



**TÜRKİYE CUMHURİYETİ
ADANA ALPARSLAN TÜRKER SCIENCE AND TECHNOLOGY
UNIVERSITY**

**GRADUATE SCHOOL
MANAGEMENT INFORMATION SYSTEMS DEPARTMENT**

**THE RELATIONSHIP BETWEEN KNOWLEDGE SHARING AND
SOCIAL STATUS AMONG MMORPG PLAYERS FROM SOCIAL
IDENTITY PERSPECTIVE**

ONURKAN CANOĞULLARI

M.A.

ADANA 2023



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**THESIS ADVISOR
Associate Professor Doctor Bilge AKSAY**

ADANA, 2023

ÖZET

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Onurkan CANOĞULLARI

Yüksek Lisans, Yönetim Bilişim Sistemleri Anabilim Dalı

Danışman: Doç. Dr. Bilge AKSAY

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Bilgi paylaşımı ve sosyal statü arasındaki ilişkiyi inceleyen birçok çalışma bulunmaktadır. Ancak, yüksek güç mesafesinin hâkim olduğu Türkiye'deki kitlesel çok oyunculu çevrimiçi rol yapma oyunu oyuncularında bu iki değişken arasındaki ilişkiyi inceleyen bir araştırma bulunmamaktadır. Bilgi paylaşımı, sosyal statü ve klan kültürü arasındaki ilişkileri incelemek amacıyla, "Black Desert Online" ve "Knight Online" adlı MMORPG'lerin 440 oyuncusuna 19 sorudan oluşan bir anket uygulanmıştır. Bu araştırmayı önemli kılan, MMORPG olarak adlandırılan bu oyunların klan kültürü ile karakterize edilmesidir. Bu şekilde, oyuncuların hem birbirleri arasındaki hem de klan içindeki bilgi paylaşımı ve sosyal statü ilişkileri analiz edilmiştir. Statü değişkeni, toplam oyun süresi, klan unvanı ve oyundaki eşyaların değeri açısından ölçülmüştür. Bilgi paylaşımı ise genel ve teknik bilgi olmak üzere iki boyutta analiz edilmiştir. Çalışmanın sonuçlarına göre, klanda daha yüksek unvana sahip liderler daha fazla bilgi paylaşmaktadır, ancak bilgi paylaşımı ile oyun süresi arasında bir ilişki yoktur. Klana yeni katılan bir oyuncunun statüsünü yükseltmek için daha fazla bilgi paylaşması beklenirken, yeterli bilgiye sahip olmadıkları ve alıcı rolünde kalmak zorunda oldukları için bilgi paylaşamadıkları gözlemlenmiştir. Araştırma sonucunda oyunda düşük gelire sahip olanların daha az bilgi paylaştığı tespit edilmiştir. Aynı zamanda statüden bağımsız olarak genel ve teknik bilgi paylaşımı arasında bir ilişki bulunamamıştır. Araştırma bulguları genel bilginin uzmanlık gerektiren teknik bilgiye göre daha fazla paylaşıldığını göstermektedir.

Anahtar Kelimeler: MMORPG, bilgi paylaşımı, klan kültürü, sosyal statü, sosyal kimlik teorisi

ABSTRACT

THE RELATIONSHIP BETWEEN KNOWLEDGE SHARING AND SOCIAL STATUS AMONG MMORPG PLAYERS FROM SOCIAL IDENTITY PERSPECTIVE

Onurkan CANOĞULLARI

M.A., Department of Management Information System

Supervisor: Assoc. Prof. Dr. Bilge AKSAY

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There are many studies examining the relationship between knowledge sharing and social status. However, there is no research that examines the relationship between these two variables among massively multiplayer online role-playing game players in Turkey, where high power distance is dominant. In order to examine the relationships between knowledge sharing, social status and clan culture, a questionnaire containing 19 questions was administered to 440 players of MMORPGs named "Black Desert Online" and "Knight Online". What makes this research important is that these games, called MMORPGs, are characterized by clan culture. In this way, the knowledge sharing and social status relations of the players both among each other and within the clan were analyzed. The status variable was measured in terms of total playing time, clan title and the value of items in the game. Knowledge sharing was analyzed in two dimensions: general and technical knowledge. According to the results of the study, leaders with a higher title in the clan share more knowledge, but there is no relationship between knowledge sharing and playing time. While a new player who joins a clan is expected to share more knowledge in order to increase his/her status, it was observed that they could not share knowledge because they did not have enough knowledge and had to stay in the receiver role. As a result of the research, it was found that those with low income in the game share less knowledge. At the same time, no relationship was found between general and technical knowledge sharing regardless of status. Research findings show that general knowledge is shared more than technical knowledge that requires specialization.

Keywords: MMORPG, social status, social identity theory, knowledge sharing, clan culture

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MMORPG	: Massive Multiplayer Online Role-Playing Game
NPC	: Non-player Character



1. INTRODUCTION

Knowledge is divided into tacit knowledge and explicit knowledge (Nonaka, 1994). Explicit knowledge is the type of knowledge that can be written down, documented, and stored in some way. Since the sharing of explicit knowledge is more theoretical, it is easier and faster to transfer. Tacit knowledge, on the other hand, is a more closed type of knowledge, which individuals acquire through their own experiences (Bhirud et al., 2005; Jones, 2007). Tacit knowledge cannot be easily documented, stored and transferred; tacit knowledge can also be called "know-how" (Castelfranchi, 2004). Each individual has his or her own tacit knowledge, which is self-generated, so tacit knowledge can vary greatly from person to person (Bouthillier & Shearer, 2002). The transfer of any or many of these types of knowledge from one individual to another, either in written or verbal form, is called knowledge sharing (Cummings, 2003; Krugman, 1994). Knowledge sharing has a very important place for organizations. As knowledge is shared in an organization, it increases the amount of knowledge of other organizational members within the organization (Aktharsha et al., 2012; Mohamed & Abdalla, 2020). This provides an advantage in the competitive environment in terms of the excess of knowledge that an organization can use compared to other organizations thanks to the knowledge produced in an organization. However, there is a more important situation in knowledge sharing. Knowledge sharing also triggers competition among organizational members against each other (Wang & Noe, 2010). The reason for this can be explained as follows; knowledge is a resource equivalent to power in an organization (Park et al., 2017). Members who gain power in the organization will naturally have a higher status than other members. In this case, knowledge gains an essential importance for organizational members (Hsu & Lin, 2008; Tajfel & Turner, 2004). Thus, individuals now have to gain power by sharing their knowledge, in other words, by showing it. At this point, knowledge sharing in an organization gains great importance. Knowledge now carries a power value on its own and is expected to confer status on its bearer (McGrane, 2016). But status is not only about knowledge or the power it provides. In other words, status is not only related to the rate at which knowledge is held and shared. The term "status" constitutes the social system, meaning the word position, which defines the place of individuals in society. In other words, status is an individual's place in society. Social status is not only the positioning of the individual by society, but also society's meaning of its own position to the individual. Therefore, status is not the individual's view of

himself, but society's view of the individual (Aaker, 1999; Lunt & Livingstone, 1992; Tezcan, 1995). Social status can be divided into achieved, which is self-achieved by the individual, and ascribed, which is given by society (Ceylan, 2011; Ralph Linton, 1936). Attributed social status is given by society without regard to race, ethnicity, or differences, while achieved social status is achieved through the individual's effort, abilities, and competition. Most types of social status are granted by entire societies as a result of the daily efforts of individuals. Economic factors, wealth, family roots, functions, education, religion, and race can be determinants of social status, in fact material values are also universally a measure of social status, a kind of power for an individual (Ceylan, 2011; Ralph Linton, 1936). The function or utility of individuals' social status in society is an important measure because individuals are valued according to what they do in society, and it is clear that every status is more valuable than another (Dönmezer, 1994; Ralph Linton, 1936). The individual's effort to elevate his/her status by caring about his/her positioning in society also makes the individual care about the status of the society in which he/she would like to be. Because the status of the society in which the individual is located is equivalent to his/her own status (Tajfel & Turner, 1979). This situation is best explained by the social identity theory. According to the theory, when people join a meaningful group, their personal identity is replaced by their social identity. The theory assumes that people form their social identity, which is part of their concept of "self", based on their knowledge of being a member of a particular social group, the meaning they attribute to this group and their feelings about membership (Ellemers et al., 1999; Mummendey & Schreiber, 1983). According to social identity theory, people often act not as individuals but as members of particular social classes. This helps people to define their own and others' roles within a particular social structure (Fink et al., 2009). People's self-identification is shaped as a result of their awareness of their membership in important social classes. According to the concept of social identity, the high or low status of the groups in which individuals belong is directly related to the positive or negative social identity value for individuals (Fuller et al., 2003; Tajfel & Turner, 1979; Ulutaş, 2020). Individuals positively differentiate group members from other group members in order to have a positive social identity, and this effort of individuals carries the purpose of self-esteem or being seen as a more valuable person (Sierra & McQuitty, 2007; Ulutaş, 2020). Individuals in search of a positive identity make social comparisons between their own group and other groups as a result of the social categorization process. They want to use this comparison to benefit themselves in some way. As a result, they

favor their own group while ignoring other groups (in-group favoritism). According to Tajfel, when people distinguish themselves in categorical terms such as "us and them", they begin to perceive similarities between groups, and thus begin to perceive the outgroup's differences from them (Hornsey, 2008). Individuals, motivated to acquire a positive social identity and increase their self-esteem, perceive their own group as superior to other groups when making such comparisons and thus underestimate other groups (Turner, 1975). This is also known as ingroup favoritism. If the group has high status or high power, ingroup favoritism may occur among members, whereas if the group has low status or low power, outgroup favoritism may occur (Bettencourt et al., 2001; Brewer, 1979). One study found that the low-status experimental group showed outgroup favoritism in the status-related domain and ingroup favoritism in the non-status-related domain. Thus, in the status-related domain, discriminatory behaviors were particularly frequent in high-status groups, whereas out-group favoritism was seen in low-status groups. Only in the status-irrelevant domain, in-group favoritism was observed in low-status groups (Oldmeadow & Fiske, 2010; Reichl, 1997; Sachdev & Bourhis, 1991). The place where these can be examined is in massively multiplayer online role-playing games, abbreviated "MMORPG", which have sustainability and continuity. They contain the clan culture in the form of a virtual organization (Ang & Zaphiris, 2010). It is a virtual world created with visual graphics in a virtual way, in which there are characters that the user at the computer will direct and command for role-playing. Within this virtual world, the main goal of the players is to strengthen themselves financially (Белозеров, 2015). This situation recurs as follows. There is a clan culture in the game, meaning that all players form clans among themselves. In order for these clans to be strong, the players must first be in unity and share knowledge with each other, sharing both technical and general knowledge in the game with each other to earn more money in the game (Sourmelis et al., 2017). In the game, there is both explicit knowledge that each player has access to and tacit knowledge that each player acquires through his or her own experience. Explicit knowledge is the kind of knowledge that players can obtain from any written or spoken source. Tacit knowledge is the knowledge that the players themselves experience, such as battle strategies or strategies for making money (Nonaka, 1994; Белозеров, 2015). With this money earned, players can buy higher level items for themselves. The status of players who become stronger with these items they buy increases. Thanks to this increased status, the status of the clan and clan leaders also increases (Белозеров, 2015). The clan culture included in the MMORPG platform is a very essential situation for all players. Clan status does

not only depend on players becoming stronger. In the game, castle and trade zone battles are also fought. As a result of these battles, there are large amounts of taxes obtained from the castles or trade zones obtained (Yee, 2006b). Thanks to these taxes, the clan collectively gets paid by the game's own algorithm and this payment is distributed according to the titles of the members within the clan (Белозеров, 2015). The higher the clan title, the more money the player receives, and the better items the player can obtain compared to other players. In this way, knowledge sharing and social status in the clan becomes important, while the status of the clan itself becomes important in terms of social identity theory.

1.1. Video Games in Social Science Research

The domains of social science research in video games are expanding, and this expansion has been facilitated by (Bainbridge, 2007) 's paper on the research possibilities of virtual worlds. The paper by Bainbridge investigates social behavior, gender concerns, cultural disparities, and religious ideas seen in online video games such as "World of Warcraft" and "Second Life." Following the release of the article, social science academics began to employ video games as target samples for their social science studies (Ramirez, 2019). Another benefit of video games is that they teach students to advance classroom participation with the ability to become experts in certain subjects. There is an ethnographic qualitative study developed by, which is based on the activity theory (Méndez & Lacasa, 2015). The research was carried out on 83 adolescent students and mentions 14 students diagnosed with mental retardation in a public school. The research was handled through the game "The SIMS". In this activity, which was held in the 3D virtual environments of SIMs, they received instant feedback on their movements, which helped each student adapt their own social behaviors. They also observed that teachers shifted their role to the facilitator. In the virtual environment created for this research, the participants were free to take different actions. This study also revealed how 3D virtual environments are supportive of individuals' creativity and collaboration (Ramirez, 2019). Video games can also be used to explore leadership in virtual environments. Related to this, (Milik, 2017) carried out an ethnographic and qualitative study on the 3D video game "EVE Online". Leaders of social groups, known as companies, that existed in the game "EVE Online" were chosen as participants. There is no limit to the number of people affiliated with a company, and in the aforementioned "EVE Online" game, the number of people affiliated with companies can reach

several hundred. The speeches prepared by the participating leaders, and the sending of the participants to the forums open to the communities, became the data source for Milk. The speeches that were prepared and sent to the forums motivated the other players in the game in line with their goals. If the corporate resource is not well managed by the leader, the company may not achieve its goals and maybe plunged into chaos. During this research, Milik, who observed that the leaders seriously protect the organizational culture of their companies, also saw how the organizational culture works with the decisions taken by the leaders, and how the leaders motivate other members for in-game success. It was obvious that the leaders were playing games, but there were many people, each with a different cultural background, whom they influenced in their actions and directions. Perceiving and understanding the leadership structure in virtual environments is very good support for real-world companies' leaders and employees to act on purpose (Ramirez, 2019).

1.2. Organization Structures in MMORPGs

Purpose to achieve something in MMORPG, players should be organized officially or unofficially. That makes it easier for those players get some trophies or anything valuable in the game's reward system. Unofficial friendly companies do not limit the social organization of virtual world users. The extraction of the most valuable and unusual artifacts necessitates the coordinated efforts of a huge team. A team of 10-40 members in World of Warcraft, regular training ensures the cooperation of collaborative actions required for its successful completion. To develop and maintain such a team, MMORPG players are required to organize official interest communities known as guilds, clans, or businesses, depending on the application. The maximum number of active users in such communities cannot be thousands, and the average number cannot be more than 30-40 people. According to research, such communities emerge, mature, and disperse under the same laws that govern urban informal youth organizations or gangs (Johnson et al., 2009; Белозеров, 2015). Official user communities have a hierarchical internal structure. A driver is at the top, followed by his closest aides and team leaders, then permanent team members, and finally the rest of the community. The availability of sustained social tours distinguishes users according to their social status, allowing them to achieve their esteem and self-actualization demands (Белозеров, 2015). This characteristic is exemplified by the following quote from Yee's (a 19-year-old male) lecture: "I am an invading leader and so do not make friends as easily as healthy people." In the virtual world, however, our powers are

leveled. We can move freely and are generally healthy here, so I can express myself without feeling as pressed as I do when I'm surrounded by people. "In the ordinary world, I feel like a high school student but here, through sweat and blood, I can become someone with immense power, someone who commands the respect of his teammates, and whose actions have a meaningful impact on what happens in the gaming world. "It appears to me that I accomplished far more in this world than I could in real life". Not from the young man's gaming achievements, not from the fun, but from the fulfillment of basic needs - finding friends, respect, belonging to a team, and self-actualization (Yee, 2006a; Белозеров, 2015). Like the real world, players interact with each other by "character-to-character" like face-to-face in the game environment, and they use the same path of knowledge sharing as the real-world path of knowledge transmission. Voice, gestures, facial exposures, and character poses are relevant to this way of interaction between players' characters (Yee et al., 2007; Белозеров, 2015).

2. LITERATURE REVIEW

2.1. Social Identity Theory

The social identity concept has been revealed by Muzaffer Sherif (1967) with the research of groups' interrelations and group relations, after that, this issue has been featured in literature as social identity theory by Henri Tajfel (Ulutaş, 2020). Henri Tajfel gained valuable experience in group conflict while living in POW camps in France and Germany during WWII (Wetherell, 1996). Tajfel was interested in the psychological processes that occur in large groups of people, such as religious or racial groups, as well as the consequences of intergroup conflict. As a result of their collaboration, Henri Tajfel and John Turner developed the Social Identity Theory in the mid at the University of Bristol 1970s, with the help of Moscovici in Paris and their friends (Hogg & McGarty, 1990; Wetherell, 1996). These two theorists introduced the concept of "social identity" to studies on group processes and social perception from an "intergroup" perspective (Wetherell, 1996). They also stated that in order to understand groups, the relationships between them (aside from the various contributions of group life to the cognitive processes of individuals) must be understood, as Muzaffer Sherif previously stated (Bourhis et al., 1997). Tajfel has carried Social Psychology into a power full cognitive future. He was influenced by the "New Perspective" movement in perception studies and focused on the role of individual needs and values in the organization of perception (Wetherell, 1996). These theorists were interested in how individuals' personal identities, as well as their motives, judgments, and perceptions, change when they join a particular group. First, according to their explanation, the individual's self-perception changes within the group. According to the theory, people's personal identities are replaced by social identities when they join a meaningful group (Kelly, 1993). The theory assumes that people form their social identity, which is a part of their "me" concept, based on their knowledge of being a member of a specific social group, the meaning they assign to it, and their feelings toward at membership (Mummendey & Schreiber, 1983). According to social identity theory, people frequently act as members of specific social classes rather than as individuals. This, in turn, aids people in defining their own and others' roles within a given social structure. People's self-definitions are formed as result of their awareness of their membership in important social classes Ellemers et al. (1999).

To understand social identity, the term “Identity” should be explained first. Identity can be defined as the dynamic structure of a person’s desires, emotions, talents, and experiences (Kartopu, 2016; Ulutaş, 2020). The need for an identity concept only belongs to humans, hence the identity notion is only for humans (Akkaş, 2015). In a society, the person identifies itself, otherwise, there is no identity meaning alone (Akkaş, 2015; Ulutaş, 2020). Identity is the sign of a person’s last step in the teenage era to grow era. However, the questions of “Who Am I?”, “What do I expect from life?” ...etc., finds answers in the society where the person lives (Özdikmenli-Demir, 2010; Ulutaş, 2020). Identity is not only the awareness of the person itself, but also it is accepting the values and respect to them that identity provides (Aslan & Dönmez, 2013). There are three types of identity usage; some of them use the identity to refer to persons’ culture and they do not discriminate between identity and ethnicity. Some of them use the identity to refer multi roles of playing those humans play in modern societies. In the social identity theory, identity has been used to refer to collectivity or social categorization that creates common interest (Stryker & Burke, 2000). In psychology, the identity term answers the question of “Who Am I?”, and it is a collection of personal features of the individual’s identity. While personal identity has occurred with distinguishable essentials like talents or interests, social identity includes demographic classifications such as gender or race ...etc. or religion, education, and social society diversification (Fink et al., 2009; Tajfel et al., 1979; Ulutaş, 2020). In organizational studies, this single focus onto individual has been seen in studies as a discrepancy in observed behaviors of the group members. Therefore, the terms which are “Social Self”, “Personal Identity” and “Social Identity” has been existed to identify the variety of individuals’ behaviors (Korte, 2007). In the identity theory, the tendency has been observed that the individual reacts theatrically in daily life when they need a role that is necessary at that moment, and they get dressed in the role which they tended to be (Goffman, 1978; Ulutaş, 2020).

According to Tajfel (1982), there are three components of social identity theory (Ulutaş, 2020).

1. Cognitive Component: The awareness of membership.
2. Evaluative Component: Connotation of the relation between some value and aforementioned awareness.
3. Emotional Component: Emotional exertion on awareness and evaluations.

According to the social identity concept, the higher or lower status of the groups that individuals within is directly related to positive or negative social identity value for individuals (Tajfel et al., 1979; Ulutaş, 2020). Individuals positively discriminate the group members from other group members to have a positive social identity, this effort of individuals is seeking the purpose of self-esteem or to be seen as a more valuable person (Tajfel et al., 1979). From the belonging concept of social identity theory, high status provides the attachment of individuals to the organization due to increasing the value of social identity (Fuller et al., 2003; Ulutaş, 2020). A social group's status identifies whether the individual's identity is positive or negative and the evaluations of the other group are related to the groups' attitudes and behaviors (Sierra & McQuitty, 2007; Tajfel et al., 1979; Ulutaş, 2020). It is possible to list the fundamental assumptions of social identity theory:

Individuals define and evaluate themselves by considering the social group to which they belong; they classify themselves, and at the end of this classification, they identify with the group to which they belong. Their social identity is formed as a result of this identification (Turner et al., 1987).

Other groups in the individual's social circle provide a foundation for evaluating the position of his or her group. The position of the group of which one is a member is determined by social comparison (in-group/out-group comparison) with other groups of similar size (Turner, 1975). This comparison is related to the values assigned to various behaviors and characteristics (strength, skin color, skills, etc.) .

The subjective position and structure of the group to which an individual belongs determine whether his social identity is positive or negative (Condor, 1990; Turner & Brown, 1978). The processes mentioned above ensure that the group's social identity is mostly positive, even if the group's social position is not very good. However, sometimes the group's position is too low to be ignored in comparison to other groups (Hinkle & Brown, 1990). This situation contributes to a negative social identity. Various strategies are devised to alleviate dissatisfaction and foster a positive social identity (Mummendey & Schreiber, 1983; Turner & Brown, 1978).

2.1.1. Self-Classification Theory

Turner created the "Self-Classification Theory," which is regarded as a breath of fresh air in the social identity approach (Mlicki & Ellemers, 1996; Turner, 1982). According to him, people

can categorize themselves and others in a variety of ways. Three of these classification dimensions are more important than the others (Hogg & McGarty, 1990).

1. The "human dimension" (the individual's identity as a human), is the most general dimension.
2. Dimension of in-group/out-group membership (individual's social identity).
3. The most specific dimension, the self (individual's personal identity), distinguishes the individual from other group members.

Classifying oneself and others in the second dimension leads to exaggeration of the group's exemplariness, stereotypes, and permanence of rules (Abrams & Hogg, 2006). The individual becomes a typical group member both perceptually and behaviorally and becomes depersonalized (Turner, 1991). Depersonalization refers to the social identity becoming evident and overshadowing the personal identity. According to self-classification theory, depersonalization is the basic process underlying group phenomenon. This concept, however, does not have a negative connotation. It bears no resemblance to the concepts of deindividuation or dehumanization (Abrams & Hogg, 2006). There is only a contextual shift in the dimension of identity here. That is, some conditions (for example, intergroup conflict or discrimination) have a greater impact on their group membership than others, and they cease to act as "individuals" and begin to act as "members of a group." (Hogg, 1993; Hogg & McGarty, 1990).

2.1.2. Social Classification

Humans are "cognitive misers" since human memory chooses the shortest path, seeks out the shortest-term ways of processing information, and employs these methods in information processing. Social categorization is emphasizing the perceiving similarities of the group which an individual is within and perceiving the differences of the outer groups which individual is not within (Stets & Burke, 2000). Making "classification" is the most effective and simple way to shorten the information processing process (Hewstone et al., 2008). The process of dividing objects or people into groups or classes based on certain common characteristics is known as classification (Tajfel & Forgas, 1981). The process of dividing objects or people into groups or classes based on certain common characteristics is known as classification. With the purpose of reduce the information load about the people around them and to practice "cognitive

stinginess" in this sense, people tend to group two or more individuals so that they perceive each other similarly and react similarly to each other, i.e., to make "social classification." (Hewstone et al., 2008). When people are perceived as members of a social group rather than as individuals, this is referred to as a social classification. Individuals are referred to as 'men,' 'women,' 'whites,' and 'Japanese,' not 'people.' The foundations of social classification are gender, ethnicity, and age from that moment. When two or more people are perceived as forming a group, that group is now distinguished from other groups and treated as "different." (Bilgin, 1995; Mackie et al., 1996). Under the influence of stereotypes, people form as a result of the classification process, individuals assume that themselves and other people share many characteristics with the group to which they belong. The stereotype is defined as "a cognitive structure consisting of the perceiver's knowledge, beliefs, and expectations about social groups." (Mackie et al., 1996). People divide the world into many different social groups and develop a cognitive structure that includes their knowledge, beliefs, and expectations about these social groups through the classification process. This cognitive structure is also known as a "stereotype." For example, when the feminists categorize themselves which are believe men are more aggressive than women, they begin exaggerating the violence of men and they begin perceiving all the men are more aggressive than women. Thus, the perception of violence begins has among men and more differences among women (Hogg et al., 1995). One of the prerequisites for coping with a complex world is the fewer differences classification process. The primary purpose of social classification is to simplify the social world. Instead of paying attention to all types of environmental stimuli separately, the individual opts for cognitive savings. Classification affords the individual cognitive frugality, allows the individual to "go in the direction of the given information," and when the classes are combined, the individual is able to construct complex concepts. Nothing is more effective or simpler than classification in facilitating perception, remembering, thinking, and reacting processes (Spears & Haslam, 1997). Unlike these common classification approaches, social identity theory focuses on saturating the perceiver's positive self-evaluation motive rather than the cognitive gain brought about by this process. According to the theory, social classification aids in understanding the social environment and, as a result, guides human behavior, particularly intergroup behavior (Bilgin, 1995; Tajfel, 1978). The theory focuses on the process of social classification due to the importance it places on the outcomes of that process. Turner asserts that the process of social classification has two major implications (Turner, 1975):

Social classification causes individuals to exaggerate the similarities within their own group as well as the differences between their own group and other groups (the exaggeration effect).

Individuals seeking a positive identity make social comparisons between their own group and other groups as a result of the social classification process. They want to use this comparison to benefit themselves in some way. As a result, when making this comparison, they favor their own group while dismissing other groups (in-group favoritism). According to Tajfel, when people discriminate themselves in categorical terms such as “Us and they”, they begin to perceive similarities in intergroup, hence they begin to perceive differences of the outer group from themselves (Hornsey, 2008). Chattopadhyay and Georg have concluded that work status affects the employees’ altruism, self-esteem in the organization, and their trust in workmates. In this research, which is based on social identity theory, results have shown these differences have negative effects on the aforementioned variables (Ulutaş, 2020). These instances show us that the seeking of social identity and increasing the social status of individuals are creating all these discrimination essentials (Ulutaş, 2020).

2.1.3. In-Group Favoritism

People compare their groups to other groups as a result of social classification, i.e., they make social comparisons (Turner, 1975). This social comparison has a bias toward the ingroup (Hortaçsu, 1998). Individuals who are motivated to acquire a positive social identity and increase their self-esteem underestimate other groups by perceiving their own group as superior to other groups while making this comparison. This is also known as ingroup favoritism (Doosje & Ellemers, 1997). The explanations for this process are based on William G. Sumner's concept of "ethnocentrism," which he developed as the result of his anthropological observations (Michener, 1999). The ingroup, according to him, is a cognitive class with emotional significance. They distinguish between the group to which we belong and the other groups. They have a bond with the people in our own group that is based on peace, order, law, economy, and emotions. Ethnocentrism is a concept that explains that the individual is the center of his own group and that all other groups are evaluated based on this in-group (Brewer, 1979). According to Sumner, this distinction between the in-group and the out-group not only leads to favoring one's own group, but also to the formation of extremely rigid and permanent stereotypes, as well as not only a negative perception of the out-group but also hostility toward

the out-group, resulting in intergroup conflicts (Michener, 1999). In the domains of status relevant, ingroup favoritism is able to be seen by a high-status group while in the field of status irrelevant, ingroup favoritism can be seen by low-status groups (Bettencourt et al., 2001; Brewer, 1979; Mullen et al., 1992; Oldmeadow & Fiske, 2010; Reichl, 1997; Sachdev & Bourhis, 1991). If the group has high status or high power, ingroup favoritism can be seen among members, yet, if the group has low status or low power, outgroup favoritism can be seen (Oldmeadow & Fiske, 2010). A study has shown that the low-status experimental group shows the favoritism of the outgroup in the field of status-related yet the favoritism of the ingroup in the field of status unrelated (Oldmeadow & Fiske, 2010; Reichl, 1997). Thus, discriminatory behaviors have been seen often particularly by high-status groups while out-group favoritism has been seen by low status groups, in the status-related field. Only in the field of unrelation of status, tending to ingroup favoritism has been seen by low-status groups. With the number of reviews and meta-analyses, this general pattern has been confirmed (Bettencourt et al., 2001; Brewer, 1979; Mullen et al., 1992; Oldmeadow & Fiske, 2010). Driving discrimination by fundamental motivation causes positive and distinctive social identity that social identity theory argues generally (Oldmeadow & Fiske, 2010; Tajfel et al., 1979; Turner & Tajfel, 1986). This motive provides the leading of discrimination to get an enhancement of group members' apparent value ingroup and discrimination to get a positive social identity. Strength of identification takes the role being hypothesized to predict discrimination because positive discrimination enhances positive distinctiveness (Abrams & Hogg, 1988; Oldmeadow & Fiske, 2010). However, discrimination is not enough only itself to be predicted by identification empirically (Hinkle & Brown, 1990; Kelly, 1993; Oldmeadow & Fiske, 2010).

2.2. Social Status

The term “Status” creates the social system which means the word of position that identifies the individuals’ places in the society. On the other explanation, status is the occupancy of individual in the society (Aaker, 1999; Tezcan, 1995). Social status is not only being positioned of the individual by the society but also makes sense by society to the individual on its’ position, and status is not an individual’s opinion toward itself, it is the opinion of society toward to individual. When social status is spoken, Ralph Linton is flashed in our brains. Ralph Linton is the first sociologist that identified social status briefly. Status is the right, and the homework is separated from the individuals who occupied it (Lunt & Livingstone, 1992; Schiffman & Kanuk, 2004).

Due to these rights and homework being able to only being identified with the relations between individuals, it is hard to separate the differences between statuses and individuals who are experiencing the rights and homework which are created by those statuses (Ceylan, 2011; Ralph Linton, 1936). According to the formation of a hierarchical system among social status, each status does not have the same value as the other, and it does not provide the same prestige to the individual. In fact, high status provides the prestige and the respectability formational for an individual and it can be counted as a power bank, yet, if the individual does not follow the formational requirements of status, it cannot be considered that the individual can enjoy the benefits with the prestige of the status. The individual should actualize the performance and the role parallelly which is required by the status, if the individual intends to get status without actualizing the required performance and seek of the status which is only related to prestige, it is inevitable that the individual will confront with disappointment (Ralph Linton, 1936).

“Teacher” has a prestige provided by status, yet not every teacher has the same prestige who is occupied this status, the difference between individual and status can be seen over here. Of course, individuals have their own occupancy of social status in the society, yet they should not take personally when they see any minus side of their status or any given comment on their social status because those comments and minus sides are related to the status, they are not related with the individual self. When the sense of belonging removes the selfness of an individual, the separation of status with the individual is deemed removed either. Thus, the individual has the same status and prestige which that situation is not correct (Ceylan, 2011; Dönmezer, 1994).

Without a doubt, people or communities occupy the statuses, and status has the feature that determines the individual who has occupied it. According to the performances of individuals toward their status, they can increase the value of their status or make a contribution to that status. If when the individual is away from status has increased or decreased their prestige affects to value of status in social society, status is more determinative. Status not only adds value to individuals but also individuals add value to their status. The individual has no respect or popularity without status; therefore, those people who have high valued status in society are more effective than the people who have less valued status in society. This issue shows the reason for the effort to increase their social status in society by individuals that much. Every status has a relationship with the other status (Ceylan, 2011; Kızılcıcelik & Erjem, 1994). All the statuses those an individual occupies create the status cluster. In the status cluster, statuses should be compatible with each other, otherwise, it is named as status conflict or contradiction (Ceylan, 2011; Dönmezer, 1994). For instance, it is a contradiction to be a Muslim and a terrorist. The reason is contained of different types of social status in the same status cluster. It is called a social status contradiction from the perspective of the social system and at the same time, it is a cognitive inconsistency from the individual perspective.

There are determinants to understand social status and the differences between social statuses.

2.2.1. Determinants of Social Status

Social status can separate as achieved which individual reaches itself to it and as ascribed which is given by society. While ascribed social statuses are given by society without a consideration of their race, ethnicity, or differences, the achieved social status is reached by the individual with the consideration of their effort, talents, and competition. Most types of social statuses are given by all societies due to the business of individuals' daily efforts (Ceylan, 2011; Ralph Linton, 1936). Before the explanation of ascribed and achieved social status models; some of social status determinants should be mentioned below.

Economic factors, wealth, family roots, functions, education, religion, and race can be determinants of social status, in fact, material values are also a measurement of social status universally, it is a kind of power for an individual. The function or benefit of individuals' social status in society is an important measurement because individuals are evaluated according to what they do in society, and it is clear that each status has more value than the other one, for instance, a taxi driver's social status has less value than a doctor's social status. Therefore, education is another measurement of individuals' social status, the level of education is important to identify the level of the social status on the individual, for instance, being graduated from a university with a master's degree is more valued than graduation from bachelor's degree (Ceylan, 2011; Ralph Linton, 1936). When these are all considered as overview of determinants, achieved and ascribed social statuses should be explained.

Achieved social statuses are the result of an individual's consciousness and will, rather than being granted to them as a birthright. Obtaining such positions necessitated both choice and effort. University studentship, teaching, medicine, friendship, and other social statuses are examples of acquired social statuses. It is as obvious as day that reason and willpower are beneficial, and that achieving status necessitates work. The social zones in which they are developed are another approach or criterion utilized in the classification of social statuses (Ceylan, 2011; Dönmezer, 1994). Basic statuses are gender and age-related, general statuses are occupational, and free statuses are non-occupational. Basic statuses are related to gender and age in almost all social systems, obtained from the birth of an individual. An individual's gender and age determine the other people's reactions to him and the society's expectations of him. There is no society that women, men, children, adults, and the elderly treated in the same way, and the same forms of behavior or the behavioral expectations from them (Ceylan, 2011).

However, gender and age-related statuses are also varied by society. General statuses are different from basic statuses and those define the individual's occupation in society from interpersonal perspectives. There are vocational statuses as teacher, lawyer, engineer, firefighter...etc. Those provide prestige and affection; however, those bring kind of limitations at the same time. Free statuses are not as important as the other two. These statuses mostly achieved by the talent of individual and does not provide any prestige or any limitations (Ceylan, 2011). Ascribed social status is not the product of individuals' cognition and free will. These kinds of social statuses are given by society that is non-controlled by the individual to be diminished or removed. The individual's gender, age, family, lineage, color, kinship links, and so on are not in his or her control. Neither burden nor abandonment are determined by an individual's volition or preference. They're sometimes referred to as basic statuses. In all civilizations, certain objects are chosen as reference points for defining the statuses that are conferred. The nature that men bring directly is considered while determining reference points. Gender is the simplest and most widely used as reference. In all social systems, separating and determining gender relations and statuses is viewed as the foundation. Men and women are expected to behave differently in every society. Age is another factor that is equally important. Human progresses through childhood, adolescence, and old age (Ceylan, 2011). This is a procedure that cannot be altered. Family relationships are one of the simplest and clearest reference points. In all countries, the mother-child bond is seen as a social status symbol. Biological or sociological variables influence the statuses awarded, yet they make up the vast bulk of all social systems. It is crucial to highlight that the given statuses, which play a big role in the social system, do not play the same role in different social systems. Tradition-flood cultures are those in which assigned statuses are more effective. The prevalence of individualism in modern societies, as well as the emergence of new professions and specialties, has diminished the percentage of given statuses in the social order and undermined its role. Given slavery and mastery, it used to play a very active part in the social order as a social status symbol. Finally, a man's birth social group or class might be expressed as a general reference point. This is a typical but not ubiquitous application of reference types (Ceylan, 2011; Ralph Linton, 1936).

2.3. Knowledge and Knowledge Types

Knowledge has multilayered meanings, since the Greek period, seeking to find the exact meaning of knowledge has never ended (Terry, 2000). When the “What is knowledge?” question has been asked, the answer that “getting information by studying or experiencing” should be given, knowledge represents the question of “How to do something?”. In other terms, a fluid mix of expert insight that provides a framework to evaluate something, experience, specific information, and values are able to count as knowledge (Davenport & Prusak, 1998). With the purpose of understanding what “Knowledge” is exactly; the relation between data, information and knowledge should be considered. Data can be described as a set of discrete while information is a collection of data and related explanations, textures, or materials which include processes, events, or specific objects (Pangil & Mohd Nasurddin, 2013). If information becomes knowledge, the transfer must be followed by these simple words:

Comparison: How the information can be equated with other situations we have known?

Consequences: What are the effects of information which affects decisions?

Conversion: What are the thoughts of other people about this information? (Davenport & Prusak, 1998)

If we consider the term “Information”, according to Nonaka (1994), “information” is just the flow of messages whereas “knowledge” has been based on information, but the other researchers are in the belief of information can be considered knowledge but knowledge is not just the information, it includes the “know-how” beside it includes only the information either (Kogut & Zander, 1992; Machlup, 2014; Wang & Noe, 2010; Zander & Kogut, 1995). To make clearer the differences between knowledge and information, types of knowledge should be explained as below.

There are two sub-titles under the head of knowledge those make understanding the knowledge clearer. Knowledge has been separated as “Tacit Knowledge” and “Explicit Knowledge” (Nonaka, 1994). Explicit knowledge is easy to reach, can be shared, and is easy to communicate. Most organizations define the explicit knowledge as databases, documents, and best applications or processes (Jones, 2007), these types of knowledge can be added or subtracted or even they are able to be saved (Bhirud et al., 2005; Jones, 2007) while tacit knowledge includes the invisible or unstructured knowledge.

Nonaka (1994) defines tacit knowledge as personal and hard to fit into a structure to transfer, hence it is difficult to transfer or share (Best et al., 2003). Tacit knowledge is the knowledge structure that has been created by employees' self-experiences, therefore tacit knowledge is personal and cannot be copied by other people (Nonaka, 1994). On the other hand, due to depending on staffs' experiences, tacit knowledge is difficult to articulate but it is understandable and applicable subconsciously (Bouthillier & Shearer, 2002). As Polanyi cited from Nonaka, "We know more than we are able to tell." sentence has existed because tacit knowledge, as Nonaka told, cannot be articulated and explained in our heads (Bouthillier & Shearer, 2002). According to Nonaka, tacit knowledge has two fundamental essentials as technical (know-how) and cognitive mental model. The core of knowledge-producing is the transformation of explicit knowledge into tacit knowledge (Castelfranchi, 2004; Jones, 2007; Nonaka, 1994).

The information must be mixed with experience, values, or context to be able to be knowledge that should be created by organization members (Bouthillier & Shearer, 2002; Davenport & Prusak, 1998).

There are four steps to convert knowledge for Nonaka:

Socialization Mode: Although tacit knowledge can be learned by communication, it also can be learned by interaction and observing the model who has known the tacit knowledge. With this path, mentoring or apprenticeship are able to have existed (Best et al., 2003).

Combination Mode: This is the transformation of explicit knowledge to explicit knowledge. This embodies the brochure and paper samples that have been distributed by experts (Best et al., 2003; Jones, 2007).

Externalization Mode: This entails the reification of esoterism which means making the concept as the tangible concept of cognitive abstraction and therefore, metaphors should be used to ease the explanation (Best et al., 2003).

After the externalization mode, explicit knowledge requires to be tacit knowledge, and this causes the repetition of concrete knowledge models. This active process works with the trial and fail method. The most important fact is the knowledge creation process should be made by the organization members or the team members, at that moment, reinforcer of the knowledge creation should be commitment to the organization, on the other hand, according to Nonaka, organization members should have sufficient freedom and purpose to pursue new knowledge without any pressure (Best et al., 2003; Jones, 2007).

2.4. Knowledge Sharing

Knowledge sharing is defined as the exchange of knowledge, the sharing of knowledge proposals, and the exchange of knowledge between people and among teammates. With the other terms, sharing explicit or tacit knowledge between people is called knowledge sharing. Knowledge sharing research is also rooted in technological developments and innovative movements because of their impact on organizations (Cummings, 2003; Kim & Lau, 1994; Krugman, 1994; Young, 1995). Knowledge sharing affects the effectiveness and efficiency among employees in an organization (Mohamed & Abdalla, 2020). Knowledge sharing is a vital asset to ensure the success of the organization and is not only about knowledge but also about know-how, which can be considered as intangible resources (Park et al., 2017). Knowledge sharing takes place not only in physical organizations but also in virtual worlds and communities. Using the framework of (Wenger, 1998), they found that immersive virtual worlds are well suited to demonstrate how well immersive virtual worlds help individuals collaborate with each other to transform their tacit knowledge into explicit knowledge (Jarmon & Sanchez, 2009). Hence, they lead to improved quality in communities of practice (Majewski et al., 2011). Outcome expectations, trust and attributes have positive effects on knowledge sharing in virtual communities, as does the similarity of physical organizations (McGrane, 2016; Shan et al., 2013). On the other hand, participating in knowledge sharing in an online community of practice is associated with increased professional reputation, a sense of obligation to return the favor, and community advancement (Hew & Hara, 2007; H.-F. Lin, 2007; McLure Wasko & Faraj, 2000; Wasko & Faraj, 2005). Interestingly, (Bordia et al., 2006) found that the benefits of knowledge sharing only apply to technology-assisted sharing and not in face-to-face situations. Past research shows that knowledge sharing, especially in a professional network, is often more closely related to employees' perceptions of the value of the knowledge they share to others than to their own personal gain (Wang & Noe, 2010). Self-efficacy and satisfaction increase mutual trade among members of an online community of practice. Therefore, it increases knowledge sharing intentions (McGrane, 2016; Van Acker et al., 2014). Another important feature of this knowledge sharing is that the value of knowledge increases when it is shared and used by other individuals within the organization; otherwise, if knowledge is kept alone, it loses its value on its own. If knowledge is shared by individuals, it

affects their loyalty and keeps them in the organization (Gold et al., 2001; Omar Sharifuddin Syed-Ikhsan & Rowland, 2004; Pangil & Mohd Nasurddin, 2013). Knowledge sharing also has the role of organizational learning, therefore, if there is a lack of knowledge sharing in the organization, the relationship gap between the individual and the organization will widen. The meaning of organizational learning can be defined as the transformation of individual knowledge into organizational knowledge only when knowledge is shared by individuals (Ford & Chan, 2003; Pangil & Mohd Nasurddin, 2013). The meaning of organizational learning can be defined as the transformation of individual knowledge into organizational knowledge only if it is shared by individuals (Ford & Chan, 2003; Pangil & Mohd Nasurddin, 2013). Knowledge sharing largely depends on the willingness of individuals, but it also has intangible benefits to the organization (Hislop, 2003; Pangil & Mohd Nasurddin, 2013). Regardless of the type of knowledge, knowledge is tantamount to power in an organization. Especially if individuals see the dissemination of knowledge as a norm among organizational members. This makes knowledge sharing a matter of competition (Park et al., 2017). One of the most extensively researched factors related to knowledge sharing is perceived benefits and costs. According to social exchange theory by (Blau, 1964; Emerson, 1981), people make decisions based on the perceived benefit/cost ratio and expect that their actions will result in rewards such as respect, reputation, and tangible incentives. Research supports this notion by showing that knowledge sharing is positively related to perceived benefits and negatively related to perceived costs. Most of the research on perceived costs and benefits has been conducted in professional communities (Wang & Noe, 2010). Title equals power and power exists with knowledge; this chain brings competition among organizational members. Therefore, knowledge sharing is a kind of trading system with a reciprocity aspect. The reciprocity aspect brings the transmitter and receiver role to the term of knowledge sharing. Knowledge can be shared by the transmitter and demanded by the receiver. However, the receiver does not only want to be a receiver, but also a transmitter, the purpose of which is to raise the status of the receivers and transmitters by sharing knowledge, i.e., by using power. Therefore, benefit-seeking behaviors influence their attitudes towards the organization by ensuring the positive relationships they are already in (Chiu et al., 2006; Fullwood et al., 2013; Kankanhalli et al., 2005; Majewski et al., 2011). Social ties between people which encourage the positive relationships, connections in the community and organization, friendship intention, personal interaction and contributions positively influence knowledge sharing. A group or team should be motivated to achieve improved

performance to have increased communication integration, so-called "behavior integration", which works for collective interaction (Park Michael & Overby, 2012). According to this form of grouping, a positive impact can be seen on knowledge sharing at the individual level (Lin et al., 2014; McGrane, 2016). Sense of self-worth and in-role behavior also provide attitudes towards subjective norms and knowledge sharing, leading to a positive association of organizational membership with the purpose of eliciting knowledge sharing. This finding is consistent with subjective norms being related to knowledge sharing (Aktharsha et al., 2012; McGrane, 2016; Teh & Yong, 2011; Wu & Zhu, 2012). While esteem, social relationships and trust have positive effects on shared knowledge, they do not have any effect on the amount of knowledge. However, relative to altruistic behavior, social interactions have a positive effect on the amount of shared knowledge. However, this finding is inconsistent (Chang & Chuang, 2011; Lee et al., 2014; McGrane, 2016; Wang & Hou, 2015). Technology, leadership, and trust also enable knowledge sharing (Eze et al., 2013; Gross & Kluge, 2014; McGrane, 2016; Ramayah et al., 2014). Although studies suggest that people are predisposed to certain work attitudes and behaviors, only a few studies have empirically investigated the importance of individual personality or dispositions in knowledge sharing (Judge & Bono, 2001). Exchange ideology, a disposition that describes the relationship between what one provides to an organization and what one receives from it, the subject was examination of the moderating function of exchange ideology (C.-P. Lin, 2007). Openness to experience was investigated by (Cabrera et al., 2006) and a positive correlation was discovered with people's self-reports of information exchange. According to research, employees' computer proficiency and comfort levels may influence how often they use collaborative electronic media to share information (Jarvenpaa & Staples, 2000). Moreover, employees with more education and work experience are more likely to share their knowledge and have positive attitudes towards sharing (Constant et al., 1994).

2.4.1. Knowledge Sharing and Social Identity Theory

Roles are general standards of group members' behaviors, and it is a fundamental essential of socialization (Hsu & Lin, 2008). At the time an individual joins a group, there are some expectations occur by the other group members to the newcomer. This situation happens to identify the newcomer by tagging and classify him or her and separate them from others under the effects of social identity theory (Hsu & Lin, 2008; Tajfel & Turner, 2004). With the expected reciprocal benefits of organization members, individual shares the knowledge to obtain mutual benefit from other members. A person believes that he or she can increase his/her reputation via knowledge sharing to get a “reputation” which is an enhancement of personality for a person. People also share their knowledge to obtain mutual benefits which is called an “expected relationship”. “Expected relationship” is the interaction of individuals with the seeking of mutual relationship by sharing the knowledge (Hsu & Lin, 2008). Social identity is an effective factor that makes individuals avoid the separation of individuals' personalities from the community. Member makes his or her personality as a part of the group that blurs the distinction between individuals. Although similar social identity motivates members to share knowledge, contradictory social identities block sharing of knowledge between members of the community. In virtual communities, social identity fosters loyalty and membership in the community which is essential to let knowledge is shared. When an individual identifies itself in the community, self-defining concept has occurred at that moment to make the other group members share their knowledge and make positive contribution. Because self-defining encourages all the group members by the seeking of an identity. Social identity fosters the participation in online communities in which they intertwined their identity with the community by commitment (Abrams & Hogg, 2006; Bagozzi & Dholakia, 2006; Bergami & Bagozzi, 2000; Chiu et al., 2006; Ellemers et al., 1999; Shen et al., 2010; Smith & Henry, 1996; Turner & Tajfel, 1986).

2.5. Virtual Organization

The term “Virtual” comes from “Joseph Carl Rebnett Licklider” who was a psychologist and expert in psychoacoustics (the field of effects of sounds on the human nervous system). Zimmerman has used the term “Virtual” in order to denote an organization without a physical structure. The meaning of “virtual” is the thing that is able to be felt but not existed in reality

(Çavuşoğlu, 2004). When the “Virtual” term has been found, then it has turned the organizational structure into intangible assets. Individuals are able to connect and collaborate each other, use the different resources or share the leadership from different countries or different regions with no matter of differences in cultures due to internet technologies (Ahuja & Carley, 1999; Çavuşoğlu, 2004). Virtual organizations have been isolated from space and time and all the individuals are qualified in their profession and they have highly technical knowledge who are the member of a virtual organization, therefore they coordinate the organization in line with information technologies (Ahuja & Carley, 1999; Çavuşoğlu, 2004).

2.5.1. Virtual Team

People can work from different geographical areas rather than co-locations with the purpose of achieving people's common goals. This group of people are called as virtual team or organization which refers collaborating from different geographical areas on internet world as it mentioned. Virtual teams have been distinguished based on technical advancement, and this advancement has made collaborations easier (Bozan, 2017; Dulebohn & Hoch, 2017; Hoch & Kozlowski, 2014; Mattarelli et al., 2017; Nguyen-Duc et al., 2015; Ramirez, 2019). Dispersion does not always depend on geography; it can also be classified as temporal, which entails working in different time zones. Those types also include various cultures and organizations from which people work independently or in distinct ways (Bell & Kozlowski, 2002; Nguyen-Duc et al., 2015). The ability to quickly and easily access large amounts of human resources has altered industries' competitive edge. As a result, firms try to react to this technological breakthrough by growing the use of virtual teams under globalization conditions (Dulebohn & Hoch, 2017). A lot of businesses can save money by arranging virtual teams. Those businesses save their money by reducing accommodation fees, preventing relocation expenses, and the buildings for headquarters (Dulebohn & Hoch, 2017; Germain & McGuire, 2014; Meyer et al., 2016). When customer demands are affected by market forces, virtual teams, which also support being able to respond to this situation more quickly and efficiently, can use their skills to intervene in such situations, regardless of their general or geographical location (Bell & Kozlowski, 2002; Bozan, 2017; Dulebohn & Hoch, 2017; Ramirez, 2019). Over the previous two decades, the utilization of virtual teams has grown. This rise can be attributed to advances in collaborative technology that make it easier for workers to collaborate in geographically scattered places (Chiang, 2016). There has been some research done on the increasing use of

virtual teams in the last 20 years. This cooperation has increased due to the presence of people working in geographically different places. 46% of 355 human resources professionals said in a 2012 survey that most organizations use virtual teams. In a survey of 1,372 respondents from 80 countries, 85% of respondents work in virtual teams, 54% of those working in virtual teams think their work is critical to the organization, and almost 20 % of respondents spend most of their days communicating with virtual teams, 2016 They saw it in a survey conducted in. On the other hand, 73% of the respondents of this 2016 survey said that the advantages of working in virtual teams far outweigh the communication problems within the virtual team 2019) (CultureWizard, 2016; Ramirez, 2019). Organizations will continue to use virtual teams with the development and change in technology. That's why it's important for us to understand what kind of structure these teams are. Virtual teamwork has effects at the organizational level as well as at the individual level. Employees can have working flexibility with the ability to work in different places, which is the advantage of the virtual team. Thanks to cultural differences, employees develop their cultural intelligence by recognizing and perceiving global identities and have a positive impact on the development of virtual teams (Gelfand et al., 2017).

2.6. Massive Multi-Player Online Role-Playing Game

There are virtual worlds created for fantasy and entertainment purposes, almost identical to the social life system in the physical world. Information technologies serve as the means of entry into these worlds. In massively multiplayer online role-playing games, abbreviated "MMORPG", the beginning is realized with a character created by a player in front of a computer (Белозеров, 2015). This virtual character is an avatar that the player can visually customize according to his/her own wishes. In the MMORPG world, the main goal is to improve the items and thus the powers of the characters built by the players (Белозеров, 2015). Players can perform these behaviors with the dynamics of life in the virtual world. First of all, in the MMORPG world, there are non-player characters called "NPCs", which are not composed of real individuals and are commanded by artificial intelligence. These characters are creatures whose forms in the game world are different or similar to humans, and they live a virtual life in a large virtual world that is free to roam, as if they were living in a country (Белозеров, 2015). There are variants of these creatures that both oppose and help players. At first, players aim to develop their economy by fighting against and killing these creatures, using

the materials and money (each MMORPG world has its own currency) that they get from them. Players who are able to improve their economy for this purpose are able to buy higher items for themselves. Upgraded items make players' characters stronger. This gives players the potential to fight stronger creatures and now even other players. Of course, this power that the player dedicates to improving himself is for a specific purpose: to gain social identity and social status against other players in other organizations through the organization (Witmer & Singer, 1998). To summarize, individuals who are constantly trying to improve their possessions and strengthen themselves also aim to develop these skills, which are called special abilities of their characters and belong to the dynamics of the game. On the one hand, the player is fighting for the economic power to further improve their items, and on the other hand, they are trying to master the special skills that belong to their character and the game dynamic (Белозеров, 2015). In other words, they acquire tacit knowledge called experience, which we call "know-how".

In the MMORPG world, there are structures such as trade zones and castles. In the cities where these structures are located, the taxes of the trade between the characters are deducted on behalf of the region in the city where the trade is made, and all or part of these taxes are given to the clan that owns the region. In a clan with a growing economy, these taxes are distributed to its members every week or every month. Taxes are distributed according to clan titles. In other words, the goal of all this effort is for the player to find a strong clan, and with the clan to dominate larger territories and trading posts in the game, thus increasing their economy and the status that comes with it (Ang & Zaphiris, 2010). This is why clan culture is a key dynamic in this kind of game. Because a player without a clan remains neutral and eliminated (Jakobsson & Taylor, 2003). In clan systems where there are leaders, co-leaders, ranking members or officers, and regular members, players care a lot about the titles within the clan, and in order to obtain these titles, they both show serious loyalty and devotion to the clan and attempt to compete among themselves in order to gain power within the clan (Ang & Zaphiris, 2010; Белозеров, 2015). In addition to the competition among clan members, there is also competition with other clans for these regions. In fact, this is one of the biggest factors in the MMORPG world to strengthen the characters so much. The stronger the members of a clan, the stronger the clan is. The stronger the clan is, the more likely it is to be victorious in battles with other clans and capture trade zones or cities (castles). Ultimately, this power increases the clan's status in the whole game. A higher clan status means a higher status for the players within the clan. The term "game" is extremely valuable. These are known as leisure and business activities

(educational or business games), as well as the essential equipment for such activities. According to the license agreements, MMORPG group applications are considered as entertainment games. Role-playing games can be defined as pretending like someone or the practice of an imitation (Turkle, 1997; Williams et al., 2011; Белозеров, 2015). In this case, players should get interacted into that virtual environment with their characters and they should behave as if they are those characters (Burn & Carr, 2003; Taylor, 2009; Williams et al., 2011; Yee, 2006b; Белозеров, 2015).

2.6.1. MMORPG Players are Target Sample

For the organizational behavior sciences, using video games to analyze hypotheses is not a new situation. Computer-aid learning, motivation, team collaboration, and virtual teams are identified through video games by researchers (Carvalho et al., 2015; Chiang, 2016; Méndez & Lacasa, 2015; Ryan et al., 2006; Yang et al., 2015). Virtual teams and video game players have the same organizational characteristics. Therefore, some researchers study virtual teams by examining video games (Ramirez, 2019). Although video games may seem like mere entertainment, the interaction between people within games is real (Chiang, 2016). Since MMORPGs are virtual environments, the behaviors of individuals in MMORPGs are reflected versions of the players' behaviors as well as they behave in their real life which is called “simplifications of reality”, and that allows players to interact with each other (Boyer, 2011; Shaffer et al., 2005). Video game players join virtual teams to attain or achieve something like virtual teams, and the members of the team are typically people living in various geographical places who may never see each other. Team members must use technical devices to coordinate their actions (Chiang, 2016). Certain duties are assigned to each player in team-oriented games, and team members are expected to fulfill these tasks as required by the role for the team to remain balanced. There are significant obstacles on the path to the goals that players desire and seek to obtain; these obstacles are provided by the game itself (Ashinoff, 2014; McGonigal, 2011). As motivation in virtual teams with a qualitative case study examined, "World of Warcraft" was used as the target sample in that research (Chiang, 2016). Participants were determined from a guild which is established in the game. It had been observed that these participants formed virtual teams in the 3D environment in line with certain goals. Researchers who conducted interviews with seven members of the guild found that the video game itself

presented the challenges that often caused the team to fail. Players tried their own unique and created new strategies to adapt to the challenges. On the other hand, the researchers determined that the difficulty of the "World of Warcraft" game, giving pleasure to the players, occurs with internal and external rewards, making the game "difficult and fun". They have seen that overcoming the difficulties in the game and trying to adapt is provided by the internal motivation of the players. That ease to identify their organizational behaviors which are related to their real identities and coming from their real identities and social identities (Shaffer & Gee, 2006). Researchers are able to get immediate feedback or specific investigation results due to those simulated roleplaying contexts in the virtual environment (Boyer, 2011). Taking all of this into account, the study of researchers who analyze virtual teams becomes easier because these games allow them to reach the conclusions of their research more rapidly (Ramirez, 2019).

3. RESEARCH METHODS

According to research subject, social identity theory, social status, knowledge sharing, and the structure of MMORPGs have been explained under the literature review. In order to make the purpose of the research clearer, the development of technology and the factors that come with this development are mentioned. MMORPG players are selected as target samples. With the purpose of collecting data, a survey had been arranged via using the scales of knowledge sharing by (Peng, 2013), knowledge sharing by (Kumi & Sabherwal, 2019), socio-economical by Kuppuswamy (Ananthan, 2021), clan culture by (Moorman, 1995). Explicit knowledge, such as character descriptions or game terms, which players can obtain verbally or in writing, is considered as general knowledge in the game. The tacit knowledge that players acquire through their own experience, such as battle strategies, item configuration or monetization strategies, is considered as technical knowledge. In addition, the properties of items in the game, character abilities, terminological definitions, quest information, new event information, any NPC information...etc. are general knowledge, which is considered equivalent to explicit knowledge. In the game, players' strategies of playing the game by using all the general knowledge and blending it with their own experiences are considered as technical knowledge, which is equivalent to tacit knowledge.

Clan culture questions by (Moorman, 1995)

Question Numbers	Original Questions	Adapted Questions
Clan culture question 1	My division is very personal. It is like an extended family. People seem to share a lot of themselves.	Guilds are like an extended family; players share a lot among themselves.
Clan culture question 2	The head of my division is generally considered to be a mentor, sage, or a father or a mother figure.	The guild leader is like a mentor, a father, or a mother figure.
Clan culture question 3	The glue that holds my division together is loyalty and tradition. Commitment to this firm runs high.	What holds the guild together is loyalty. Devotion advances the guild.
Clan culture question 4	My division emphasizes human resources. High cohesion and morale in the firm are important.	The guild cares about the guild players. A high level of harmony and morale is important in the guild.

Note: 7-Point Likert Scale was used. 1 was “strongly disagree” and 7 was “strongly agree.”

Explicit knowledge sharing questions by (Kumi & Sabherwal, 2019) and (Peng, 2013)

Question Numbers	Original Questions	Adapted Questions
Knowledge sharing question 1 (General)	When participating in this community, I usually actively seek knowledge from others.	I share general information about the game with other players.
Knowledge sharing question 2 (General)	Withhold helpful information or knowledge from others	I share the item/character build information I get in the game with other players.
Knowledge sharing question 3 (General)	Withhold helpful information or knowledge from others	I share information about missions in the game with other players.
Knowledge sharing question 4 (General)	Withhold helpful information or knowledge from others	I will share the new event information with other players.

Note: First question has been adapted from (Kumi & Sabherwal, 2019), question 2,3,4 have been adapted from (Peng, 2013). “1-5” Likert Scale has been used for answers. 1 was “Strongly disagree”, 5 was “Strongly Agree”. Due to lack of appropriate questions for MMORPGs, questions are reverse coded and adapted.

Tacit knowledge sharing questions by (Peng, 2013)

Question Number	Original Question	Adapted Question
Knowledge sharing question 1 (Technical)	Do not transform personal knowledge and experience into organizational knowledge	I share my own experiences in the game with other players.
Knowledge sharing question 2 (Technical)	Try to hide innovative achievements	I share my innovative strategies with other players which I acquired.
Knowledge sharing question 3 (Technical)	Do not transform personal knowledge and experience into organizational knowledge	I share technical knowledge of professions in the game with other players.
Knowledge sharing question 4 (Technical)	Do not transform personal knowledge and experience into organizational knowledge	I share PvP techniques with other players.
Knowledge sharing question 5 (Technical)	Withhold helpful information or knowledge from others	I share character/class information in the game with other players.

Note: All of the questions above have been adapted from (Peng, 2013). “1-5” Likert Scale has been used for answers. 1 was “Strongly disagree”, 5 was “Strongly Agree”. Due to lack of appropriate questions for MMORPGs, questions are reverse coded and adapted.

The social status scale is adapted from Kuppuswamy. Kuppuswamy's scale has statistical definitions, not direct question forms (Ananthan, 2021). Thus, the social status questions on the MMORPG platform were prepared using Kuppuswamy's numerical values. Those questions are listed below:

Socio-economic question	What is your economic situation in the game, including the prices of your items in the game?
Educational question (Game experience)	How long have you been playing MMORPGs?
Title question	What is your rank in your clan?

Note: All the answering options of questions are adapted from the statistical numbers of Kuppuswamy's scale (Ananthan, 2021).

By using scales as mentioned above, a survey had been prepared with nineteen questions to make players fill the survey virtually. The purpose of nine questions was to measure knowledge sharing, four questions to measure clan culture, three questions to measure social status. First, the survey was conducted via Google Forms. 440 number of MMORPG players attended the survey. Data has been collected from two different MMORPGs which names are "Black Desert Online" and "Knight Online".

An informative text has been put at the top of the survey.

"Dear Participant,

This questionnaire has been prepared for the master's thesis on MMORPG players conducted at Adana Alparslan Türkeş Science and Technology University Management Information Systems Institute. The survey data will be used only for academic purposes and the achievement of the purpose of the research will be ensured by your careful and complete answers. Your nickname and answers in the game will be kept confidential as they will be used in line with research and will never be shared with any clan or player. Your credentials, if any, will be kept strictly confidential and will be protected. Thanks in advance for your contribution."

Beside this informative text, a virtual signing box had been filled by players; “I have read the informative text above and I am of the opinion that I understand in detail all the explanations submitted to me in writing.”

After all these notifications and permissions, survey had been switched to open to be filled and answers were restricted to being filled two or more times by a player. After the process of the survey filling had been done, the data which is collected was analyzed.

In the statistical analysis phase of the study, frequency analysis, reliability analysis, confirmatory factor analysis (CFA) and mean comparison tests were applied.

In the first stage, descriptive statistics and frequency distributions of the participants' socio-demographic characteristics were presented. In the other stages of the analysis, statistical applications were carried out to compare the scores of knowledge sharing and clan culture scales according to certain socio-demographic characteristics. Then, Cronbach's Alpha reliability analysis was applied to examine the internal consistency of these scales.

By obtaining the scores of knowledge sharing and clan culture scales; firstly, it was examined whether they were suitable for normality distribution based on these characteristics, and in cases where normality distribution was not suitable on the basis of groups, comparisons were made with nonparametric tests. In cases where the number of groups belonging to demographic characteristics was greater than 3, the "Kruskal-Wallis Test", one of the nonparametric tests, was applied. For the groups found significant as a result of the Kruskal-Wallis test, Dunn's test, one of the multiple comparison tests, was applied. Then, the Wilcoxon signed-rank test was used to compare the scores of general knowledge sharing and technical knowledge sharing scales applied to the same individuals. Descriptive statistics of numerical variables are given as mean±standard deviation ($\bar{X} \pm SS$) for normally distributed data and median, minimum, maximum (med (min-max)) values for non-normally distributed data. In all calculations and interpretations, the statistical significance level was considered as " $p < 0.05$ ". SPSS 26 program and R software were used for statistical analysis of the data.

4. RESULTS AND DISCUSSION

Some of the findings were expected and some were not. When the literature sources of the research were examined, some of the characteristics of organizations in the physical environment and organizations in the virtual environment differed. These differences are related to the correlation between social status and knowledge sharing not only contrary to the propositions presented in the hypotheses but also the results were reached from different perspectives. In some social status situations, the expected knowledge sharing situation did not turn out as expected and moved in a neutral or negative direction. The main reason for this can be the differences in structure between organizations by studying the relationship between knowledge sharing and social status from social identity perspective. Since the studies in the literature have been conducted on concrete organizations and the studies conducted on virtual organizations, some of the results have differed from what were expected. However, this has contributed to the research in a very positive rather than negative way. It has shown findings that will be beneficial in seeing the differences in the structures of physical and virtual organizations and in examining or creating the structures of these organizations on knowledge sharing and social status accordingly. Although the preparation of the hypotheses was based on literature, the fact that they produced different results which show the hope that new phenomena will be added to the literature.

The hypotheses to be measured are listed below, and then the research data analysis are specified.

Hypotheses 1: Players share technical knowledge less than general knowledge.

According to findings from Table 18, the general (explicit) knowledge sharing rate is higher than technical (tacit) knowledge sharing rate.

Hypotheses 2: There is a positive relationship between technical knowledge sharing and social status in the game.

According to findings from Table 15, the technical (tacit) of knowledge does not differ depending on players economic status in the game, duration of playing MMORPG, rank level, age characteristics.

Hypotheses 3: There is a positive relationship between players' knowledge sharing and age.

According to findings from Table 16, knowledge sharing rate of players aged 36-45 are significantly lower than those of players aged 18-25 and 26-35.

Hypotheses 4: High status players share less knowledge than low status players in a clan.

According to findings from Table 17, the knowledge sharing rate of players whose ranks are only “member” are significantly lower than those of players whose ranks are senior member or officer, leader, and assistant leader.

Hypotheses 5: Those who are more experienced players in the game share more knowledge.

According to findings from Table 19, duration of playing MMORPGs has no relation on knowledge sharing between players.

Hypotheses 6: Leaders share more knowledge in the clan.

According to findings from Table 14, the knowledge sharing rate of those who are leaders is significantly higher than the other membership groups (senior members or officers, members, and assistant leaders) in the clan.

Hypotheses 7: A clan member with low economic status shares less knowledge than high economic status player in the clan.

According to findings from Table 17, the clan culture score of individuals with low economic level in the game is significantly lower than individuals with medium, high and very high economic level in the game.

4.1. Descriptive Statistics

Table 1: Frequency findings of the individuals included in the study.

Variable	n	%
<i>What is your economic situation in the game, including the prices of your items in the game?</i>		
Lower	14	3.18
Upper	54	12.27
Upper Lower	69	15.68
Lower Middle	166	37.73
Upper Middle	137	31.14
<i>How long have you been playing MMORPGs?</i>		
1 Year or less	21	4.77
10 Years	69	15.68
More than 10 years	240	54.55
3 Years	46	10.45
5 Years	64	14.55
<i>What is your rank in your clan?</i>		
Veteran member or Officer	145	32.95
Leader	43	9.77
Member	179	40.68
Co-Leader	73	16.59
<i>How old are you?</i>		
18-25	165	37.50
26-35	249	56.59
36-45	23	5.23
46 or more	3	0.68

n: Number of observations

Table 1 shows the social status and demographic findings of the individuals included in the study. According to these findings, 37% of the individuals were between the ages of 18-25, 56.5% between the ages of 26-35 and 5% between the ages of 36-45. According to the findings,

2% of the individuals were senior members or officers, 9% were leaders, 40% were members and 16% were assistant leaders. According to the results, 4% of the individuals have been playing MMORPG for 1 year or less, 15% for 10 years, 54% for more than 10 years, 10% for 3 years and 14% for 5 years. According to the results, 3% of the individuals have very low, 12% very high, 15% low, 37% medium and 31% high economic status.

Table 2: Basic assumptions of the knowledge sharing scale.

KMO	0.920
Bartlett Sphericity test	2379.89
p	<0.001

p: significance value

Table 2 shows the results of Kaiser Meier Olkin (KMO) and Bartlett's test of sphericity, which are the basic assumptions of the EFA process of the developed knowledge sharing scale. When Bartlett's test of sphericity was analyzed, it was found that there was a statistically significant correlation between the items of the knowledge sharing scale ($p < 0.05$). On the other hand, the KMO statistic is above 0.70 and this number is quite sufficient for the sample. In the light of these findings, it is understood that the knowledge sharing scale is adequate for the sample.

Table 3: Descriptive statistics and reliability analysis findings of the knowledge sharing scale.

Size/material	Avg	SD	MED	ID	Alpha
General knowledge sharing					
G1	4.375	0.836	5.000	0.735	0.809
G2	4.436	0.810	5.000	0.732	
G4	4.325	0.894	5.000	0.750	
G9	4.068	1.153	4.000	0.838	
Technical knowledge sharing					
T3	4.380	0.832	5.000	0.855	0.872
T5	4.311	0.933	5.000	0.839	
T6	3.893	1.141	4.000	0.827	
T7	4.127	1.051	4.000	0.837	
T8	3.807	1.245	4.000	0.865	

Avg: Average SD: Standard deviation Med: Median ID: When Item deleted Alpha: Reliability coefficient

Table 3 shows the statistics of the reliability coefficients obtained from the subscales obtained from the knowledge sharing scale. When the reliability analysis findings are analyzed, the Cronbach's Alpha reliability coefficients of the subscales obtained are above 0.70. The Cronbach's Alpha coefficients of the general knowledge sharing and technical knowledge sharing subscales are 0.809 and 0.872, respectively. The overall Cronbach's Alpha for the knowledge sharing scale is 0.910. According to the findings, item G2 (4.436±0.810) has the highest mean for the general knowledge sharing dimension and item G9 (4.068±1.153) has the lowest mean. Regarding the technical knowledge sharing sub-dimension, item T3 (4.380±0.832) had the highest mean and item T8 (3.807±1.245) had the lowest mean.

Table 4: Fit index values of CFA findings of the knowledge sharing scale.

Chi-square	df	GFI	CFI	AGFI	TLI	NNFI	RMSEA	SRMR
31.668	26	0.991	0.998	0.985	0.997	0.997	0.022	0.059

df: Degrees of freedom

Table 4 shows the values of Chi-square, GFI, AGFI, CFI, TLI, RMSEA and SRMR of the fit index values of the CFA findings of the knowledge sharing scale. When the findings were analyzed, it was determined that Chi-square/sd=1.218 was below 5, GFI and AGFI values were above 0.95, RMSEA value was below 0.05 and SRMR value was below 0.08. In the light of these findings, Chi-square/sd, CFI, GFI, AGFI, TLI and RMSEA fit index values indicated excellent fit (Hu & Bentler, 1999). When the fit index values are analyzed in general, the construct validity results of the knowledge sharing scale confirm that the scale has an acceptable/excellent fit (Mulaik et al., 1989).

Table 5: CFA statistics of knowledge sharing scale.

Sub dimension	B	SZ(B)	z	p
<i>General knowledge sharing</i>				
G1	1.000	0.714		
G2	1.004	0.740	14.158	<0.001
G4	1.147	0.766	14.521	<0.001
G9	1.332	0.689	14.497	<0.001
<i>Technical knowledge sharing</i>				
T3	1.000	0.804		
T5	1.124	0.805	15.055	<0.001
T6	1.354	0.793	15.610	<0.001
T7	1.251	0.796	15.490	<0.001
T8	1.223	0.657	14.867	<0.001

B: Coefficient, SZ(B): Standard error

Table 5 shows the CFA statistics of the knowledge sharing scale. When the findings are examined, it is seen that all sub-items in the general knowledge sharing and technical knowledge sharing dimensions of the developed knowledge sharing scale are statistically

significant ($p < 0.05$). The path coefficients of all sub-items in the general knowledge sharing and technical knowledge sharing dimensions are also positive ($\text{Beta} > 0$).

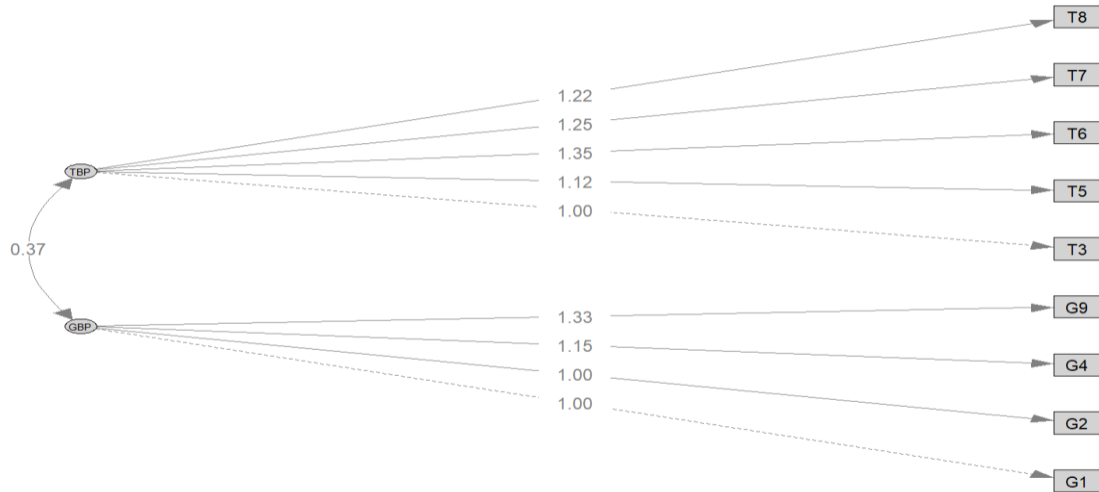


Figure 1: CFA results of knowledge sharing scale.

Figure 1 shows the CFA results of the knowledge sharing scale. According to the graphical structure obtained as a result of CFA, it is seen that the standardized loadings of all items in the knowledge sharing scale have positive values.

Table 6: Basic assumptions of the clan culture scale

KMO	0.700
Bartlett Sphericity test	465.204
p	<0.001

Table 6 shows the results of Kaiser Meier Olkin (KMO) and Bartlett's test of sphericity, which are the basic assumptions of the EFA process of the developed clan culture scale. When Bartlett's test of sphericity was analyzed, it was found that there was a statistically significant correlation between the items of the clan culture scale ($p < 0.05$). On the other hand, the KMO statistic is above 0.70 and this number is sufficient for the sample. In the light of these findings, it is understood that the clan culture scale is sufficient for the sample.

Table 7: Descriptive statistics and reliability analysis findings of the clan culture scale

Size/material	Avg	SD	MED	ID	Alpha
<i>Clan culture scale</i>					
C1	4.193	0.805	4.000	0.716	0.747
C2	3.286	1.270	4.000	0.714	
C3	4.180	0.936	4.000	0.653	
C4	4.389	0.767	5.000	0.678	

Avg: Average SD: Standard deviation Med: Median ID: When Item deleted Alpha: Reliability coefficient

Table 7 shows the statistics of the reliability coefficients obtained from the clan culture scale. When the reliability analysis findings are examined, the Cronbach's Alpha reliability coefficients of the clan culture scale are above 0.70 and Cronbach's Alpha coefficient is 0.747 respectively. According to the findings, item C4 (4.389 ± 0.767) has the highest mean and item C2 (3.286 ± 1.270) has the lowest mean.

Table 8: CFA statistics for clan culture scale

Sub Dimension	B	SZ(B)	z	p
<i>Clan culture scale</i>				
C1	1.000	0.578		
C2	1.795	0.658	7.338	<0.001
C3	1.491	0.742	7.124	<0.001
C4	1.127	0.684	7.330	<0.001

B: Coefficient, SZ(B): Standard error

Table 8 shows the CFA statistics of the clan culture scale. When the findings are examined, it is seen that all items in the clan culture scale are statistically significant ($p < 0.05$). The path coefficients of all sub-items in the general knowledge sharing and technical knowledge sharing dimensions are also positive ($\text{Beta} > 0$).

Table 9: Fit index values of CFA findings of the knowledge sharing scale.

Chi square	sd	GFI	CFI	AGFI	TLI	NNFI	RMSA	SRMR
5.989	2	0.995	0.988	0.973	0.965	0.965	0.047	0.049

Table 9 shows the values of Chi-square, GFI, AGFI, CFI, TLI, RMSEA and SRMR of the fit index values of the CFA findings of the knowledge sharing scale. When the findings were analyzed, it was determined that Chi-square/sd=1.218 was below 5, GFI and AGFI values were above 0.95, RMSEA value was below 0.05 and SRMR value was below 0.08. In the light of these findings, Chi-square/sd, CFI, GFI, AGFI, TLI and RMSEA fit index values indicated acceptable fit.

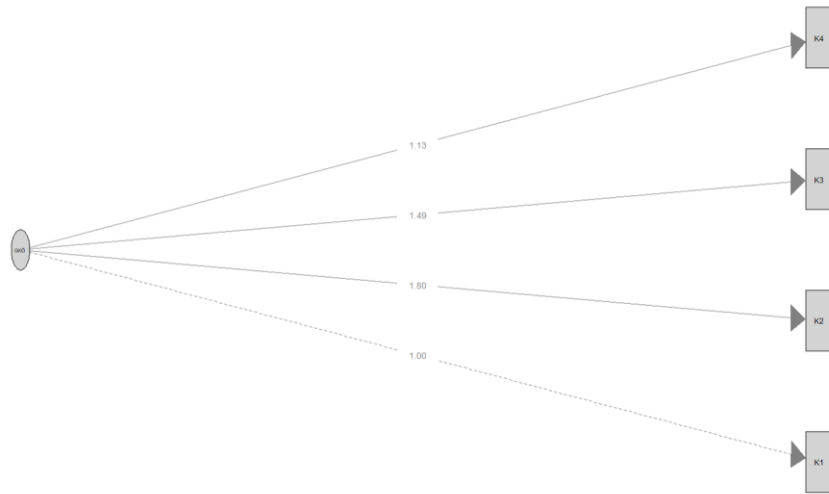


Figure 2: CFA results of clan culture scale

Figure 2 shows the CFA results of the clan culture scale. According to the graphical structure obtained as a result of CFA, it is seen that the standardized loadings of all items in the clan culture scale have positive values.

Table 10: Normality distributions of the score points of the general knowledge sharing dimension on the basis of socio-demographic characteristics.

Variable	n	KM/SW	p
<i>What is your economic situation in the game, including the prices of your items in the game?</i>			
Lower	14	0.227	0.049
Upper	54	0.833	<0.001
Upper Lower	69	0.887	<0.001
Lower Middle	166	0.823	<0.001
Upper Middle	137	0.840	<0.001
<i>How long have you been playing MMORPGs?</i>			
1 Year or less	21	0.211	0.015
10 Years	69	0.875	<0.001
More than 10 years	240	0.840	<0.001
3 Years	46	0.810	<0.001
5 Years	64	0.847	<0.001
<i>What is your rank in your clan?</i>			
Veteran member or Officer	145	0.868	<0.001
Leader	43	0.291	<0.001
Member	179	0.842	<0.001
Co-Leader	73	0.861	<0.001
<i>How old are you?</i>			
18-25	165	0.889	<0.001
26-35	249	0.827	<0.001
36-45	23	0.288	<0.001
46 or more	2	0.276	

Kolmogorov Simirnov (KM) test was applied when the number of observations was below 50 and Shapiro Wilk (SW) test was applied when the number of observations was above 50.

Table 10 shows the findings of the normality distribution of the score scores of the general knowledge sharing dimension on the basis of socio-demographic characteristics. According to these results, the score scores of the general knowledge sharing dimension are not normally distributed on the basis of socio-demographic characteristics.

Table 11: Normality distributions of the score points of the technical knowledge sharing dimension on the basis of socio-demographic characteristics.

Variable	n	KM/SW	p
<i>What is your economic situation in the game, including the prices of your items in the game?</i>			
Lower	14	0.231	0.041
Upper	54	0.919	0.001
Upper Lower	69	0.914	<0.001
Lower Middle	166	0.875	<0.001
Upper Middle	137	0.865	<0.001
<i>How long have you been playing MMORPGs?</i>			
1 Year or less	21	0.218	0.011
10 Years	69	0.924	<0.001
More than 10 years	240	0.872	<0.001
3 Years	46	0.235	<0.001
5 Years	64	0.902	<0.001
<i>What is your rank in your clan?</i>			
Veteran member or Officer	145	0.904	<0.001
Leader	43	0.875	<0.001
Member	179	0.878	<0.001
Co-Leader	73	0.869	<0.001
<i>How old are you?</i>			
18-25	165	0.933	<0.001
26-35	249	0.860	<0.001
36-45	23	0.212	0.008
46 or more	2	0.213	

Kolmogorov Simirnov (KM) test was applied when the number of observations was below 50 and Shapiro Wilk (SW) test was applied when the number of observations was above 50.

Table 11 shows the findings of the normality distribution of the score points of the technical knowledge sharing dimension on the basis of socio-demographic characteristics. According to these results, the score points of the technical knowledge sharing dimension are not normally distributed on the basis of socio-demographic characteristics.

Table 12: Normality distributions of the score points of the knowledge sharing dimension on the basis of socio-demographic characteristics.

Variable	n	KM/SW	p
<i>What is your economic situation in the game, including the prices of your items in the game?</i>			
Lower	14	0.163	0.200
Upper	54	0.862	<0.001
Upper Lower	69	0.895	<0.001
Lower Middle	166	0.882	<0.001
Upper Middle	137	0.892	<0.001
<i>How long have you been playing MMORPGs?</i>			
1 Year or less	21	0.154	0.200
10 Years	69	0.873	<0.001
More than 10 years	240	0.899	<0.001
3 Years	46	0.870	<0.001
5 Years	64	0.845	<0.001
<i>What is your rank in your clan?</i>			
Veteran member or Officer	145	0.894	<0.001
Leader	43	0.148	0.019
Member	179	0.891	<0.001
Co-Leader	73	0.831	<0.001
<i>How old are you?</i>			
18-25	165	0.845	<0.001
26-35	249	0.906	<0.001
36-45	23	0.117	0.200
46 or more	2	0.330	

Kolmogorov Simirnov (KM) test was applied when the number of observations was below 50 and Shapiro Wilk (SW) test was applied when the number of observations was above 50.

Table 12 shows the findings of the normality distribution of the score points of the knowledge sharing dimension based on socio-demographic characteristics. According to these results, the score scores of the knowledge sharing dimension are not normally distributed on the basis of socio-demographic characteristics.

Table 13: Normality distributions of clan culture dimension scores on the basis of socio-demographic characteristics

Variable	n	KM/SW	p
<i>What is your economic situation in the game, including the prices of your items in the game?</i>			
Lower	14	0.177	0.200
Upper	54	0.858	<0.001
Upper Lower	69	0.962	0.036
Lower Middle	166	0.941	<0.001
Upper Middle	137	0.946	<0.001
<i>How long have you been playing MMORPGs?</i>			
1 Year or less	21	0.144	0.200
10 Years	69	0.942	0.003
More than 10 years	240	0.937	<0.001
3 Years	46	0.914	0.002
5 Years	64	0.958	0.030
<i>What is your rank in your clan?</i>			
Veteran member or Officer	145	0.955	<0.001
Leader	43	0.896	0.001
Member	179	0.938	<0.001
Co-Leader	73	0.934	0.001
<i>How old are you?</i>			
18-25	165	0.948	<0.001
26-35	249	0.948	<0.001
36-45	23	0.149	0.200
46 or more	2	0.285	

Kolmogorov Simirnov (KM) test was applied when the number of observations was below 50 and Shapiro Wilk (SW) test was applied when the number of observations was above 50.

Table 13 shows the findings of the normality distribution of the score scores of the clan culture dimension on the basis of socio-demographic characteristics. According to these results, the score scores of the clan culture dimension are not normally distributed on the basis of socio-demographic characteristics.

Table 14: Comparisons of general knowledge sharing dimension on the basis of socio-demographic characteristics.

Variable	Avg	SD	Med	Min	Max	Test statistics	p
<i>What is your economic situation in the game, including the prices of your items in the game?</i>							
Lower	4.29	0.85	4.63	2.50	5.00	2.704	0.608
Upper	4.32	0.73	4.50	1.50	5.00		
Upper Lower	4.18	0.75	4.25	2.00	5.00		
Lower Middle	4.32	0.77	4.50	1.00	5.00		
Upper Middle	4.33	0.71	4.50	2.00	5.00		
<i>How long have you been playing MMORPGs?</i>							
1 Year or less	4.27	0.76	4.50	2.75	5.00	4.964	0.291
10 Years	4.29	0.67	4.50	2.00	5.00		
More than 10 years	4.24	0.81	4.25	1.00	5.00		
3 Years	4.42	0.69	4.50	2.00	5.00		
5 Years	4.47	0.56	4.63	3.25	5.00		
<i>What is your rank in your clan?</i>							
Veteran member or Officer	4.23	0.75	4.25	2.00	5.00	11.604	0.009
Leader	4.59	0.67	5.00	2.00	5.00		
Member	4.28	0.77	4.50	1.00	5.00		
Co-Leader	4.33	0.69	4.50	2.00	5.00		
<i>How old are you?</i>							
18-25	4.32	0.62	4.25	2.00	5.00	5.446	0.424
26-35	4.29	0.80	4.50	1.00	5.00		
36-45	4.43	0.78	5.00	2.50	5.00		
46 or more	3.50	1.80	4.00	1.50	5.00		

Avg: Average SD: Standard deviation Med: Median Min: Minimum Max: Maximum p: Kruskal Wallis test

Table 14 shows the comparison results of the general knowledge sharing dimension based on socio-demographic characteristics. According to these results, general knowledge scores of individuals do not differ according to their economic status in the game, duration of playing MMORPGs, age characteristics ($p>0.05$). According to the findings, there is a statistically significant difference between the general knowledge sharing scores of individuals based on their rank levels ($p<0.05$). When these differences are examined, the general knowledge sharing scores of those who are leaders are significantly higher than those of individuals who are senior members or officers, members and assistant leaders.



Table 15: Comparisons of technical knowledge sharing dimension on the basis of socio-demographic characteristics.

Variable	Avg	SD	Med	Min	Max	Test statistics	p
<i>What is your economic situation in the game, including the prices of your items in the game?</i>							
Lower	4.20	0.89	4.50	2.20	5.00	2.281	0.684
Upper	4.03	0.84	4.00	1.60	5.00		
Upper Lower	4.03	0.86	4.20	1.80	5.00		
Lower Middle	4.13	0.87	4.20	1.00	5.00		
Upper Middle	4.13	0.84	4.20	1.00	5.00		
<i>How long have you been playing MMORPGs?</i>							
1 Year or less	4.12	0.89	4.20	2.60	5.00	5.310	0.257
10 Years	3.99	0.76	4.00	1.80	5.00		
More than 10 years	4.08	0.91	4.20	1.00	5.00		
3 Years	4.28	0.83	4.70	2.00	5.00		
5 Years	4.18	0.74	4.20	2.40	5.00		
<i>What is your rank in your clan?</i>							
Veteran member or Officer	4.05	0.85	4.20	1.60	5.00	1.410	0.703
Leader	4.13	0.88	4.40	1.80	5.00		
Member	4.13	0.86	4.20	1.00	5.00		
Co-Leader	4.15	0.85	4.20	1.00	5.00		
<i>How old are you?</i>							
18-25	4.03	0.78	4.00	1.60	5.00	9.573	0.067
26-35	4.13	0.90	4.20	1.00	5.00		
36-45	4.39	0.66	4.60	3.00	5.00		
46 or more	3.40	1.71	3.60	1.60	5.00		

Avg: Average SD: Standard deviation Med: Median Min: Minimum Max: Maximum p: Kruskal Wallis test

Table 15 shows the comparison results of the technical knowledge sharing dimension on the basis of socio-demographic characteristics. According to these results, technical knowledge scores of individuals do not differ according to their economic status in the game, duration of playing MMORPG, rank level, age characteristics ($p>0.05$).

Table 16: Comparisons of knowledge sharing dimension on the basis of socio-demographic characteristics.

Variable	Avg	SD	Med	Min	Max	Test statistics	p
<i>What is your economic situation in the game, including the prices of your items in the game?</i>							
Lower	4.47	0.44	4.50	3.63	5.00	2.98	0.561
Upper	4.29	0.72	4.50	1.50	5.00		
Upper Lower	4.18	0.74	4.13	2.00	5.00		
Lower Middle	4.22	0.76	4.38	1.63	5.00		
Upper Middle	4.15	0.80	4.25	1.00	5.00		
<i>How long have you been playing MMORPGs?</i>							
1 Year or less	4.36	0.52	4.38	3.38	5.00	2.795	0.593
10 Years	4.17	0.83	4.25	1.00	5.00		
More than 10 years	4.17	0.77	4.25	1.50	5.00		
3 Years	4.26	0.71	4.50	2.00	5.00		
5 Years	4.32	0.73	4.50	2.00	5.00		
<i>What is your rank in your clan?</i>							
Veteran member or Officer	4.21	0.72	4.25	1.00	5.00	2.701	0.440
Leader	4.21	0.76	4.38	2.00	5.00		
Member	4.15	0.81	4.25	1.50	5.00		
Co-Leader	4.34	0.70	4.50	1.88	5.00		
<i>How old are you?</i>							
18-25	4.27	0.78	4.50	1.00	5.00	11.400	0.010
26-35	4.21	0.71	4.25	1.75	5.00		
36-45	3.77	0.82	3.75	1.63	5.00		
46 or more	3.42	1.68	4.13	1.50	4.63		

Avg: Average SD: Standard deviation Med: Median Min: Minimum Max: Maximum p: Kruskal Wallis test

Table 16 shows the comparison results of the knowledge sharing dimension on the basis of socio-demographic characteristics. According to these results, knowledge sharing scores of individuals do not differ according to their economic status in the game, duration of playing MMORPGs, rank levels ($p>0.05$). In addition, when the results are analyzed, there is a statistically significant difference between the knowledge sharing scores of individuals on the basis of age groups ($p<0.05$). When these differences are analyzed, the general knowledge scores of individuals aged 36-45 are significantly lower than those of individuals aged 18-25 and 26-35.



Table 17: Comparisons of clan culture scale on the basis of socio-demographic characteristics

Variable	Avg	SD	Med	Min	Max	Test statistics	p
<i>What is your economic situation in the game, including the prices of your items in the game?</i>							
Lower	3.93	0.76	4.00	2.75	5.00	10.400	0.030
Upper	4.16	0.85	4.50	1.25	5.00		
Upper Lower	3.81	0.73	3.75	1.50	5.00		
Lower Middle	4.02	0.71	4.00	1.25	5.00		
Upper Middle	4.05	0.68	4.00	1.75	5.00		
<i>How long have you been playing MMORPGs?</i>							
1 Year or less	3.95	0.77	4.00	2.25	5.00	1.090	0.896
10 Years	4.06	0.66	4.25	2.00	5.00		
More than 10 years	3.98	0.76	4.00	1.25	5.00		
3 Years	4.07	0.80	4.25	1.75	5.00		
5 Years	4.06	0.61	4.00	2.75	5.00		
<i>What is your rank in your clan?</i>							
Veteran member or Officer	3.96	0.64	4.00	1.75	5.00	16.131	0.001
Leader	4.35	0.58	4.50	2.50	5.00		
Member	3.92	0.83	4.00	1.25	5.00		
Co-Leader	4.16	0.62	4.25	2.75	5.00		
<i>How old are you?</i>							
18-25	4.03	0.67	4.00	1.75	5.00	4.309	0.932
26-35	4.01	0.73	4.00	1.25	5.00		
36-45	4.03	0.93	4.25	1.50	5.00		
46 or more	3.42	1.94	4.00	1.25	5.00		

Avg: Average SD: Standard deviation Med: Median Min: Minimum Max: Maximum p: Kruskal Wallis test

Table 17 shows the comparison results of the clan culture scale on the basis of socio-demographic characteristics. According to these results, clan culture scores of individuals do not differ according to their MMORPG playing time, age characteristics ($p>0.05$). According to the findings, there is a statistically significant difference between the clan culture scores of individuals based on their economic status and rank levels in the game ($p<0.05$). When these differences are analyzed, the clan culture score of individuals with low economic level in the game is significantly lower than individuals with medium, high and very high economic level in the game. In addition, the clan culture scores of individuals whose rank is only a member are significantly lower than those of individuals whose rank is senior member or officer, leader and assistant leader.

Table 18: Comparison results of General knowledge score and technical knowledge score

Variable	Avg	SD	Med	Min	Max	Test statistics	p
General knowledge score	4.30	0.74	4.50	1.00	5.00	7.865	<0.001
Technical knowledge score	4.10	0.85	4.20	1.00	5.00		

p: Wilcoxon signed ranks test.

Table 18 shows the comparison results between the general knowledge score and technical knowledge score of the individuals participating in the study. When these results are examined, there is no statistically significant similarity between the general knowledge score and the technical knowledge score of the individuals ($p<0.05$). When this difference is examined, the general knowledge score of the individuals is significantly higher than the technical knowledge score.

Table 19: Independent T test results of knowledge sharing, explicit knowledge sharing, tacit knowledge sharing, and clan culture scores based on duration of playing MMORPGs
Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference
Knowledge Sharing	Equal variances assumed	2.360	.125	1.074	438	.284	.07802	.07268
	Equal variances not assumed			1.092	437.995	.276	.07802	.07147
Explicit Knowledge Sharing	Equal variances assumed	4.688	.031	1.388	438	.166	.09583	.06904
	Equal variances not assumed			1.416	437.401	.158	.09583	.06769
Tacit Knowledge Sharing	Equal variances assumed	1.333	.249	.685	438	.493	.06021	.08785
	Equal variances not assumed			.695	437.548	.488	.06021	.08666
Clan Culture	Equal variances assumed	1.086	.298	.971	438	.332	.10521	.10839
	Equal variances not assumed			.979	434.166	.328	.10521	.10752

Table 19 shows the comparison results of the knowledge sharing, explicit knowledge sharing, tacit knowledge sharing, and clan culture dimension based on players duration of playing MMORPGs characteristics. With the aim of getting more accurate results, durations of playing MMORPGs have been separated into two categories. “Less than ten years” and “More than ten years” then independent T test had been used to get results. According to these results, knowledge sharing, explicit knowledge sharing, tacit knowledge sharing, and clan culture scores of individuals do not differ according to their duration of playing MMORPGs ($p>0.05$).

4.2. Explanations of Hypotheses

Explanation of hypotheses 1: General knowledge (explicit knowledge) and technical knowledge (tacit knowledge) are different types of knowledges (Nonaka, 1994). According to preview studies, tacit knowledge is harder to articulate and more difficult to transfer among organization members than explicit knowledge (Best et al., 2003; Bouthillier & Shearer, 2002; Nonaka, 1994). According to findings, general knowledge has been shared more than technical knowledge by players. In addition, there is no relation between social status and technical knowledge sharing, this shows that, this lack of technical knowledge sharing does not able to exist with competition of status seeking by players, yet general (explicit) knowledge sharing does. On the other hand, this can show that the knowledge sharing structure in virtual organizations is similar to physical organizations in this subject. Results of the analysis are able to show that technical knowledge sharing is harder to occur than general knowledge sharing among organization members.

Explanation of hypotheses 2: As preview studies had explained, technical (tacit) knowledge is difficult to share among members of a clan (organization) (Nonaka, 1994). Likely to first hypothesis, due to the difficulty of tacit knowledge sharing, clan members are not intended to share knowledge.

Explanation of hypotheses 3: No study about the correlation between knowledge sharing and age of clan members could be found. This hypothesis was to find new determinant of knowledge sharing among clan members (virtual organization). According to results of this analysis, the rate of knowledge sharing was low on high aged organization members. This situation can be caused with lack of knowledge of high aged players. This is because one of the major factors preventing knowledge sharing can be the lack of sufficient knowledge (Hew & Hara, 2007). When the age ranges of the players are analyzed, it can be observed that the age range of the majority of the player base is in the middle age range. Based on these results, the age of the more experienced audience in the game can also be considered as middle-aged. This situation may inevitably lead to a decrease in knowledge sharing as the age increases.

Explanation of hypotheses 4: As aforementioned above, knowledge sharing brings power and power equals title in a clan (organization). For the occurrence of knowledge sharing, the members of a clan should see knowledge spreading as a norm. This norm encourages the

members to share knowledge to get in the competition among members (Park et al., 2017). Yet, knowledge sharing has two roles to be shared: transmitter and receiver role. This brings reciprocity aspect to knowledge sharing (Fullwood et al., 2013; Kankanhalli et al., 2005; Majewski et al., 2011). Clan members with "Member" status should be at least as likely to share knowledge as members with "Leader" status. Because, according to the social identity theory, it has been stated that a group member shares knowledge in order to increase his/her own reputation, and as a result of this sharing, his/her main goal is to increase the status of the group he/she is in (Bettencourt et al., 2001; Brewer, 1979; Turner, 1975). Thus, this low-status group member would raise his/her own status and at the same time the status of his/her group against other groups (Turner, 1975). However, in the research results, only group members with "Member" status, who cannot gain power due to lack of knowledge, do not seem to have a tendency to share knowledge as they do not have any knowledge to share. In this explanation, there is no information about the knowledge sharing predispositions of the members with "Member" status. However, even if they have this predisposition, it shows that they cannot fulfill the "Expected Relationship" mentioned by (Hsu & Lin, 2008) earlier. If members with "Member" status had enough knowledge to share and improve their status, they would already have a higher status within the clan, not "Member" status. Therefore, members with "Member (Lowest)" status are not transmitters of knowledge, but rather receivers of knowledge.

Explanation of hypotheses 5: Duration of playing MMORPGs had been counted as educational determinant of social status (Ceylan, 2011; R. Linton, 1936). Thus, the hypothesis was tried to define if there is relation between educational determinants and knowledge sharing among players. Yet, the findings had shown that there is no relation between those variables in the MMORPG world. On the other hand, with the purpose of getting more accurate results, durations of playing MMORPGs have been separated into two categories. "Less than ten years" and "More than ten years" then independent T test had been used. The results were the same, findings had shown there is no relation between educational determinant and knowledge sharing among the players.

Explanation of hypotheses 6: The leader of a clan can be counted as the person who knows the game well. Although the knowledge sharing occurs in the meaning organizational learning between organization members (Ford & Chan, 2003; Pangil & Mohd Nasurddin, 2013), these findings has shown that knowledge sharing must not existed by only the receiver as mentioned

before (Chiu et al., 2006; Fullwood et al., 2013). On the other hand, title equals power and power being existed by knowledge. These findings have proven that leaders share their knowledge with the purpose of keeping safe their title and non-directly their power, and the purpose of being transmitter of knowledge to get mutual benefits for their clan (organization) with the purpose of keeping it alive and strong. This benefit-seeking behavior influences their attitude toward the organization (clan) (Chiu et al., 2006; Fullwood et al., 2013; Kankanhalli et al., 2005; Majewski et al., 2011). From the social identity perspective, with the purpose to get more reputation for leaders' clan to separate his/her organization from other groups (Hsu & Lin, 2008; Tajfel & Turner, 2004); leader tries to transfer knowledge more than the other organization members to carry the clan to higher social status clan. This intent exists by in-group favoritism either. If the clan's reputation gets higher, the reputation of leader will get higher. This seek of higher social status has made the effort of being transmitter of knowledge by clan leader.

Explanation of hypotheses 7: It was explained in the fourth hypothesis that the reason why a member who is only a "Member" is a member is due to lack of knowledge. According to the findings and previous literature research, as explained in the fourth hypothesis, the "Expectation Relationship" that is expected to be observed in terms of mutual knowledge sharing among organizational members (Hsu & Lin, 2008) may not be fulfilled. This is because the members with a low economic status may not have enough knowledge to raise this status. A player with a lack of knowledge, explicit or tacit, must be in a receiving position in terms of knowledge sharing in the game in order to gain power. It is possible for him to develop his own economy with the excess knowledge he needs to acquire. This new member entering the clan expects high-status members to play the role of transmitters in sharing knowledge, just as high-status members have expectations of the newcomer (Hsu & Lin, 2008; Tajfel & Turner, 2004). A new clan member, who already has enough knowledge, also has the knowledge to boost his/her economy. In this context, it is hypothesized that the individual with low economic status will share less knowledge and according to the findings, this hypothesis is likely to be true.

5. CONCLUSIONS

The relationship between knowledge sharing and social status within MMORPG platforms has been analyzed through social identity theory and some findings have been reached. Some of the findings are different from some of the previous literature studies and some of them are supportive. The target sample selected to obtain all these data was MMORPG players. The purpose of this situation is to have a continuous and sustainable clan system in MMORPG platforms. Explicit knowledge that can be documented and easily transferred in games is considered general knowledge and tacit knowledge that players acquire through their own experience is considered technical knowledge. Therefore, as a result, positive, negative, and neutral relationships were observed between knowledge sharing and social status. It was found that players with the title of leader, who were expected to share more knowledge as a result of high status, shared knowledge as expected. Likewise, it is thought that the leaders shared this knowledge with the expectation that their own status would also increase with the increase in the status of their clans. However, no difference was observed between the increase in the status of the players and the sharing of general and technical knowledge. In other words, whether the knowledge was general or technical did not show a difference in knowledge sharing regardless of the status of the players. At the same time, no correlation was found between the total playing time of the game and knowledge sharing. New clan members were expected to share knowledge in order to increase their status, but this did not go as expected. It was observed that new members did not share knowledge. It is thought that this situation means that new members do not have the knowledge competence to raise their status. Likewise, it was observed that players with poor economic status did not share much knowledge in the clan. In this case, it is concluded that both players with low titles and players with poor economic status act only in the role of "receiver" when the roles of information sharing are considered. When the age factor in the game was analyzed, it was also found that players with a higher age share less knowledge. There is not much research on age in the literature. However, the average age of the players in general is middle-aged players. This suggests that middle-aged players have a better dominance over the knowledge in the game. In this case, it can be considered normal that players with higher ages are less likely to share knowledge. In general, when general and technical knowledge sharing rates were analyzed, findings that support the information in the literature were obtained. It was observed that the sharing rates of general knowledge were higher than the sharing rates of technical knowledge. In The research was conducted in a completely virtual

world. It is a research that has not been conducted in Turkey before. With the findings obtained, it is aimed to examine the relationship between knowledge sharing and social status among MMORPG players and to pave the way for such research in virtual organizations that can be done in the future. As technology develops, the number of virtual organizations increases. In this research, it is aimed that these variables can be handled in terms of social identity theory and shed light on these sustainable and continuous virtual organizations.



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