviews[user_order[i]].thumbs) > float(0):
                reviews[user_order[i]].ratio = float(reviews[user_order[i]].ups)/float(re-
views[user_order[i]].thumbs)
```

```
        else:
                reviews[user_order[i]].ratio = float(0)
        if int(reviews[user_order[i]].rating) > 7 and pos_count < pos_max: #positive rating range: 8 to 10 inclusive
                pos_count += 1
                out_pos.write(user_order[i]+' '+reviews[user_order[i]].date+' '+reviews[user_order[i]].rating+' '+reviews[user_order[i]].ups+' '+reviews[user_order[i]].thumbs+' '+str(round(reviews[user_order[i]].ratio,2))+''+str(reviews[user_order[i]].helpfulness)+' '+reviews[user_order[i]].text+' '+'0'+' '+'0'+'
        '+'0'+' '+'0'+' '+'0'+' '+'0'+' '+'0'+'\n')
        if int(reviews[user_order[i]].rating) > 4 and int(reviews[user_order[i]].rating) < 8 and neut_count < neut_max: #neutral rating range: 5 to 7 inclusive
                neut_count += 1
                out_neut.write(user_order[i]+' '+reviews[user_order[i]].date+'
        '+reviews[user_order[i]].rating+' '+reviews[user_order[i]].ups+' '+reviews[user_order[i]].thumbs+' '+str(round(reviews[user_order[i]].ratio,2))+'
        '+str(reviews[user_order[i]].helpfulness)+' '+reviews[user_order[i]].text+'
        '+'0'+' '+'0'+' '+'0'+' '+'0'+' '+'0'+' '+'0'+' '+'0'+'\n')
        if int(reviews[user_order[i]].rating) < 5 and neg_count < neg_max: #neutral rating range: 0 to 4 inclusive
                neg_count += 1
                out_neg.write(user_order[i]+' '+reviews[user_order[i]].date+' '+reviews[user_order[i]].rating+' '+reviews[user_order[i]].ups+' '+reviews[user_order[i]].thumbs+' '+str(round(reviews[user_order[i]].ratio,2))+''+str(reviews[user_order[i]].helpfulness)+' '+reviews[user_order[i]].text+' '+'0'+' '+'0'+'
        '+'0'+' '+'0'+' '+'0'+' '+'0'+' '+'0'+'\n')
out_pos.close()
out_neut.close()
out_neg.close()
```

Attachment 4 Total comments (2 341) from positive anecdotes

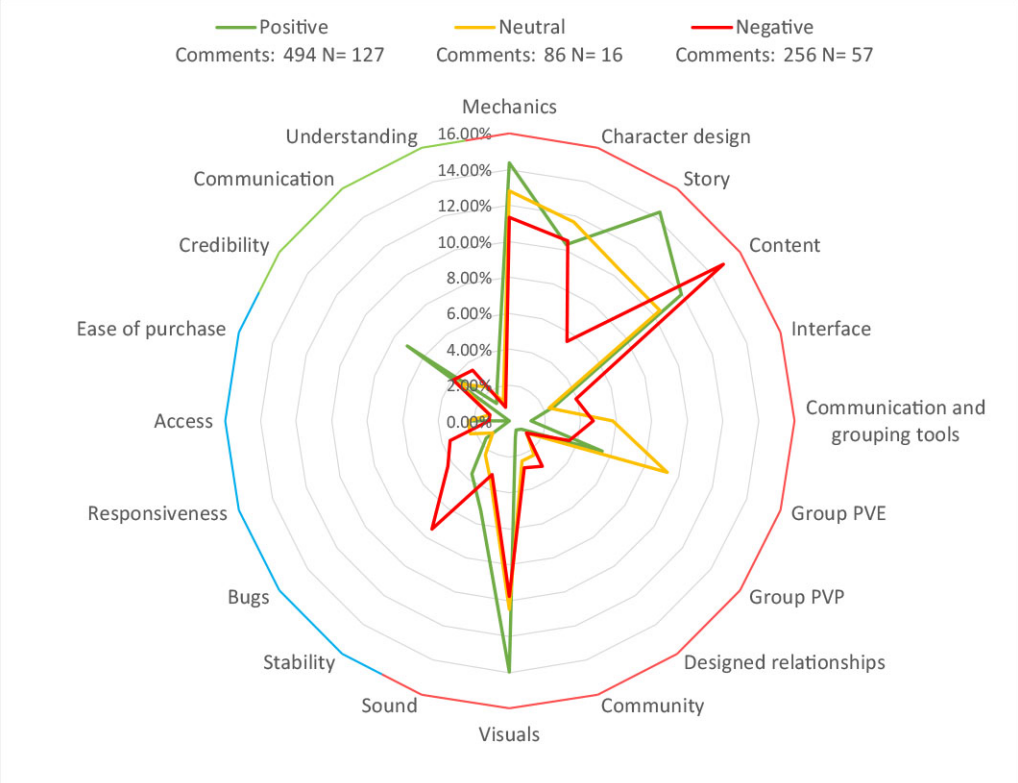
Attachment 5 Satisfied comments (2 074) from positive anecdotes

Attachment 6 Total comments (607) from neutral anecdotes

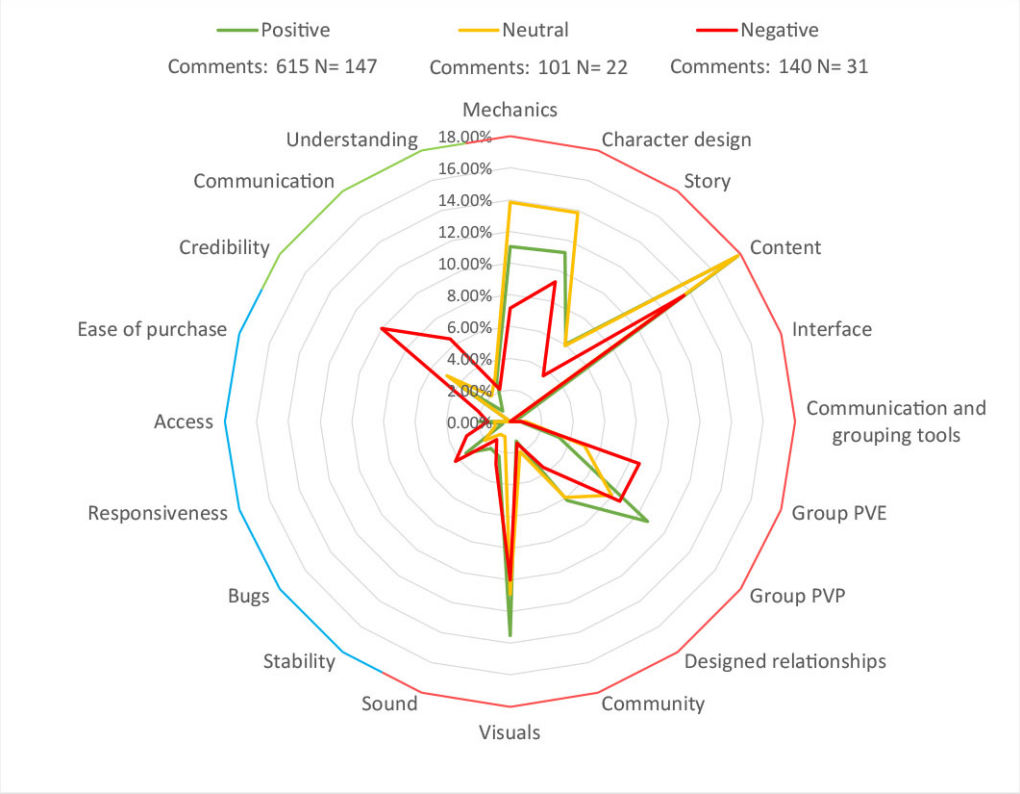
Attachment 7 Satisfied Comments (231) from neutral anecdotes

Attachment 8 Dissatisfied comments (376) from neutral anecdotes

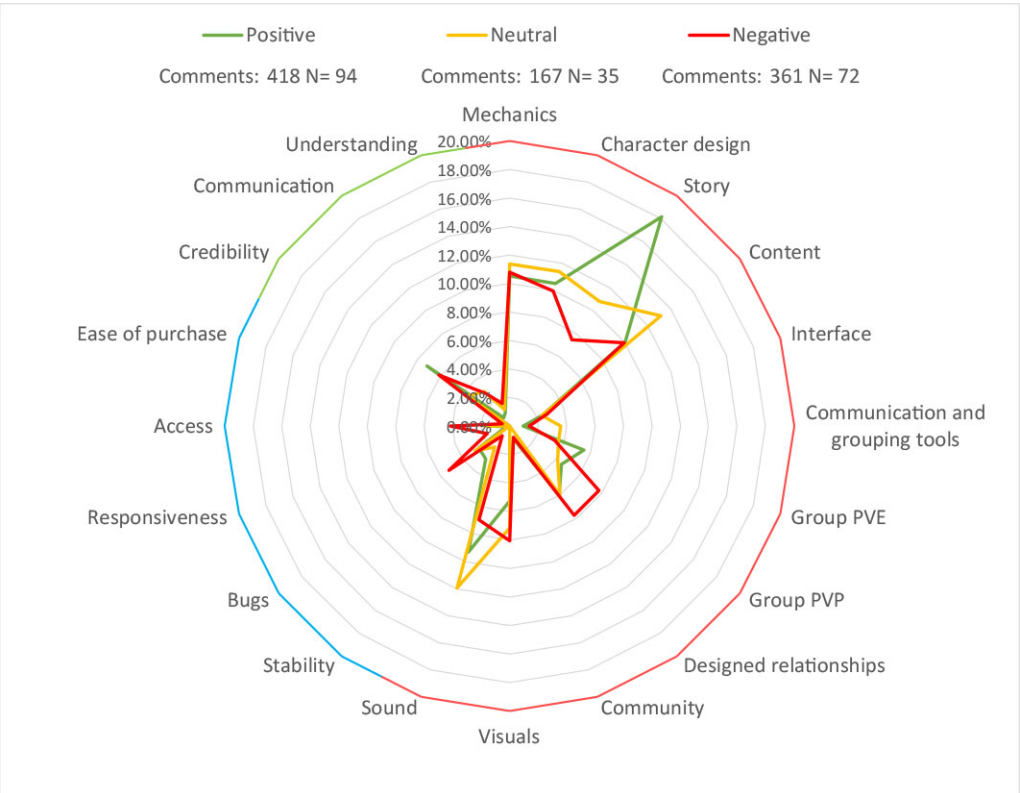
Attachment 9 Total comments for Final Fantasy XIV



Attachment 10 Total comments for Guild Wars 2



Attachment 11 Total comments for Star Wars The Old Republic



Attachment 12 Total comments for The Elder Scrolls Online