

Through vr-Participation to more trusted Digital Participatory Democracy

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ABSTRACT

With the advent of Virtual Reality-supported social media, an opportunity arises for transitioning from text-based solutions to next-gen e-Participation by applying more trustful digital interaction for democratic purposes. In this paper elaborate upon and provide some empirical evidence supporting the thesis of participation-trust-growing with increased immersion in digital interaction in case of Virtual Reality discussion spaces.

CCS CONCEPTS

• **Information systems** → **Collaborative and social computing systems and tools**; • **Applied computing** → **E-government**;

KEYWORDS

Open Data, Open Government

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1 INTRODUCTION

The textual digital communication has been much criticized in the literature [2] to be of low perceived trust. The limitations of textual channel lead to disturbed communication and often inflicts discussion polarization resulting in the lack of constructive results, especially in the case of political debates [10]. In this context, the limited non-verbal communication substituted by quasi-nonverbal cues such as "emoticons" [3] has shown to deliver insufficient expressiveness, and appears unsuitable for serious communication in e-Participation. Despite those well-documented obstacles, the textual digital communication prolongs as the major tool for serious communication in the context of participatory democracy in the year 2018, and e-Participation platforms continue to apply the textual tools for all the aspects of participation. The late e-Participation platforms innovate by integrating social media channels, however that approach inherits the same challenges of textual communication. The introduction of the online teleconferencing, both audio and video, to some specific cases of digital interaction

(with limited number of participants), has shown to improve the sense of social presence and ensure that communication is more explicit [8]. Nevertheless, due to technical and logical limitations, teleconferencing has failed to rise to the same level of adoption and ubiquity as the textual channels and plays the role of a support tool for closed business meetings. In the light of slow evolution of teleconferencing solutions and the perpetual "textual monopoly", the emerging Virtual Reality (VR) technologies caused significant disruption by offering simulated collaborative environments, often referred to in the past as the form of "telepresence" [11]. Thanks to effective implementation of the VR-"telepresence" defined in the 90s, the high-interactivity, and increased immersion capabilities, the contemporary VR communication experience gets closer to the real experience [4]. In this work we attempt to explain the relation between the improved immersion in discussions hosted in Virtual Reality environments and improved trust between serious discussion participants. We argue that VR creates new opportunities for e-Participation in terms of improving trust through stronger immersion, hence supporting more effective citizen-engagement.

2 BACKGROUND

One of the main challenges for e-Participation is the lack of engagement by citizens [6]. Citizens prefer social-media over dedicated e-Participation to communicate their political views and engage with decision makers as social-media proven to be more attractive and more accessible [5]. Nevertheless, the discussions both on dedicated e-Participation platforms and social-media often lack the focus. That makes discussions less constructive and leads to polarization of the hosted debates [10]. Virtual Reality enables users to stay focused on the discussion through greater immersion and supports users to be more conscious of the interpersonal communication. That is emphasis-ed by earlier VR research by [9] who explains the phenomena of presence through mobility of participant-consciousness: "The phenomenon of presence is based on a transportation of consciousness into an alternative virtual reality. In a way then, presence is consciousness in that virtual reality". The studies in other domains, such as journalism, corroborate those findings, pointing to more user engagement and immersion that outperforms any textual form of storytelling and communication [7]. In this context Sudar et al. refers to Virtual Reality as "empathy machine" enabling participants to be more connected with the subjects presented through VR. Therefore, we argue, that in the advent of new affordable and immersive VR solutions [1]an opportunity emerges for researchers and e-Participation owners to experiment with more effective means of digital communication.

The last decade brought entirely new generation of affordable VR headsets such as Oculus Rift, Samsung Gear VR, HTC Vive, Google Daydream, Google Cardboard and Microsoft Mixed Reality

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headsets. Those headsets to a large extent enable the use of VR manipulators (pointers, wands, hands) as well as shared interactive screens and virtual whiteboards and provide positional, surround and proximity-dependent audio (whispering and directed speech) that contributes towards more immersive all-around-user-wrapping interactive environments .

3 METHODOLOGY

In this work we attempt to answer the following research question: Can the VR improved audiovisual immersion translate into more trustful & focused e-Participation? Our methodology combines desk research on e-Participation and Virtual Reality followed by empirical investigation and a survey as data collection tool. In particular the e-Participation researcher engaged with VR-community via popular cross-platform social-VR application - AltspaceVR¹. The Researcher engaged with the platform using a Samsung Gear VR (fully-immersive VR vision & audio with VR-wand controller input).The engagement took one week with average two h per day of social engagement. Following several discussions in VR, we sent a survey to AltspaceVR community.To the date we have received only very limited response - 10 responses. Nevertheless we believe that sample provide sufficiently interesting insights into the various aspects of VR-hosted public discussions.

4 RESULTS

4.1 Immersion

Majority of the participants expressed an opinion that VR delivers higher level of immersion among the digital channel. The respondents argued that by applying fully enveloping audiovisuals (unlike in textual communication and teleconferencing facing the issue of "screen barrier"), VR strongly isolates participants from the surrounding environment so that participants are really immersed in the discussion space. Our findings corroborate the research by [9] recalled in the Background section and the thesis of participant consciousness being transported into virtual space. Therefore we argue that VR-discussion indeed show significantly stronger immersion than discussion on forums, social media or via teleconferencing software.

4.2 Trust

Respondents provided various answers on the topic of trust however it was often experienced by the researcher that people spoke of their very personal problems and challenges openly (like physical or mental health issues) that implies higher trust to other participants. Half of the participants said that they would trust people they discuss with in VR environment more than on other channels. That was corroborated by their opinions of ease of making a strong social bond through VR-discussions where the majority said they found it easier to engage into meaningful relations in VR environment.

4.3 e-Participation

Half of the participants declared that they would engage with e-Participation through VR if vr-Participation was available. Participants also expressed the need for specific tools to be provided in

vr-Participation to ensure effective participation. Among the highest mentioned tools was Voting Option, special Moderator Role to be assigned to the lead participant (the meeting host) and enforced by special discussion protocol to ensure effective and constructive debate. Also features like queuing a citizen question to the host or decision maker as well as social media channels integration was seen as desired for vr-Participation.

5 DISCUSSION

In this work we discussed the feasibility of using popular social-VR discussion platform as a new channel and possible solution to address major challenges with e-Participation citizen-engagement. Our research delivers some evidence for the premise of superior VR-discussion immersiveness in comparison to other digital communication channels in particular to textual and videoconferencing communication. Moreover, our study corroborates the findings elaborated in the literature and indicates possible correlation between improved immersion of contemporary VR solutions and better trust in discussion in virtual discussion spaces. Further research is required to determine the degree of the correlation and possible impacts of VR-technology on specific e-Participation discussion cases.

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¹<https://altvr.com/>