Research Article

'Virtual sphere' in the framework of knowledge strategy and the function as common educational tool: Knowledge societies in COVID-19 era

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ARTICLE INFO	ABSTRACT
	Habermas' (1974) concept of the 'public sphere' (öffentlichkeit) enabled the bourgeoisie to participate in the process of discussing social issues and making various decisions which were influential in the formation of the laws regulating social life. Same time, it is an important common educational tool. Although the public sphere refers to citizens expressing their idea in a society, the virtual sphere has rapidly moved on to the Internet environment using social media. Within the coronavirus disease (COVID-19) has spread to many countries and has been causing serious repercussions as a pandemic. The use of digital technologies has increased significantly during the pandemic, and they have helped transform people's lives. In this context, Discussion of virtual sphere has also gained importance. Codification and personalization types of knowledge strategy will be followed in this study by conceptualizing a framework, which will be designed by understanding the virtual sphere in a society. There is still a literature gap the relationship between public sphere and virtual sphere as well as the lack of understanding for the integration of knowledge strategies (codification and personalization) with virtual sphere 1.0 and 2.0 in the context of tacit and explicit knowledge. The main problematic issue of this study revolves around how two type of knowledge strategies could be used by virtual spheres 1.0 and 2.0. Two propositions which will be expected to contribute to the literature were developed in the study to understand the roles of two types of knowledge strategies in relation to virtual sphere variants regarding the digital society and knowledge society.

INTRODUCTION

The difference between the digital age and knowledge age in the information and media literature is unclear. The concept of the public sphere, conceived by Habermas (1974), provides a significant indication about how one can be differentiated from the other. Furthermore, the concept of the public sphere has also been changed by the period of transition within societies from modern to postmodern thought.

At this point, what knowledge strategy will be followed by organizations who operate within the information, knowledge, and media industries in the context of virtual sphere variants, instead of the public sphere, in knowledge societies? To answer this question, this study firstly explains Habermas' (1974) public sphere concept with commutative action theory. Then, the period of transition from Web 1.0 and Web 2.0 to virtual sphere 1.0. and 2.0. has been examined. In this regard, the types of knowledge have been given to understand two types of knowledge strategy that could be aligned with virtual sphere variants. Two important

propositions for both digital age and knowledge age have been developed in context of organizational level in knowledge societies.

HABERMAS' PUBLIC SPHERE

Public sphere (*öffentlichkeit*) is a concept that has been used since ancient times and has multiple meanings. While the German term carries the meanings of "public, about public", the book *Strukturwandel der öffentlichkeit*, written by Habermas in 1962, was translated into English under the name The structural transformation of public sphere. Thus, the concept of öffentlichkeit found a response in the form of the public sphere in English. Unlike the German term, the English term includes spatial, physical, and topographic elements. However, Habermas (1974) does not treat the related phenomenon as a place, but as a general "area" (Falay, 2014).

According to Habermas (1974), the ideal public space is the "bourgeois public sphere" that occurred at the end of the 17th century and took place under specific sociological conditions (Dolunay et al., 2017a; Koroglu & Koroglu, 2013).

It is possible to talk about two basic developments in the emergence of Habermas' (1974) bourgeois public sphere (Falay, 2014; Melton, 2011). Habermas' (1974) understanding of public sphere carries several basic criteria:

1. *Ignoring statuses:* It is observed that "equality" replaces the rank-position element. "Power and dignity" and "economic dependencies" obtained through public duties are not important in this field.

2. *The "problematization" of the issues that were not discussed before:* The commodification of cultural products against to capitalism has facilitated the access of private individuals to cultural products and has made it possible to discuss these works.

3. *In principle, the public sphere is open to the outside*: It is essential that everyone is involved in the debate on social issues. Otherwise (if discussions are held by a group), it will be removed from the "public".

The public sphere is defined as all environments where individuals come together and communicate freely (Habermas, 1974). According to Habermas (1974), the public sphere should undertake the task of systematically and critically controlling the policies of the government. In the framework of participatory democracy, the public space in which they compete, adhering to the ethics of communication, will provide the construction of the "common mind" that will lead to reconciliation (Dolunay et al., 2017a). This common mind will educate, transform, and develop the society.

WEB 2.0, EDUCATIONAL TOOLS, AND VIRTUAL SPHERE

Web 2.0 and Web Based Educational Tools

Shortly after Web 1.0 concept emerged (in the 2000s), Web 2.0 concept was conceived. While the infrastructure of Web 1.0 only allowed information to be displayed and accessed, Web 2.0 provided an interactive environment. Through Web 2.0, users have not only been able only display the content, but also become creators of their own content. In other words, information is both readable and writable (Naik & Shivalingaiah, 2008). In this context, internet journalism has been brought to life (digital newspapers and blog sites), while platforms such as YouTube have been established for broadcasting and watching videos. Website development was not only limited to these channels, but as social networking sites also such as Facebook and Twitter were established in a short period of time, and this enabled a rapid increase in the number of internet users (Avsar & Ongoren, 2010; Dolunay, 2018; Dolunay et al., 2017b).

The increase in the number of users can also be interpreted as evidence that communication and information transfer is now happening in an indispensable medium (on the Internet) that is significantly more advanced than the former revolutionary vehicles of communication and information transfer such as the telegraph, telephone, newspaper, and television (Babacan et al., 2011; Dolunay et al., 2017b). This situation coincides with McLuhan's (1994) approach that every new mass media will reduce the effect of the previous one or destroy it completely (Rigel, 2005). In his book titled *Understanding media: The extensions of man*, McLuhan (1994) evaluates "tools" as extensions of the human body–even directly connected to the nervous

system in the human brain; he states that by using these tools, human beings can accomplish tasks that they were unable to do by using their limbs (Rigel, 2005).

On the other hand, as McLuhan (1994) stated in the global village theory, with the development of mass media tools and technology, people around the world are now more aware of each other, just like in a small village. In this framework, the world has become a global village where information can be shared within seconds. In the global village, users can both interfere with other content and produce new content (written, audio, video, etc.) as a content producer thanks to Web 2.0.

This whole process has enabled the creation of online communities based on information sharing (Krishnamurthy & Cormode, 2008; Ozudogru, 2014). The reciprocity principle is essential in online communities; hence, the communication established is interactive. The role of information in this concept could be considered based on information society or digital age arguments.

At this point, it should be noted that digitalization has also shown its effects in the field of education which is a basic in the public sphere. Especially in today's educational processes, various web-based tools come to the fore in non-formal education as well as in formal education. These tools can be categorized according to their uses (Elmas & Geban, 2012):

1. Content management systems-CMS/WCMS (Moodle, Edmodo, Webly, etc.),
2. Online Mmeeting (Google Meet, Microsoft Teems, Zoom, etc.),
3. Online storage and file sharing (GDrive, Dropbox, etc.),
4. Interactive presentations (Prezi, etc.),
5. Online survey (SurveyMonkey, etc.),
6. Concept map and drawing tools (Bubbl, Scribblar, etc.),
7. Animation and video (GoAnimate, Creaza, etc.), and
8. Word clouds or tag clouds (Wordle, TagCrowd, etc.).

Because of the web-based educational tools, which are offers many different benefits for students and educators, education (Bonk, 2009; Conole & Alevizou, 2010; Franklin & van Harmelen, 2007; Lu et al., 2010; O'Reilly, 2007; Prashnig, 2006; Prensky, 2009; Punie & Cabrera, 2006) can no longer be considered independent of technology.

Virtual Sphere

The virtual sphere occurs within both the digital society and knowledge society. In the framework of its liberating potential, the Internet has also come to the fore in the search for a new public sphere. In this sphere, there is the possibility to express opinions, practice common reasoning and reconcile in a virtual environment according to the democratic and free environment that Habermas (1974) referred to in the public space and communicative action theory (Malkoc, 2018; Rheingold, 1993; Timisi, 2005).

Within the scope of Web 1.0 and Web 2.0, the concepts of virtual sphere 1.0 and virtual sphere 2.0 have evolved. Although Web 1.0 provides a limited infrastructure, it has created virtual sphere 1.0 in the context of its potential and this directly affects their social and political capital it produces. Web 2.0, where interactions and discussions are particularly observed, is the basis for virtual sphere 2.0. However, there are supporting (utopian) and critical (dystopian) approaches. Papacharissi (2002) states that these approaches are gathered in terms of access to information, reciprocity of communication and commercialization of the online space.

While the potential of the internet to create a liberating, democratic public space is promising, the problem of commercialization is damaging this situation as well. Capitalism is having an increasing effect on the internet; applications like shopping and advertising are becoming more prominent, and this is detracting from the potential of the internet to create a public space (Papacharissi, 2009).

According to another approach, internet software is thought to penetrate all areas of life and constantly reproduces surveillance, control, and power (Malkoc, 2018; Timisi, 2015, p. 10). According to this argument, the virtual sphere contradicts with public sphere's function of systematic and critical control of the power holder.

On the other hand, while ignoring statuses in the public sphere is a basic criterion on the internet and especially on social media, an effort to reach higher superiority with statuses and opinions is at stake. This leads to a situation that is diverging from a consensus.

However, all these approaches do not show that the Internet has failed to become the new public space. Although the internet has this potential, this potential is not fully considered.

According to Habermas (1974, 1991), knowledge belongs to the central point of communicative action theory. In accordance with the theoretical explanation for both virtual sphere 1.0 and 2.0, digital/Internet platforms allow users to actively communicate and create a discussion environment and provide easy access to information, which leads to communication complexity/problems. To categorize such problems in the virtual sphere, an information and knowledge strategy should be designed.

COVID-19 ERA AND DIGITALIZATION

SARS-CoV-2, which causes COVID-19, is a coronavirus. Coronaviruses are RNA viruses that belong to the family coronaviridae (Richman et al., 2016). Considering the cases of MERS among these outbreaks, 35% of those who became ill died according to a World Health Organization report (WHO, 2019).

On January 7, 2020, Chinese scientists were able to isolate and identify SARS-CoV-2 from patients in Wuhan for the first time (Hwang et al., 2020). Subsequently, new cases were reported by many countries, and it was concluded that the virus is highly infective

In a report published by the World Health Organization on March 25, 2020, it was reported that the number of COVID-19 cases worldwide was 414,179, and 18,440 people died due to the virus (WHO, 2020). However, anxiety continues in all the world.

As McLuhan (1994) stated in his global village theory (Rigel, 2005), with the development of mass media and technology, people are becoming more aware of each other as if they are living in a small village. In this framework, the world has become a global village where information can be shared within seconds. Within this framework, news on news sites and posts on social media platforms can reach a wide audience within seconds (Krishnamurthy & Cormode, 2008; Ozudogru, 2014, p. 37). Humans are social creatures, and individuals feel more confident in groups than alone (Demirkiran, 2019).

Owing to the COVID-19 outbreak, individuals may feel anxious and lose control due to decreased contact with other people, and they may start to spend more time alone. Previous studies have revealed that the feeling of isolation and loneliness affects individuals negatively (Cetin & Anuk, 2020; Hwang et al., 2020). Due to the compulsory social isolation experienced today, individuals are more focused on performing services online, such as education, banking, education, shopping. In this context, the idea of transferring the public space to the digital environment and the emergence of a new digital public sphere (virtual sphere) is acceptable.

KNOWLEDGE STRATEGY FOR VIRTUAL SPHERE

The diversification of knowledge, whether it be explicit to tacit or tacit to explicit, allows organizations to identify a suitable strategy for positioning within highly competitive settings. Due to the importance of knowledge assets inside an organization, forming an appropriate knowledge strategy depends on the knowledge diversification. A knowledge strategy is not only categorized organizational and technological tools, processes, and infrastructures, but also the types of knowledge should be considered within the competitive environment (Zack, 2002). Organizational knowledge requires that the right strategy is selected at the right position in the environment with the right knowledge strategists. At this time, like the other types of strategies (marketing strategy, R/D strategy, production strategy, supply chain management strategy, human resources management strategy, etc.), the knowledge strategy should be aligned with the overall strategy of the organization.

This study is limited to two types of knowledge as tacit and explicit, which characterize two types of knowledge strategy: codification and personalization.

Codification Strategy

This belongs to the explicit type of knowledge and is also reflected by a "people-to-document" approach (Greiner et al., 2007; Hansen et al., 1999; Liu et al., 2013; Venkitachalam & Willmott, 2017). The codification strategy aims to collect data, information, and knowledge and to store them in databases (Hansen et al., 1999). Document management systems play a very important role in this strategy. Therefore, forms and official documents relevant to organizational issues follow this strategy. As the codification strategy is presumed to be successful and effective for companies whose business strategy demands the use and reuse of existing knowledge (Hansen et al., 1999; Malhotra, 2004), organizations act to capture, store, use, audit, and recreate explicit knowledge through a strategy that facilitates the retrieval of knowledge and information from an employee. Software and hardware technologies are the fundamental elements for archiving the necessary information and knowledge to form organizational intelligence based on knowledge pools, data warehouses, databases, and knowledge stores, etc.

Personalization Strategy

This type of strategy relates to the tacit form of knowledge. A "person-to-person" approach (Greiner et al., 2007; Hansen et al., 1999; Liu et al., 2013; Venkitachalam & Willmott, 2017) is crucial and both tacit to tacit knowledge transfer and tacit to explicit knowledge transfer should be followed by the personalization strategy. It has "the objective to transfer, communicate, and share tacit knowledge via knowledge networks such as discussion forums, and IT that is used to help people to communicate their knowledge, not to store knowledge" (Hansen et al., 1999). The personalization strategy is claimed to be successful and effective for companies that focus on generating new or customer-specific solutions or product innovations (Hansen et al., 1999). The factor that makes this strategy personalized is the reliance on the employee-oriented policies and procedures.

The combination of codification and personalization strategies is essential for all types of organizations because both tacit and explicit forms of knowledge should be stimulated by the top management level. Zanjani et al. (2008) emphasized that the codification strategy is appropriate for routine tasks in small and medium-sized enterprises, while the personalization strategy is ideal for companies who choose to create more innovative tasks. Hansen et al. (1999) argued that, for example, if 80% of explicit knowledge could be followed by a codification strategy, then 20% of tacit knowledge will be assigned by a personalization strategy.

Venkitachalam and Willmott (2017) suggested some applications for the codification and personalization strategy which enable tacit and explicit forms of knowledge to be shared among employees, customers, and suppliers. For example, a codification strategy could be applied to online information infrastructures such as intranets, corporate wikis, shared databases, document management systems, and enterprise information portals while the personalization strategy supports more sophisticated applications. For example, online forums, discussion groups, blogging, community of practices, and social platforms (Facebook, WhatsApp, Skype, Twitter, Instagram, etc.).

Habermas (1974) referred to the concept of the public sphere as a domain of social life in which public opinion is expressed by means of rational public discourse and debate. Parallel to this concept, it is possible to move our understanding onto the technological environment by focusing on both Web 1.0 and Web 2.0. techniques. Although the digital age supports the technological improvements such as web technologies, smart technologies, artificial intelligence technologies, internet of things, etc., establishing virtual reality based on those technological tools and techniques plays an inevitable role in postmodern society. Considering the web technologies (1.0 or 2.0) within this perspective, virtual reality has changed its features to the virtual sphere, which has two important variants in the knowledge age.

ALIGNING KNOWLEDGE STRATEGY WITH VIRTUAL SPHERE

Online media hosts a suitable environment for Internet services in the knowledge age and information exchange is frequently occurred. Knowledge strategies allows us to use some type of virtual sphere that should be recognized by these two types of knowledge strategies in the knowledge society apart from the

postmodern era. Within this context, it is argued that the knowledge strategy could be aligned with the virtual sphere by considering both variations.

Virtual Sphere 1.0 and Codifications

Access to information by using some of the web technologies within the Internet milieu, reciprocity of communication which relies on information exchange and helps to truly connect citizens to democracies, and finally commercialization, that leads to digital political discussions have been focused on explicit types of knowledge. Therefore, all three aspects of virtual sphere 1.0 underline the fundamental characteristics of the information age, where a codification strategy could be followed.

> Proposition-1. The explicit type of knowledge which focuses on the codification strategy could be aligned with the characteristics of virtual sphere 1.0. because of information-oriented exchange tools in the digital age.

For example, explicit knowledge emphasizes on the concept of information according to the hierarchy of knowledge. The occurrence of information exchange could be processed by both Web 1.0. technology usage and virtual sphere 1.0.

Virtual Sphere 2.0 and Personalization

The fundamental variants of virtual sphere 2.0. represent three main ideas. The first one is the feature of subjective order of importance determined by the self of civic narcissism, which could be denoted by almost the same features of personalization strategy which contains tacit knowledge. The second one is called direct representation and subversion, which promotes direct democracy and includes interest groups and non-partisan websites. Finally, all efforts based on these political activities are individualized by the citizens, whose tacit knowledge plays a role in making decisions and participating in the democracy. The third and last one referred to hybrid influences, which include the political economy, using information and communication technologies and online forums. Therefore, most of the improvements based on the three aspects of virtual sphere 2.0. address the importance of tacit knowledge that is exploited by the citizens in a knowledge society. In addition, the personalization strategy, which is directly associated with the virtual sphere 2.0, could be proposed based on the following statement:

> Proposition-2. The tacit type of knowledge, which focuses on a personalization strategy, could be aligned with the characteristics of virtual sphere 2.0. because of knowledge-oriented exchange tools in the knowledge age.

Social media tools and entertainment and telecommunications companies might use a personalization strategy to individualize citizens' activity in the knowledge society where the tacit dimension of knowledge plays an important role.

DISCUSSION AND CONCLUSIONS

Two propositions have integrated both the two type of knowledge and two type of knowledge strategy with information/knowledge exchange tools, aligning with digital age/knowledge age at the virtual sphere 1.0/2.0. According to Habermas' (1974) concept on public sphere, due to the technological improvements in the digital/knowledge age, the concept has been rapidly moved on to the virtual environment. Meanwhile two types of knowledge should be considered by the knowledge strategy because of information/knowledge-oriented exchange tools. By constantly using of these exchange tools in the digital/knowledge age, knowledge strategies should be identified by the users within the right way at the right time. For this reason, both codification and personalization strategies direct us to map out of the correct strategy for the society who can choose either virtual sphere 1.0 or virtual sphere 2.0. This is the fact that virtual sphere could be exchanged by public sphere in the digital age. Designing the codification strategy might be the solution for the users who solve the information exchange tool problems at the virtual 1.0 to connect citizens to democracies in the digital age. As for the personalization strategy, which is based on tacit type of knowledge, requires to support individualized activities especially in the online forms which let users/citizens to transfer their tacit knowledge

to explicit knowledge therefore participating to democracy and contributing to the political economy in a society would be improved. Thus, hybrid structure of those societies would be frequently using the virtual sphere 2.0.

This study tries to explore the importance of the virtual sphere with its variants in the context of knowledge strategy, particularly in the knowledge society. In other words, two propositions which will be expected to contribute to the literature were developed in the study to understand the roles of two types of knowledge strategies in relation to virtual sphere variants regarding the digital society and knowledge society. Especially, digital media which is used by the citizens in the digital age competes with the market dynamics from the knowledge strategy perspective in COVID-19 era. For example, Web 1.0. and Web 2.0. technologies or virtual sphere 1.0. and virtual sphere 2.0. platforms should be thought in the context of knowledge strategy. As it is clearly indicated that, the features of those concepts create two propositions which could be improved in accordance with the knowledge age concept rather than the digital age. Thus, one of the most important characteristics of the knowledge society from the virtual sphere perspective, which derives from Habermas' (1974) public sphere, emphasizes two types of knowledge strategy called codification and personalization strategies, which also puts forward the significant characteristic of the intangible assets as well. However, a hybrid type of structure appears to be the most appropriate solution instead of the hierarchical structure or autocratic structure in the knowledge age for designing organizations which operates within then media & communication industry. Within the framework of two of these propositions; the function of virtual sphere in educating, changing, and transforming societies should be given more careful consideration.

As a last words, it is important to mention to the digital transformation again. It is thought that the public sphere has now been transferred to a new medium, to the digital area. And named as the virtual sphere which is held on the digital structure (Papacharissi, 2002). Owing to the COVID-19 outbreak, individuals may feel anxious and lose control due to decreased contact with other people, and they may start to spend more time alone. Previous studies have revealed that the feeling of isolation and loneliness affects individuals negatively (Cetin & Anuk, 2020; Hwang et al., 2020). Due to the compulsory social isolation experienced today, individuals are more focused on performing services online, such as education, banking, education, shopping (Gelber et al., 2021; Kurbakova et al., 2020; Westmattelmann et al., 2021). In this context, the idea of transferring the public space to the digital environment and the emergence of a new digital public sphere (virtual sphere) supported even more.

Needs to indicate that to the virtual sphere transform the schools to new public sphere as virtual sphere too especially in COVID-19 era. It is important to indicate the virtual sphere around digital transformation. In this context, it is recommended to examine the effects of virtual space, especially within the framework of the importance and integrativeness of web-based applications in terms of education by educators and psychology experts in future research.

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