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DIGITAL MEDIA USE IN PUBLIC SPACE – AN OBSERVATIONAL STUDY OF SELF-SERVICE TECHNOLOGY DURING COVID19-PANDEMC.

Lisa Waldenburger, M.A.
University of Augsburg

Prof. Dr. Jeffrey Wimmer
University of Augsburg

Abstract

The spread of digital media and devices in public spaces, so-called self-service technology (SST), is reaching more and more areas, so that it is now possible to interact with them for example when shopping, ordering or sending parcels. The use of SST is mostly supposed to be self-explanatory and intuitive, nevertheless it implicitly presupposes a certain degree of technical literacy. If this is not the case, digital stress can be triggered. But how do people deal with these devices, what role does the presence of others, the device itself and how it works, and the situational context plays? What influence do the measures to deal with the Covid-19 virus and the pandemic-related constraints have on the nexus of device, users and situation? This was investigated qualitatively in the present study by conducting participant observations. The advantage of this methodological approach is the consideration of contextual factors of the different practices and the direct observation of subjective evaluation processes on the use or even non-use of SST. This shows that characteristics of the devices – e.g. functionality, initiation and optionality – , situational contextual conditions – e.g. time and social pressure and spatial conditions –, and the subject themselves – e.g. age, routinisation and carried along baggage– play a role in dealing with SST and moderate the emergence of digital stress.

Keywords

Covid-19, digital stress, participant observation, qualitative research, self-service technology

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Digitalisation has not only spread in the professional and private domestic context, but has also colonised public life (McQuire 2016). While in the professional sphere the employer is mainly responsible for the adaptation of new digital devices and applications, in the private sphere there is mostly the subjective freedom of choice to use new devices and programmes. In the public sphere, meanwhile, skilled use is often taken for granted. In regard to the increase of digital stress in everyday life and its long-term health consequences, the use of digital devices in public spaces should be analysed.

Previous studies have shown that digital stress in everyday life is triggered on the one hand by too much media content, i.e. information, messages and opportunities, and on the other hand is intensified by a lack of media literacy (Waldenburger/Wimmer 2021). Especially people who did not grow up with digital devices as ubiquitous experience the demands on their own media literacy and understanding of technology as stressful. In this context, many examples from public life are mentioned, in which digital technology is used as a substitute for originally non-digital, interpersonal interactions, so-called self-service-technologies (SST) (Meuter et. al 2000). Digital developments enable rationalisation and cost reduction by eliminating the need for manpower. Critical discussions with regard to economic effects and social exclusion can be found, for example, under the keyword prosumption »in material brick-and-mortar settings« (Ritzer 2015, p. 415). The devices developed in public space in recent years are either an alternative option to previous modes of use (e.g. paying at a cashier in a supermarket), or they are used as a comprehensive replacement (Shepard 2013). When dealing with digitalised devices, intuitive use is often placed in the foreground. However, the fact that this requires a certain degree of media literacy and technical understanding on the part of the user is not considered. Someone who has never interacted with a device with a touch screen will hardly come up with the idea of pressing the display to switch off the advertising and switch on ticket sales. So, these devices cause stress especially for non-tech-savvy and older people (Marcellini et al. 2000).

With a focus on media use in public spaces, we qualitatively investigated the adoption and use of different media devices. For this purpose, participant observations (N=160) were recorded in 15 different media use situations (for the method see Jorgenson 2020) in a German middle-sized city during winter 2021. The observed situations range from buying a ticket at a vending machine to ordering food in fast food restaurants to self-checkout at the supermarket. Particular focus was placed on the observable behaviour of media users and their facial expressions before, during and after using a specific SST, understood as a specific constellation of people attending, the media technology itself and the spatial, situational contexts. Uggla et. al. (2020) have already pointed out the importance of local placement and surrounding. In addition, pandemic-related framework factors such as the wearing of masks or the impact of social distance were also observed.

Data analysis shows, a distinction must first be made between the degree of voluntariness of use. The development of digital stress is much more likely in situations where media use is without alternatives, such as ordering in a fast food restaurant, than in situations where media use is optional, as is illustrated by the example of self-checkout counters. Second the situational circumstances, i.e. how crowded the

supermarket is and how long the queues are at the checkout, play a significant role here. The longer the waiting time, the more willing customers are to use the devices for payment themselves, even if they are not yet used to operating them.
Expertise in the use of media devices can be recognised by the speed with which user decide to use the device, as well as the ability to manage the device, and often also by their multitasking. Particularly in the case of vending machines, it is clear that some customers have already routinised their manual operation of touchscreens, so they are cable of doing other things like using their own smartphone simultaneously. Pashkevich et. al. (2021) investigated a similar situation using eye tracking.

It is essential to consider further characteristics of SST in the analysis and assessment of using digital devices in public space – the complexity of the media application and the date of implementation in public space. Thus, in the observation of picking up or sending a package at a parcel delivery services, it becomes clear that this is less crisis-prone than ordering food at the ordering tool of fast food restaurants. The mode of use at a packing station offers few options and the guidance through the pick-up process follows a linear path with few choices. The ordering tool, on the other hand, is highly complex, the user has a large number of ordering options and not all products can be selected quickly. The menu navigation is highly branched, thus extending the duration of the ordering process (also compared to ordering through a person at the counter) and overwhelming the user due to the multi-optionality (Rinta-Kahila et al. 2021). At the same time, not all digital devices and technologies are “new” in public space – for example, vending machines for transport tickets as well as bank machines have been part of media use for a very long time and the use is more routinised than for rather new applications, such as the various self-service technologies in shops. Also, the duration of availability often has an impact on the susceptibility to errors and occurring understanding as well as application problems have already been corrected.

All devices compared, this study clearly shows that failing functionality very quickly triggers digitally mediated stress – users are often quickly frustrated, become impatient and abandon the process if possible. At the same time, they quickly appear stressed if there are people waiting behind them who are also using the devices – especially evoked through anxiety in times of a pandemic. From this, premises can be formulated for a mode of operation that reduces digital stress or does not allow it to arise and at the same time enables the advantages of digitalisation. With this in mind, we would like to present our research findings from the observational study in detail as part of the AoIR, in order to add another facet to the question of colonisation through the internet, especially in public spaces.

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