

Article

Sustainability of Digital Capital and Social Support during COVID-19: Indonesian Muslim Diaspora's Case in South Korea

Jiwon Shin ¹, Myengkjo Seo ^{2,*} and Yong Kyu Lew ³

¹ Center for Southeast Asian Studies, Hankuk University of Foreign Studies, Seoul 02450, Korea; sjw_0127@hufs.ac.kr

² Department of Malay-Indonesian Studies, Hankuk University of Foreign Studies, Seoul 02450, Korea

³ Hufs Business School, Hankuk University of Foreign Studies, Seoul 02450, Korea; yklew@hufs.ac.kr

* Correspondence: mkseo@hufs.ac.kr

Abstract: During the COVID-19 pandemic, digital capital and online activities have played significant roles as a tool for enhancing social support. Considering the increased role of information communication technology (ICT), in this study, we investigated the following research questions by focusing on the Indonesian Muslim diaspora in South Korea. To what extent do digital capital and online communities affect the formation of social support in the pandemic situation? How does the Indonesian Muslim diaspora pursue social support in South Korea, which has a high capacity for ICT infrastructure? We used the technology acceptance model (TAM) for the conceptual model and conducted semi-structured interviews and surveys for data collection. Structural equation modeling demonstrates that TAM can be applied in the case of South Korea's Indonesian Muslim diaspora, especially during the pandemic. Findings suggest that digital capital and the perceived usefulness/perceived ease of use (PU/PEOU) of online communities reinforced the Indonesian Muslim diaspora's participation in online communities after COVID-19. It also demonstrates the ways in which the Indonesian Muslim diaspora pursues social support through online communities under restricted situations.

Keywords: digital capital; Indonesian Muslim diaspora; technology acceptance model; COVID-19; social support

Citation: Shin, J.; Seo, M.; Lew, Y.K. Sustainability of Digital Capital and Social Support during COVID-19: Indonesian Muslim Diaspora's Case in South Korea. *Sustainability* **2022**, *14*, 7457.

<https://doi.org/10.3390/su14127457>

Academic Editor: Antonio Messeni Petruzzelli

Received: 14 May 2022

Accepted: 16 June 2022

Published: 18 June 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Government regulations during the COVID-19 pandemic—such as social distancing—restricted face-to-face social interactions; therefore, people have increasingly relied on information communication technology (ICT) for information, work, school, and social support [1]. The discussion on the role of ICT in social networking has been controversial before the COVID-19 outbreak. Several scholars have expressed pessimistic views regarding the role of the Internet on social connectedness. According to them, Internet usage reduces social networks [2,3], and online relationships cannot replace the role of traditional face-to-face social networking [4]. However, with the emergence of COVID-19, people have been compelled to rely on ICT. This situation has led several scholars to view online activities from a positive perspective as a tool for enhancing social connectedness, social participation, and social support.

As online activities became one of the most significant tools for social connectedness, social participation, and social support during COVID-19 [5,6], the influence of digital capital also increased. Digital capital is the combination of digital technology and digital competencies (communication, problem-solving, safety, content-creation, and information). As with all other forms of capital, its continual transmission and accumulation

tend to preserve social inequalities [7] (p. 2367). South Korea is the most connected society worldwide, with approximately 96.51 percent of its population using the Internet. Additionally, South Korea ranks the highest in terms of average Internet connections globally [8]. In terms of broadband networks, it is one of the most connected societies, with a range of fixed and mobile telecommunication services. In this sense, the South Korean population is generally regarded as having a high level of digital capital. However, even in developed nations, digital divide issues are of concern in information technology marginalized communities [9], and the impact of the digital divide has intensified during COVID-19. When human-made or natural disasters such as COVID-19 occur, social media and online communities play a significant role in promoting solidarity and communal spirit. For instance, the role of community building became more important after the implementation of the 14-day quarantine and social distancing measures in South Korea [10] (p. 547).

Gladkova et al. found that those who belong to the country's main ethnic group are likely to have a greater degree of digital capital. Socially advantaged groups tend to access the Internet more easily because social and digital inequalities tend to intensify each other. Using ICT, advantaged groups further reinforce their social position [9] (p. 18). In this regard, in the present study, we aimed to investigate how digital capital influences the construction of social support for minority groups during COVID-19 in high-capacity ICT societies such as South Korea. The term "minority" is defined as a group of people perceived and treated differently from the majority or the dominant culture. A minority is part of the national population and differs from the predominant population of the nation in terms of major characteristics (e.g., race, language, political power, ethnicity, and national origin) [11].

Significantly, the terms diaspora and minority are used interchangeably as concepts similar to immigrants, guest workers, and ethnic and racial minorities [12] since migration, transnationalism, status of minorities, and diasporas are intrinsically linked [13]. Diasporas employ online communication and virtual space to maintain relationships, stay informed about their homeland, and find opportunities to form and strengthen de-territorialized communities. In particular, new media and virtual communication spaces have played a crucial role among young Muslims living in non-Muslim countries [14]. In this regard, our study focused on the Indonesian Muslim diaspora as one of the minority groups in South Korea in terms of religion. The Indonesian Muslim community is the second-largest Muslim community in South Korea after the Uzbekistan Muslim community [15]; thus, its importance is noteworthy.

Against this backdrop, we focus on online communities as a tool for pursuing social support during COVID-19. By focusing on the role of digital capital and online communities, we investigated how the Indonesian Muslim diaspora found social support, which is a prerequisite for individuals' well-being [16], during the pandemic, as a minority group in South Korea. As such, the research sets the following research questions: (1) To what extent do digital capital and online communities affect the formation of social support in the pandemic situation?; (2) How does the Indonesian Muslim diaspora in South Korea pursue social support in a nation known for its high capacity of ICT infrastructure? We employed a quantitative research method to answer the research questions. Based on the technology acceptance model (TAM), we developed a conceptual model and empirically tested the hypotheses by structural equation modeling. We searched online databases (i.e., Web of Science, Scopus, EBSCO, and ProQuest), using keywords such as digital capital, TAM, online community participation, and social support, and COVID-19, thus comprehending the relevant literature on our research topic and justifying our suggested hypotheses [17].

By demonstrating the applications of TAM, this study elucidated the importance of technology acceptance under specific conditions such as the COVID-19 situation. Additionally, we investigated the importance of perceived usefulness (PU) and perceived ease of use (PEOU) of online communities as crucial variables enhancing participation in

online communities. This work is meaningful because previous studies rarely examined TAM regarding online community participation of minority groups during the COVID-19 era; furthermore, the existing literature has not demonstrated the role of digital capital as an external factor and PU/PEOU as mediating factors. Finally, our study contributes to the existing body of literature by demonstrating the increased significance of online communities as a substitutional tool for providing social support during disasters and pandemics such as COVID-19. This finding implies that virtual spaces can be an alternative tool to pursue social support and suggests a positive perspective on the role of virtual spaces during restricted situations for minorities.

2. Conceptual Framework and Hypotheses

2.1. Technology Acceptance Model

We adopted TAM developed by Davis [18] for the conceptual underpinning of this study. TAM was developed to explain how individuals accept new technology [18,19]. As presented in Figure 1, it postulates that PU and PEOU determine individuals' behavioral intention to accept new technology. In this regard, PU is defined as the extent to which a person believes that using technology will enhance his or her performance. PEOU is the degree to which a person believes that using technology will be effortless. It further theorizes that both PU and PEOU will mediate the effect of external variables on behavioral intention [20] (p. 275-276). We adopted TAM in this study and considered digital capital, including digital access and digital competence, as an external variable influencing the Indonesian Muslim diaspora's PU and PEOU.

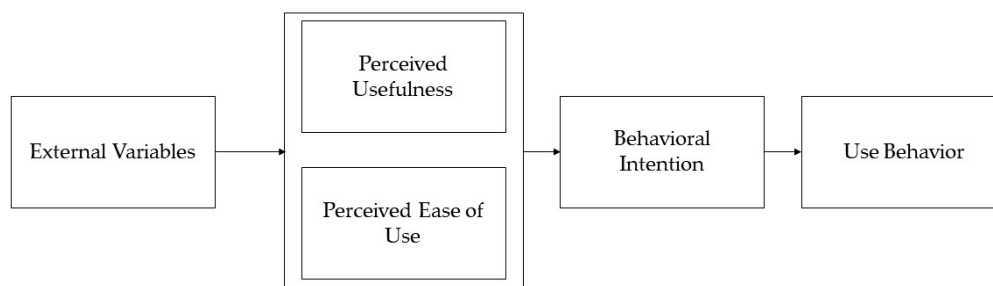


Figure 1. Technology acceptance model (TAM).

2.2. Digital Capital and Technology Acceptance in Online Communities

Previous researchers examined various external factors influencing PU and PEOU [21]. According to prior studies, experience with technology influences PEOU [22], and individuals' experiences with media communication influence their perceptions about the appropriateness of media [23]. Although only a few studies investigated the role of digital capital as an external factor in TAM, several studies demonstrated the influence of internet experience [24], computer knowledge [25], computer self-efficacy [26,27], and Internet self-efficacy [27]—which is related with the components of digital capital—as external factors in TAM.

The acceptance of technology is more significant for diaspora communities since the Internet can provide a space for them to communicate [28] and help prevent isolation through virtual connectedness [29]. Additionally, the COVID-19 situation has reinforced the importance of digital capital and its influence on how technology is perceived. For instance, Khan et al. [30] argued that technology competency played a crucial role as an external factor by demonstrating that technological competency positively influences PEOU for online learning during COVID-19.

To sum up, digital capital, such as accessibility, competency, and experience of new technology, is highly correlated with the formation of technology during COVID-19 [1], and the acceptance of ICT is more significant in diasporic communities.

H1. *Digital capital positively influences the Indonesian Muslim diaspora's PU of online communities.*

H2. *Digital capital positively influences the Indonesian Muslim diaspora's PEOU of online communities.*

2.3. Technology Acceptance for Online Community Participation after COVID-19

PU and PEOU are crucial variables that reinforce the behavioral intention to use technology [31] and are significant factors for the intention to continue using technology [32]. PU means the degree to which people believe that the use of technology can improve their performance. It determines users' systems, adoption, and behavior [33]. PEOU is the extent to which an individual perceives that she or he can use a specific technology without any effort. Previous studies have demonstrated that if people perceive using a particular technology as easy, they are likely to utilize it [33].

For instance, the COVID-19 situation revealed the limitations of the existing system (in this case, traditional social networking), and online activities became more significant [34]. Consequently, people were expected to actively engage in online activities (e.g., online community participation, e-learning, online meeting, etc.) and continuously participate in online communities post COVID-19. Previous studies have demonstrated the positive relationships between the perception of online services, such as e-learning, online meeting, online streaming, etc., and the behavioral intention to use online services after the COVID-19 outbreak. For instance, Sukendro et al. [35], Lazim et al. [36], and Habes et al. [37] found that PU of e-learning positively influences the behavioral intention to use e-learning, and Chung et al. [38] verified that PU positively influences the behavioral intention to participate in online communities.

This tendency might be more prominent in minority groups such as diasporic groups. Previous studies highlighted that ICTs are utilized by diasporic peoples since they effectively provide new spaces for communication with the capability to overcome challenges in physical proximity and the speed of communication [39] which are highly useful during critical events [40].

Thus, we suggest the following hypotheses:

H3. *The PU of online communities positively influences the Indonesian Muslim diaspora's online community participation after COVID-19.*

H4. *The PEOU of online communities positively influences the Indonesian Muslim diaspora's online community participation after COVID-19.*

2.4. Participating in Online Communities for Social Support during COVID-19

Social support is defined as "the social resources that persons perceive to be available or that are provided to them by nonprofessionals in the context of both formal support groups and informal helping relationships" [41] (p. 512). With the development of ICT, individuals have increasingly used the Internet to find information and pursue emotional support [42].

Online social support has been regarded as an appurtenance to traditional social support [43]. However, recent studies have found that online communities can be substitutional tools for providing social support, replacing traditional, offline social networks. They can be more efficient than offline networks in providing support due to their specific characteristics [44]. In particular, the benefits of virtual space, geographical boundlessness, and anonymity provide a significant advantage for minority groups (or disadvantaged groups) in the international era to pursue social support [43]. For example, previous studies have argued that minority groups, such as patients who suffer from specific diseases, found social support through virtual spaces [45–47].

The COVID-19 pandemic would strengthen the pursuit of online social support since social distancing and lockdowns made it difficult for people to actively connect and use their existing networks for necessary support. Additionally, it is anticipated that diaspora whose existing social networking in host countries is relatively insufficient would pursue social support through online community participation under restricted situations such as COVID-19.

H5. *The Indonesian Muslim diaspora's participation in online communities after COVID-19 positively affects online communities' social support.*

We drew on TAM in the context of the Muslim diaspora during the pandemic to develop the conceptual model presented in Figure 2.

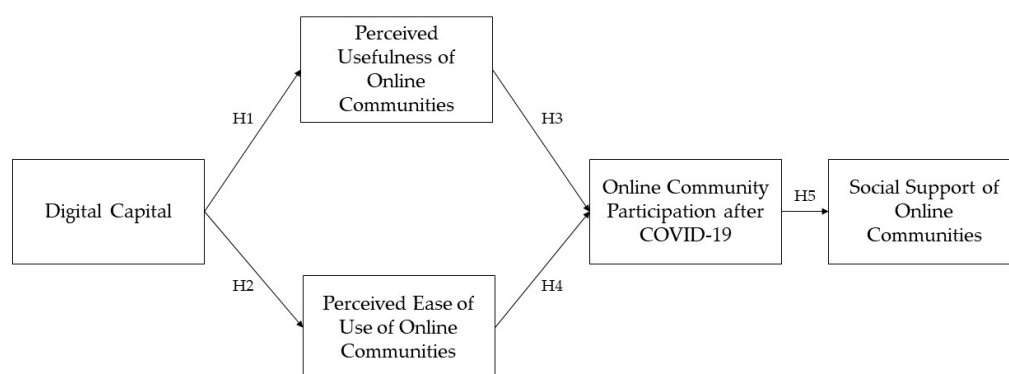


Figure 2. Conceptual model.

3. Methods

3.1. Semi-Structured Interviews

We conducted semi-structured interviews as a preliminary step for data collection. We selected participants from follower lists of the Indonesian students' association in South Korea (PERPIKA/Perkumpulan Pelajar Indonesia) and the Indonesian Muslim Women's association in South Korea (RUMAISA/Rumnah Muslimah Indonesia). Five Indonesian Muslims (two male and three female) responded. We conducted interviews through Zoom and WhatsApp in February 2022 and utilized the interview results to construct the conceptual framework for the survey.

3.2. Sample and Data Collection

We collected samples of Indonesian Muslims living in South Korea by non-probability sampling and snowballing sampling. The population of the Indonesian Muslim diaspora in South Korea is estimated at thirty-seven thousand people approximately [15]. We divided the samples into Indonesian Muslim students, Indonesian Muslim workers, Indonesian Muslim married women, and others. We defined the samples based on people who were involved with relevant associations such as the Indonesian Muslim Students Society in South Korea (IMUSKA), the Indonesian Muslim Women's association in South Korea (RUMAISA), and the Indonesian students' association in South Korea (PERPIKA) and people who followed the social media accounts of relevant associations.

We used Google Surveys to collect data from 7 March to 10 April 2022. We distributed direct messages on Instagram and Facebook users selected from the follower lists described above. We collected 70 responses during the first survey period (March 7–March 20) and 82 during the second survey period (March 28–April 10). Ultimately, we determined 152 responses to be complete and valid for use. The demographic information is presented in Table 1.

Table 1. Demographic information.

	Variable	Count	%
Age	18–23	33	21.7
	24–29	76	50.0
	30–34	25	16.4
	35–39	15	9.9
	40<	3	2.0
Gender	Male	54	35.5
	Female	98	64.5
Devices for accessing the Internet	Mobile phone or smartphone	126	82.9
	Laptop	16	10.5
	Tablet	2	1.3
	Desktop computer	2	1.3
	Most of the devices mentioned	6	4.0
Places for accessing the Internet	At home	93	61.2
	At school/university	36	23.7
	At work	5	3.3
	Wherever free Wi-Fi is available	15	9.9
	Most of the places mentioned	3	1.9
Educational level	High school graduate	35	23.0
	Some college credit, no degree	5	3.3
	Bachelor's degree	70	46.1
	Master's degree	40	26.3
	Doctorate degree	2	1.3
Internet training experience	Yes	47	30.9
	No	105	69.1
Purpose of stay	Studies	121	79.6
	Work	19	12.5
	Marriage	5	3.3
	Others	7	4.6
Duration of stay	Settled before COVID-19	42	27.6
	Settled after COVID-19	110	72.4
TOTAL		152	100%

3.3. Measures

We used multiple-item scales and seven-point Likert scales to measure all constructs. We divided digital capital into digital access and digital competence based on the concept defined by Ragnedda et al. [48]. The definition of digital capital and its components varies depending on scholars. In general, digital capital refers to the ability to use, competence, and accessibility of digital technology. The digital capital index developed by Ragnedda and Ruiu [49] is widely used in the digital capital literature. They divided digital capital into digital access and digital competence. Based on this, we adapted four items from the scales constructed by Ragnedda et al. [48] and Wilson et al. [50].

Further, we adopted four items from the scales developed by Al-Gahith [51] and Venkatesh and Bala [20] to measure the PU of online communities. We also adapted four items from Al-Gahith [51] and Venkatesh and Bala [20] to measure the PEOU of online communities.

We divided online community participation after COVID-19 into civic virtue and shared emotional connection. We adapted scales developed by Yong et al. [52] to measure civic virtue and scales developed by Abfalter et al. [53] to measure emotional connection.

We divided the social support of online communities into informational support and emotional support. We adapted four items of scales constructed by Liang et al. [54] and Algharabat and Rana [55] to measure social support.

4. Results

4.1. Reliability and Validity

We used the Cronbach's alpha and composite reliability (CR) test to measure internal reliability. The Cronbach's alpha values of three constructs, except digital capital, were above 0.7. The CR values of all constructs were higher than 0.7 (ranging from 0.807 to 0.925), which is a satisfactory level [56]. The standardized outer loading values ranged from 0.547 to 0.882. According to Chin [57], the internal reliability of data is valid if the outer loading is above 0.5. We measured convergent validity using average variance extracted (AVE) [58]. AVE values for all constructs were higher than 0.5. In summary, the measurements in this model were all reliable and valid (Table 2).

Table 2. Measures, reliability, and validity.

Measure	Mean	SD	Loading
Digital capital (alpha = 0.683, CR = 0.807, AVE = 0.511)			
I usually access the Internet daily.	6.947	0.299	0.696
I usually access the Internet using my personal computer, tablet, or mobile phone.	6.895	0.432	0.679
I am able to use digital technologies, e.g., applications, devices, software, or e-services (non-technical) without any problem.	6.237	0.930	0.728
I have confidence in searching, browsing, and filtering data, information, and digital content.	6.388	0.835	0.753
PU of online communities (alpha = 0.756, CR = 0.845, AVE = 0.581)			
Participating in online communities is more convenient than participating in offline communities.	4.138	1.614	0.547
Online communities make it easier to find information and people.	5.809	1.087	0.752
Online communities help me find information more quickly.	6.237	0.923	0.851
I think that online communities are useful.	6.026	1.000	0.852
PEOU of online communities (alpha = 0.726, CR = 0.830, AVE = 0.554)			
Learning to participate in online communities is easy for me.	5.375	1.371	0.814
My interaction with online communities is clear and understandable.	5.296	1.158	0.843
Interacting with online communities does not require a lot of my mental effort.	5.099	1.332	0.682
The English or Korean language is not a barrier when I use online communities.	5.428	1.440	0.613
Online community participation after COVID-19 (alpha = 0.906, CR = 0.934, AVE = 0.779)			
I actively participate in activities organized by online communities after COVID-19.	5.533	1.404	0.824
I keep myself updated with online community announcements, posts, and so on after COVID-19.	5.454	1.477	0.851
It is important to me to be a part of online communities after COVID-19.	5.184	1.484	0.697

I am with other online community members a lot and enjoy being with them after COVID-19.	5.007	1.440	0.680
Social support of online community (alpha = 0.893, CR = 0.924, AVE = 0.754)			
Some online community members offer suggestions when I need help.	5.572	1.151	0.864
Some online community members give me information to help me solve my problems.	5.579	1.091	0.870
I feel that online community members listened to me.	5.138	1.230	0.882
I feel that online community members are with me.	4.974	1.313	0.861

CR: composite reliability, AVE: average variance extracted, SD: standard deviation.

4.2. Hypotheses testing

We analyzed the research hypotheses by using structural equation modeling. We examined the significance of the path coefficient of the five paths for testing the hypotheses. We examined the significance of the indicator weights of path coefficients with Smart PLS 3.0. We also computed bootstrap standard errors using the subsamples from bootstrapping; this helped us statistically examine the significance of the original indicator weights [59]. Bootstrapping processing was conducted with 5000 samples at the 0.05 significant level.

The results of hypothesis testing are presented in Table 3. According to the results, the model accepted all five hypotheses. In particular, the path coefficient from digital capital to the PU of online communities was significant (coefficient = 0.428; $p < 0.001$). Thus, H1 was accepted. H2 was also accepted because the path coefficient from digital capital to the PEOU of online communities was significant (coefficient = 0.399; $p < 0.001$). These results indicate that digital capital plays a vital role as an external factor influencing PU and PEOU in TAM.

Table 3. Path analysis assessment (N = 152).

Hypotheses	Standardized Coefficient	Hypothesis Accepted?
H1. Digital capital → PU of online communities	0.428 ***	Yes
H2. Digital capital → PEOU of online communities	0.399 ***	Yes
H3. PU of online communities → Online community participation after COVID-19	0.303 ***	Yes
H4. PEOU of online communities → Online community participation after COVID-19	0.267 **	Yes
H5. Online community participation after COVID-19 → Social support of online communities	0.450 ***	Yes

** $p < 0.01$, *** $p < 0.001$.

The path coefficient from the PU of online communities to online community participation after COVID-19 was also significant (0.303; $p < 0.001$); hence, H3 was accepted. This result implies that there are positive relationships between the perception of online services and the behavioral intention to use [35–37] and supports the demonstration of Chung et al. [38], which verified a positive relationship between PU of online communities and online community participation in the COVID-19 era. H4 was accepted because the path coefficient from the PEOU of online communities to online community participation

after COVID-19 was significant (coefficient = 0.267, $p < 0.01$). The positive relationship between PEOU of technology and its acceptance [33] can be applied in terms of the online community, especially among the Indonesian Muslim diaspora in South Korea. Finally, H5 was accepted with a 0.450 path coefficient ($p < 0.001$). The Indonesian Muslim diaspora tends to pursue social support through online community participation during COVID-19, implying the increased importance of virtual spaces to promote social support [43,44] during the pandemic. The assessed models are presented in Figure 3.

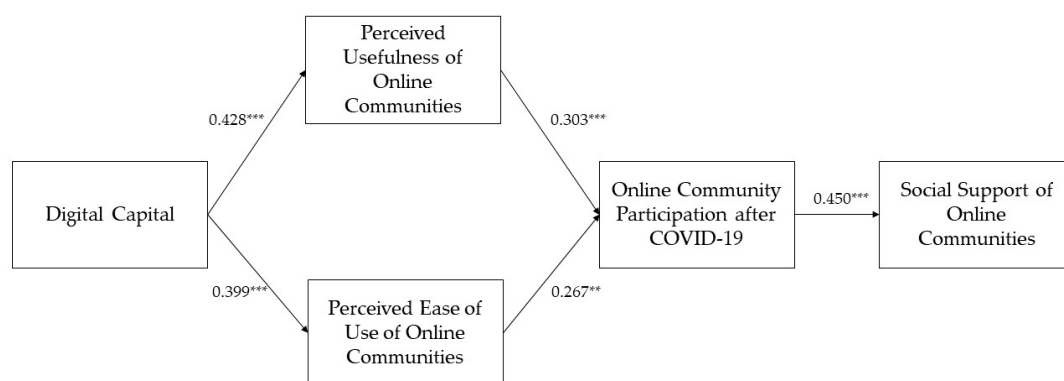


Figure 3. Hypotheses testing results. ** $p < 0.01$, *** $p < 0.001$.

4.3. Post Hoc Analyses

4.3.1. Subgroup Analyses

After testing our research hypotheses, we conducted further subgroup analyses to examine whether there is a difference between the group that settled in South Korea before the COVID-19 outbreak and the group that settled after the COVID-19 outbreak.

Figure 4 presents the hypotheses testing results. According to the results, four paths were significant in both groups, excluding the path from the PU of online communities to online community participation after COVID-19. This implies that the influence of digital capital on the PU/PEOU of online communities, the influence of the PEOU of online communities on online community participation after COVID-19, and the influence of online community participation after COVID-19 on social support of online communities are valid in both groups.

However, the influence of the PU of online communities on online community participation after COVID-19 differed depending on when Indonesian Muslims settled in South Korea. While the path coefficient from the PU of online communities to online community participation after COVID-19 in the group that settled before COVID-19 was insignificant (coefficient = 0.289), that of the group that settled after COVID-19 was significant (path coefficient = 0.310, $p < 0.01$). In general, PU has a relatively stronger and more consistent effect than PEOU [60]. However, in the subgroup analysis, the effect of PU was inconsistent depending on the time of settlement. Based on these findings, we can conclude that the COVID-19 outbreak may have influenced the effect of PU and reinforced the influence of the PU of online communities on online community participation after COVID-19. While several studies have focused on age or socio-economic status influencing PU of online services, few have analyzed the influence of PU of online activities such as online communities based on the time (or specific event such as COVID-19). The result of this sub-group analysis has theoretical implications since it clarifies the factors that can reinforce the influence of PU of online communities.

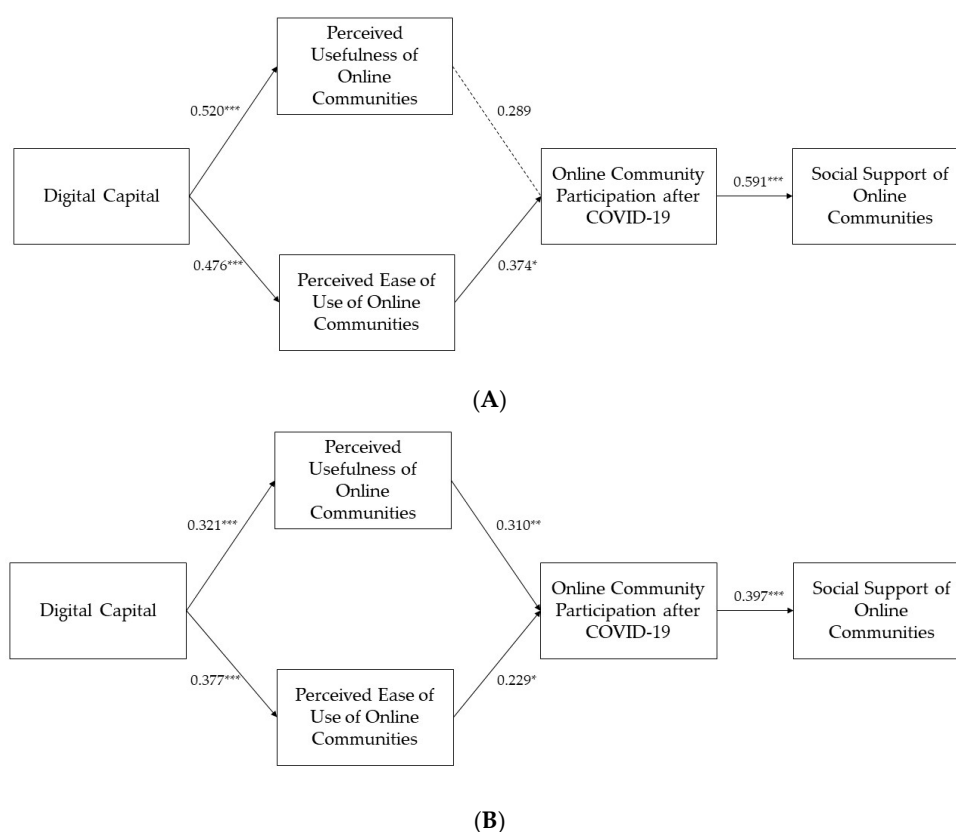


Figure 4. Results of subgroup analyses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. (A) Subgroup1: People who settled before COVID-19. (B) Subgroup2: People who settled after COVID-19.

4.3.2. Mediating Effects of PU and PEOU

In the primary model in Figure 3, the PU and PEOU of online communities likely mediated the relationship between digital capital and online community participation after COVID-19. Thus, following Baron and Kenny's guidelines [61], we rigorously tested the mediation effects of the relationships. First, we tested the direct effect of digital capital on online community participation after COVID-19 (see Figure 5). The relationship between digital capital and online community participation after COVID-19 was significant (coefficient = 0.376, $p < 0.001$), and the R^2 of online community participation after COVID-19 was 0.141.

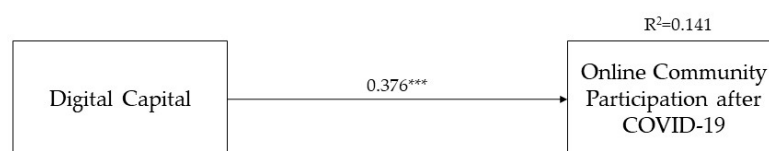


Figure 5. Direct effect of digital capital on online community participation after COVID-19. *** $p < 0.001$.

Second, we tested the mediating effect of the PU of online communities, as presented in Figure 6. The result demonstrated that digital capital directly affected the PU of online communities, and the PU of online communities influenced online community participation after COVID-19, with 0.251 of the R^2 of online community participation after COVID-19. Since the path from digital capital to online community participation after COVID-19

is invalid, the PU of online communities fully mediated the association between digital capital and online community participation. Then, we tested the mediating effect of the PEOU of online communities. R^2 of online community participation after COVID-19 was 0.248, and the effect of digital capital on the PEOU of online communities and the effect of the PEOU of online communities on online community participation after COVID-19 were significant at 0.001 level. Because the path from digital capital to online community participation after COVID-19 was insignificant, we assumed that the PEOU of online communities has a full mediating effect.

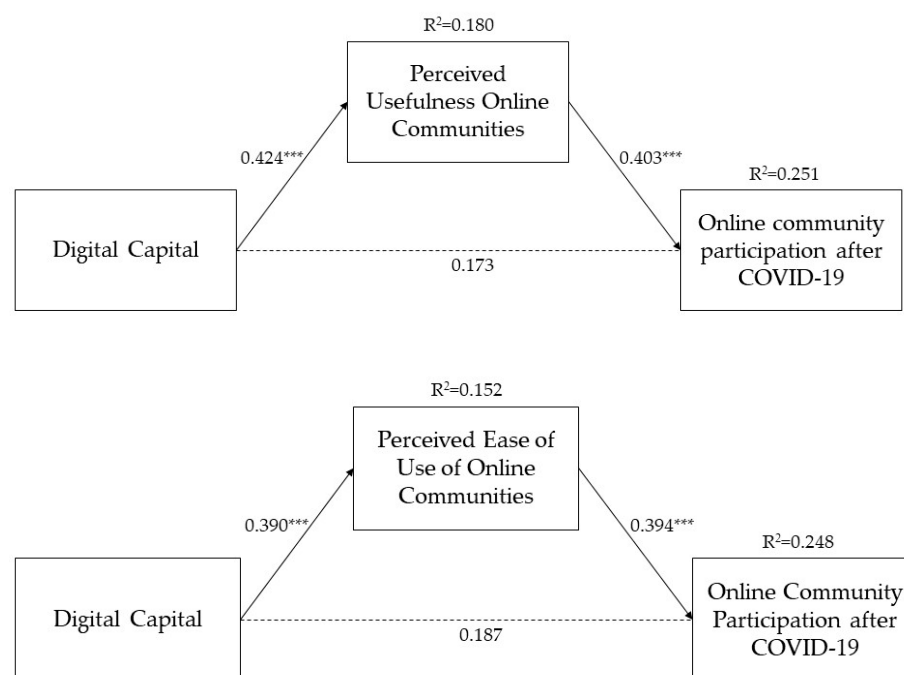


Figure 6. Full mediating effects of the PU and PEOU of online communities. *** $p < 0.001$.

Finally, we included both the PU and the PEOU of online communities in the model. The path from digital capital to online community participation after COVID-19 was insignificant, while other paths were significant. When we included two mediators in the model, the R^2 of online community participation after COVID-19 increased to 0.281, as shown in Figure 7. These results demonstrate that both the PU and the PEOU of online communities serve as a full mediator on the relationship between digital capital and online community participation after COVID-19, indicating the usefulness of TAM when it comes to the Muslim diaspora's digital capital and online community participation after COVID-19.

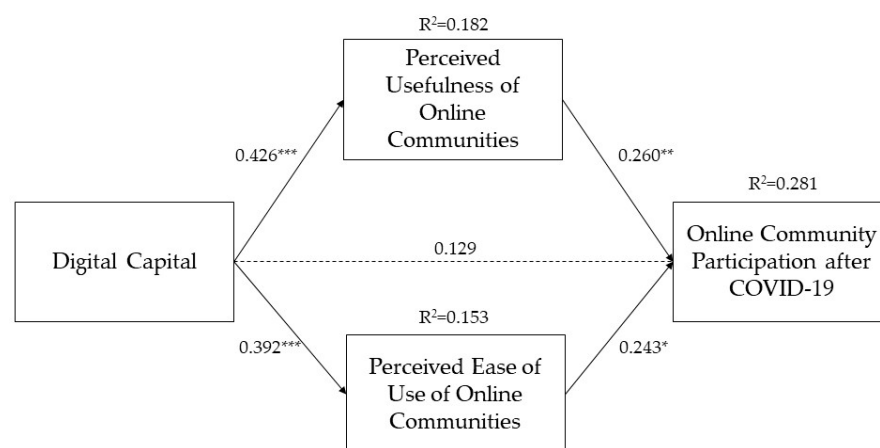


Figure 7. Testing mediating effect of PU/PEOU of the online community. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

5. Discussion

5.1. Implications of TAM during the COVID-19

In this study, we examined the relationship between digital capital, perception of and participation in online communities, and the formation of social support for Indonesian Muslims, one of the minority groups in South Korea. By adopting TAM to examine the Indonesian Muslim diaspora's acceptance of online community activities, we demonstrated that digital capital as an external variable influences perceptions about online communities and the PU/PEOU of online communities as a mediating variable [20]. Additionally, we found that TAM could be applied to the Indonesian Muslim diaspora in South Korea. We also found that TAM could be more appropriately adopted for minority groups in a pandemic situation, especially in nations with high ICT accessibility, such as South Korea. An analysis of the results revealed three implications as follows:

First, technology acceptance plays a significant role in the Indonesian Muslim diaspora and the COVID-19 situation. We find that a high level of digital capital environment such as South Korea reinforces digital technology acceptance of minority groups in a time of crisis. It contributed to the positive utilization of technology in minority groups during COVID-19 in a nation with a high digital capital level. Previous studies have argued that minorities groups use the Internet to expand and enhance their social capital [62,63] because the Internet provides virtual spaces for communication [28] and social connectedness [29]. Our research findings indicate strong significant relationships between digital capital, the PU/PEOU of online communities, online community participation after COVID-19, and the pursuit of social support through online communities among the Indonesian Muslim diaspora. The results indicated that an environment with high digital accessibility, such as that of South Korea, reinforces participation in online activities and their utilization of social support, especially among minority groups, rather than marginalizing minority groups during COVID-19. This finding extends the prior digital capital literature. While previous studies on digital capital regarding the COVID-19 situation mainly focused on the problem of digital alienation of minority groups due to varying levels of digital accessibility, this study investigated how acceptance and utilization of technology (online community) among minority groups can be enhanced in a time of crisis such as pandemics. Our findings demonstrated that mobile phone usage and high Internet accessibility in South Korea enabled the country's Indonesian Muslim minority group to pursue social support through online communities and reinforced their social support. In other words, a high digital capacity environment reinforces the reliance on the online sphere and creates new forms of social support for minority groups amid restrictions such as those imposed during COVID-19.

Second, we demonstrate the significant role of PU and PEOU as crucial variables promoting behavioral intention [32] in terms of online community participation. According to the results, the increased significance of digital capital during COVID-19 has increased the PU/PEOU of online communities. The increased PU/PEOU of online communities has, in turn, resulted in online community participation after COVID-19. Further analysis shows that the PU/PEOU of online communities have a full mediating effect on the relationship between digital capital and online community participation after COVID-19. Based on these results, we conclude that PU/PEOU of online communities further strengthened online community participation after COVID-19. In other words, online community participation after COVID-19 has been directly affected by digital capital and other factors such as the PU/PEOU of online communities, which have strengthened the effect of digital capital on behavioral intention to participate in online community after COVID-19. This finding is meaningful because few studies have applied TAM to examine the relationship between the PU/PEOU of online communities and online community participation, and most of them have focused only on the relationship between the PU/PEOU of online communities and the behavioral intention to participate in online communities [38,64,65]. The present study contributed to the existing literature in this regard by demonstrating the role of the PU/PEOU of online communities as mediating variables in the COVID-19 situation.

Third, our study demonstrates the increased significance (usefulness) of online communities as a substantial tool for providing social support [44] during disasters and pandemics such as COVID-19. Before COVID-19, discourses on the Internet's role in social capital were contentious. This line of research argues that online relationships are unable to substitute traditional social networking [4], and it reduces social networking [2,3]. The present research investigated the possibility of virtual spaces as an alternative solution for promoting social networking under restricted conditions such as COVID-19. Our findings demonstrate that under the COVID-19 situation, perceptions of online communities and actual participation in online communities increasingly play a significant role in promoting social support. In particular, the influence of the PU of online communities on social support was insignificant for the group that settled in South Korea before the COVID-19 outbreak. Contrarily, it was highly significant for the group that settled after the COVID-19 outbreak. Previous studies have demonstrated PU as a strong determinant of acceptance intention, whereas PEOU has a relatively less consistent effect [60]. Those demonstrations correspond with the result of the overall sample and that of the group that settled after COVID-19. However, it does not correspond with the results of the group that settled before COVID-19. This implies that the COVID-19 outbreak was a major factor strengthening the PU of online communities. People who settled in South Korea before COVID-19 might already have established social networks in host countries, which reduced the influence of the PU of online communities. Contrarily, people who settled in South Korea after the COVID-19 outbreak had an increased need for social networking and social adjustment as a foreigner. This increased their utilization of online communities when offline activities were restricted.

5.2. Limitations and Future Research

This study has certain limitations. In this study, we did not classify online communities into types based on characteristics such as religion, hobby, or community members and considered only the comprehensive meaning of online communities. However, the pursuit of social support may differ depending on the type of community, such as a religious community, student community, hobby-related community, or local community. Therefore, a follow-up study on social support through online communities should consider this aspect.

Next, regarding the sample size and time horizon of the current study, the response rate of Indonesian Muslim workers and males was relatively lower than student and fe-

male groups and the effect of PU on online community participation was inconsistent depending on the time of settlement in the subgroup analysis. Thus, we suggest that future researchers conduct a large-scale survey to examine our research findings' generalization-ability.

We only consider social support and social participation as aspects related to online communities. Previous literature has pointed out that various online activities positively influence the formation of social support. In this study, we conceptualized digital capital construct in terms of digital competency and accessibility following Ragnedda and Ruiiu [49]. However, there would be other elements of digital capital components (e.g., information, communication, safety, content-creation, problem-solving). Therefore, the follow-up study should include other online activities and digital capital elements.

6. Concluding Remarks

This study investigated to what extent the Indonesian Muslim diaspora, as a minority group in South Korea, pursued social support through digital resources during the pandemic. Building on the conceptual model based on TAM, we empirically tested the hypotheses by using structural equation modeling to answer the research question.

The results of this study are presented as follows: First, our main five hypotheses on the relationships between digital capital, the PU/PEOU of online communities, the community participation after COVID-19, and the pursuit of social support through the communities were strongly supported. Second, subgroup analyses revealed that most of the paths were significant in both groups who settled in South Korea before COVID-19 and after COVID-19, while the path from PU of the online community to online community participation after COVID-19 was insignificant in a group settled before COVID-19. Third, both the PU and the PEOU of online communities serve as a full mediator in the relationship between digital capital and online community participation after COVID-19. Based on these findings, we conclude that digital capital and the PU/PEOU of online communities reinforced the Indonesian Muslim community's participation in online communities after COVID-19. Moreover, they used online communities for social support during COVID-19 restrictions.

These findings have three implications as follows. First, the present study demonstrated that technology acceptance plays a significant role in the Indonesian Muslim diaspora under specific conditions such as COVID-19 and high digital capital level environments such as South Korea. Second, we investigated the importance of PU/PEOU in online communities as crucial variables enhancing behavioral intention [32] to participate in online communities. Third, our study demonstrates the increased significance (usefulness) of online communities as a substantial tool for providing social support [44] during disasters and pandemics such as COVID-19.

This work contributes to existing literature since previous studies rarely examined TAM regarding online community participation of minority groups during the COVID-19 era. The present study particularly demonstrates the crucial roles of digital capital and PU/PEOU as mediators in facilitating social participation and support during the pandemic, which has not been highlighted in the TAM and online activities (virtual community) literature. Finally, our study suggests the increased significance of online communities as an alternative tool for providing social support during disasters and pandemics.

Author Contributions: Conceptualization, J.S., M.S. and Y.K.L.; methodology, J.S. and Y.K.L.; software, J.S.; validation, J.S. and Y.K.L.; formal analysis, J.S., M.S. and Y.K.L.; investigation, J.S. and M.S.; resources, J.S. and M.S.; data curation, J.S. and Y.K.L.; writing—original draft preparation, J.S., M.S. and Y.K.L.; writing—review and editing, M.S. and Y.K.L.; visualization, J.S.; supervision, M.S. and Y.K.L.; project administration, M.S. and Y.K.L. All authors have read and agreed to the published version of the manuscript.

Funding: This research was supported by Hankuk University of Foreign Studies research fund.

Institutional Review Board Statement: Ethical review and approval were waived for this study, due to institutional legality and key informant approval.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data used during this study are available from the first author, under request by e-mail.

Conflicts of Interest: The authors declare no conflict of interest.

References

- Lai, J.; Widmar, N.O. Revisiting the Digital Divide in the COVID-19 Era. *Appl. Econ. Perspect. Policy* **2021**, *43*, 458–464. <http://www.alz.org/10.1002/aep.13104>.
- Kraut, R.M.; Patterson, V.; Lundmark, S.; Kiesler, T.; Mukopadhyay, T.; Scherlis, W. Internet Paradox. A Social Technology that Reduces Social Involvement and Psychological Well-Being? *Am. Psychol.* **1998**, *53*, 1017–1031.
- Nie, N.H.; Erbring, L. Internet and Society: A Preliminary Report. Stanford Institute for the Quantitative Study of Society. 2000. Available online: www.nomads.usp.br/documentos/textos/cultura_digital/tics_arq_urb/internet_society%20report.pdf (accessed on 19 April 2022).
- Putnam, R.D. *Bowling Alone: The Collapse and Revival of American Community*/Robert D. Putnam; Simon & Schuster: New York, NY, USA; London, UK, 2000.
- Ghazi, S.N.; Peter, A.; Johan, S.B.; Jessica, B.; Ana, L.D. Psychological Health and Digital Social Participation of the Older Adults During the COVID-19 Pandemic in Blekinge, Sweden&Mdashan Exploratory Study. *Int. J. Environ. Res. Public Health* **2022**, *19*, 3711.
- Castro-Martinez, A.; Méndez-Domínguez, P.; Valcarcel, A.S.; Castillo de Mesa, J. Social Connectivity, Sentiment and Participation on Twitter During COVID-19. *Int. J. Environ. Res. Public Health* **2021**, *18*, 8390.
- Ragnedda, M. Conceptualizing Digital Capital. *Telemat. Inform.* **2018**, *35*, 2366–2375.
- Statistika. Percentage of Population Using the Internet in South Korea from 2000 to 2020. 2022. Available online: <https://www.statista.com/statistics/255859/internet-penetration-in-south-korea/> (accessed on 10 May 2022).
- Gladkova, A.; Vartanova, E.; Ragnedda, M. Digital Divide and Digital Capital in Multiethnic Russian Society. *J. Multicult. Discourses* **2020**, *15*, 1–22.
- Jang, I.C.; Choi, L.J. Staying Connected During COVID-19: The Social and Communicative Role of an Ethnic Online Community of Chinese International Students in South Korea. *Multilingua* **2020**, *39*, 541–552.
- Srimulyani, E. Indonesian Muslim Diaspora in Contemporary South Korea: Living as Religious Minority Group in Non-Muslim Country. *J. Huk. Kel. Dan Huk. Islam* **2021**, *5*, 668–687.
- Vertovec, S. Religion and Diaspora. In *New Approaches to the Study of Religion*; Peter, A., Geertz, A.W., Warne, R.R., Eds.; Verlag de Gruyter: Berlin, Germany; New York, NY, USA, 2000.
- Vertovec, S.; Cohen, R. Introduction. In *Migration, Diasporas, and Transnationalism*; Vertovec, S., Cohen, R., Eds.; Edward Elgar: Cheltenham, UK, 2001.
- Mandaville, P. Communication and Diasporic Islam: A Virtual Ummah? In *The Media of Diaspora*; Karim, K.H., Ed.; Routledge: Oxford, UK, 2003.
- Park, H.S. Food Globalization and Culture War: The Case of the Halal Food Complex in South Korea. 2017. Available online: https://www.researchgate.net/publication/320871910_Food_globalization_and_culture_war_The_case_of_the_halal_food_complex_in_South_Korea (accessed on 10 May 2022).
- Barrera, M., Jr.; Ainlay, S.L. The Structure of Social Support: A Conceptual and Empirical Analysis. *J. Community Psychol.* **1983**, *11*, 133–143.
- Dzallias, M.; Blind, K. Innovation Indicators throughout the Innovation Process: An Extensive Literature Analysis. *Technovation* **2019**, *80*, 3–29.
- Davis, F.D. Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Q.* **1989**, *13*, 319–340.
- Davis, F.D.; Bagozzi, R.P.; Warshaw, P.R. User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Manag. Sci.* **1989**, *35*, 982–1003.
- Venkatesh, V.; Bala, H. Technology Acceptance Model 3 and a Research Agenda on Interventions. *Decis. Sci.* **2008**, *39*, 273–315.
- Abdullah, F.; Ward, R. Developing a General Extended Technology Acceptance Model for E-Learning (GETAMEL) by Analysing Commonly Used External Factors. *Comput. Hum. Behav.* **2016**, *56*, 238–256.
- Venkatesh, V. Determinants of Perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance Model. *Inf. Syst. Res.* **2000**, *11*, 342–365.
- King, R.C.; Xia, W. Media Appropriateness: Effects of Experience on Communication Media Choice. *Decis. Sci.* **1997**, *28*, 877–910.
- Abbad, M.M.; Morris, D.; de Nahlik, C. Looking under the Bonnet: Factors Affecting Students Adoption of E-Learning Systems in Jordan. *Int. Rev. Res. Open Distance Learn.* **2009**, *10*, 1–25.

25. Al-alak, B.A.; Alnawas, I.A.M. Measuring the Acceptance and Adoption of E-Learning by Academic Staff. *Knowl. Manag. E-Learn. Int. J.* **2011**, *3*, 201–221.
26. Al-Gahtani, S.S. Empirical Investigation of E-Learning Acceptance and Assibilation: A Structural Equation Model. *Appl. Comput. Inform.* **2014**, *12*, 27–50.
27. Lee, Y.H.; Hsiao, C.; Purnomo, S.H. An Empirical Examination of Individual and System Characteristics on E-Learning Acceptance. *Australas. J. Educ. Technol.* **2014**, *30*, 561–579.
28. Tynes, R. Nation-Building and the Diaspora on Leonenet: A Case of Sierra Leone in Cyberspace. *New Media Soc.* **2007**, *9*, 497–518.
29. Clayton, R.B.; Osborne, R.E.; Miller, B.K.; Oberle, C.D. Loneliness, Anxiousness, and Substance Use as Predictors of Facebook Use. *Comput. Hum. Behav.* **2013**, *29*, 687–693.
30. Khan, S.A.; Zainuddin, M.; Mahi, M.A.; Arif, I. Behavioral Intention to Use Online Learning During COVID-19: An Analysis of the Technology Acceptance Model. In Proceedings of the International Conference on Innovative Methods of Teaching and Technological Advancements in Higher Education (IMTTAHE), Tbilisi, Georgia, 1 September 2020–15 December 2021.
31. Lu, I.Y.; Kuo, T.; Lee, W.P. Examining the Effects of Information Quality on Behavioral Intention of Knowledge Management System. *J. Qual.* **2010**, *17*, 297–309.
32. Jackson, C.M.; Chow, S.; Leitch, R.A. Toward an Understanding of the Behavioral Intention to Use an Information System. *Decis. Sci.* **1997**, *28*, 357–389.
33. Saadé, R.; Bahli, B. The Impact of Cognitive Absorption on Perceived Usefulness and Perceived Ease of Use in on-Line Learning: An Extension of the Technology Acceptance Model. *Inf. Manag.* **2005**, *42*, 317–327.
34. Szopinski, T.; Bachnik, K. Student Evaluation of Online Learning during the COVID-19 Pandemic. *Technol. Forecast. Soc. Chang.* **2022**, *174*, 121203.
35. Sukendro, S.; Habibi, A.; Khaeruddin, K.; Indrayana, B.; Syahrudin, S.; Makadada, F.A.; Hakim, H. Using an Extended Technology Acceptance Model to Understand Students' Use of E-Learning During COVID-19: Indonesian Sport Science Education Context. *Heliyon* **2020**, *6*, e05410.
36. Lazim, C.S.L.M.; Ismail, N.D.B.; Tazilah, M.D.A.K. Application of Technology Acceptance Model (Tam) towards Online Learning During COVID-19 Pandemic: Accounting Students Perspective. *Int. J. Bus. Econ. Law* **2021**, *24*, 13–20.
37. Habes, M.; Elareshi, M.; Youssef, E.; Ali, S.; Qudah, M. Social Impact of Videos at New Media Platforms on the Elearning Acceptance During the COVID-19. *Inf. Sci. Lett.* **2022**, *11*, 913–925.
38. Chung, J.E.; Park, N.; Wang, H.; Fulk, J.; McLaughlin, M. Age Differences in Perceptions of Online Community Participation among Non-Users: An Extension of the Technology Acceptance Model. *Comput. Hum. Behav.* **2010**, *26*, 1674–1684.
39. Lee, E. Digital Diaspora on the Web: The Formation and Role of an Online Community of Female Korean Im/Migrants in the U.S. 2012. Available online: <https://rucore.libraries.rutgers.edu/rutgers-lib/36617/PDF/1/play/> (accessed on 10 May 2022).
40. Kwok, K.W. Globalization and Singaporean Transmigration: Re-imagining and Negotiating National Identity. *Political Geogr.* **1999**, *18*, 563–589.
41. Gottlieb, B.H.; Bergen, A.E. Social Support Concepts and Measures. *J. Psychosom Res.* **2010**, *69*, 511–520.
42. Wu, J.J.; Chen, Y.H.; Chung, Y.S. Trust Factors Influencing Virtual Community Members: A Study of Transaction Communities. *J. Bus. Res.* **2010**, *63*, 1025–1032.
43. White, M.; Dorman, S.M. Receiving Social Support Online: Implicationns for Health Education. *Health Educ. Res. Theory Pract.* **2001**, *16*, 693–707.
44. Meurer, M.M.; Waldkirch, M.; Schou, P.K.; Bucher, E.L.; Burmeister-Lamp, K. Digital Affordances: How Entrepreneurs Access Support in Online Communities during the COVID-19 Pandemic. *Small Bus. Econ.* **2022**, *58*, 637–663.
45. Coulson, N.S.; Heather, A.; Aimee, A. Social Support in Cyberspace: A Content Analysis of Communication within a Huntington's Disease Online Support Group. *Patient Educ. Couns.* **2007**, *68*, 173–178.
46. Coulson, N.S. Receiving Social Support Online: An Analysis of A Computer-Mediated Support Group for Individuals Living with Irritable Bowel Syndrome. *CyberPsychol. Behav.* **2005**, *8*, 580–584.
47. Zhang, S.I.; Bantum, E.O.; Owen, J. Bakken, S.; Elhadad, N. Online Cancer Communities as Informatics Intervention for Social Support: Conceptualization, Characterization, and Impact. *J. Am. Med. Inform. Assoc.* **2017**, *24*, 451–459.
48. Ragnedda, M.; Ruiu, M.I.; Addeo, F. Measuring Digital Capital: An Empirical Investigation. *New Media Soc.* **2019**, *22*, 793–816.
49. Ragnedda, M.; Ruiu, M.I. *Digital Capital. A Bourdieusian Perspective on the Digital Divide*; Emerald Publishing Limited: Bingley, UK, 2020.
50. Wilson, C.K.; Thomas, J.; Barraket, J. Measuring Digital Inequality in Australia: The Australian Digital Inclusion Index. *J. Telecommun. Gital Econ.* **2019**, *7*, 102–120.
51. Alghaith, W. Applying the Technology Acceptance Model to Understand Social Networking Sites (Sns) Usage: Impact of Perceived Social Capital. *Int. J. Comput. Sci. Inf. Technol.* **2015**, *7*, 105–117.
52. Yong, L.; Sachau, D.; Lassiter, A.L. Developing a Measure of Virtual Community Citizenship Behavior. *Knowl. Manag. E-Learn. Int. J.* **2011**, *3*, 682–696.
53. Abfalter, D.; Zaglia, M.E.; Mueller, J. Sense of Virtual Community: A Follow up on Its Measurement. *Comput. Hum. Behav.* **2012**, *28*, 400–404.
54. Liang, T.P.; Ho, Y.T.; Li, Y.W.; Turban, E. What Drives Social Commerce: The Role of Social Support and Relationship Quality. *Int. J. Electron. Commer.* **2011**, *16*, 69–90.

55. Algharabat, R.S.; Rana, N.P. Social Commerce in Emerging Markets and Its Impact on Online Community Engagement. *Inf. Syst. Front.* **2021**, *23*, 1499–1520.
56. Bagozzi, R.P.; Yi, Y. On Evaluation of Structural Equation Models. *J. Acad. Mark. Sci.* **1988**, *16*, 74–94.
57. Chin, W.W. The Partial Least Squares Approach to Structural Equation Modeling. In *Modern Methods for Business Research*; Marcoulides, G.A., Ed.; Lawrence Erlbaum Associates Inc.: Mahwah, NJ, USA, 1988.
58. Fornell, C.; Larcker, D.F. Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *J. Mark. Res.* **1981**, *18*, 39–50.
59. Sarstedt, M.; Ringle, C.M.; Hair, J.F. Partial Least Squares Structural Equation Modeling. In *Handbook of Market Research*; Homburg, C., Klarmann, M., Vomberg, A.E., Eds.; Springer: Cham, The Switzerland, 2021.
60. Baki, R.; Birgoren, B.; Aktepe, A. A Meta Analysis of Factors Affecting Perceived Usefulness and Perceived Ease of Use in the Adoption of E-Learning Systems. *Turk. Online J. Distance Educ.* **2018**, *19*, 4–42.
61. Baron, R.M.; Kenny, D.A. The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. *J. Pers. Soc. Psychol.* **1986**, *51*, 1173–1182.
62. Gonzales, A.L. Disadvantaged Minorities' Use of the Internet to Expand Their Social Networks. *Commun. Res.* **2015**, *44*, 467–486.
63. Mesch, G.S. Minority Status and the Use of Computer-Mediated Communication: A Test of the Social Diversification Hypothesis. *Commun. Res.* **2011**, *39*, 317–337.
64. Liu, I.F.; Chen, M.C.; Sun, Y.S.; Wible, D.; Kuo, C.H. Extending the Tam Model to Explore the Factors that Affect Intention to Use an Online Learning Community. *Comput. Educ.* **2010**, *54*, 600–610.
65. Lee, H.Y.; Ahn, H.; Kim, H.K.; Lee, J. Comparative Analysis of Trust in Online Communities. *Procedia Comput. Sci.* **2014**, *31*, 1140–1149.