

CO-CREATING COMMUNITY-BASED SOLUTIONS THROUGH SOCIAL MEDIA IN ESTONIA DURING THE COVID-19 PANDEMIC

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ABSTRACT

In this study, we aimed to explore and describe the prosocial behaviour of the community during the COVID-19 crisis in Estonia on Facebook, using mixed-method content analysis.

This article focuses on the role of social media in co-creation in the context of the COVID-19 pandemic and the use of Facebook (FB) as a modern communication technology in times of crisis. Our goal was to learn how Facebook as a social media channel can be a tool and accelerator that allows people to find solutions to social problems in communities experiencing crises. The focus of the research is on finding solutions in co-creation for vulnerable target groups, including the elderly, people with disabilities, and other people who need support. This research expands on the role and potential of using FB as a communication platform to enhance co-creation.

We used Kaun and Uldam's (2018) model as a theoretical framework for this study. The study is characterised by a descriptive and exploratory research design. We studied the prosocial behaviour of the community on Facebook through a three-stage mixed method content analysis of existing data, including posts and comments on FB pages, using both quantitative (descriptive statistics) and qualitative (thematic analysis) data analysis methods. Our findings suggest that Facebook as a social media channel could be successfully utilised as a tool for sharing calls to action, activating citizens to co-create solutions, and disseminating results.

Keywords: prosocial behaviour; co-creation; community support; Facebook; COVID-19.

INTRODUCTION

States and communities throughout the world are facing the extensive spread of the novel coronavirus disease of 2019, known as COVID-19, and its intensive pressures on the economic, healthcare, welfare, and educational sectors (International Monetary Fund [IMF], 2021; Organisation for Economic Co-operation and Development [OECD], 2020). The COVID-19 pandemic has entailed numerous restrictions, such as those on mobility and in catering, on educational and cultural institutions, as well as radical reorganisation of the daily management of healthcare and social care. In addition to the closure of educational institutions, social isolation, and the transition to distance learning, the pandemic has required the reprofiling

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of jobs using remote methods. In all these restructurings, more attention must be paid to the vulnerable groups in society to ensure their access to daily care and food, and to provide the resources needed for both educational and occupational restructuring in various fields and in everyday life. Banks et al. (2020) noted that in the conditions of social isolation, the necessity to support people with subsistence needs increases, therefore communities must adapt and innovate to meet new needs.

This article presents a study framed by the need for social isolation and self-isolation that have become important in the context of the epidemiological crisis, and hence challenge citizens to organise community activities and support vulnerable people. These are issues related to prosocial behaviour within the community and its adaptation to the crisis, touching on the topics of community responsibility, solidarity, and caring for each other. In this article, we investigate how the community has activated and organised support of the daily lives of vulnerable groups through social media (SM) during the crisis caused by COVID-19 in Estonia.

This article emphasises the role of social media in co-creation and the use of modern communication technologies in times of crisis in the context of the COVID-19 crisis. In his research, Klasche (2021) pointed out that the role of social media cannot be underestimated, because social media platforms have helped a large part of the population in preparing measures that societies must take if crises are to be resolved by reducing social contact. Klasche emphasises that all kinds of state and non-state actors must achieve the same sense of responsibility, in order to contribute to the successful management of the problems associated with crises.

This study focuses on Estonia, a country with 1.3 million inhabitants, situated at an intersection of Nordic, Eastern, and Western European countries. Named the ‘most advanced digital society in the world’, Estonia conducts 99% of governmental services online (European Commission, 2021). While 57% of the world’s population and 86% of Europe’s population use the Internet, the rate is higher in Estonia – 98% of Estonians regularly use social media, and more than 50% of Estonians have an active Facebook account (Hootsuite, 2021). Therefore, Estonia can be viewed as a good example of a country with a high-tech rich ecosystem for conducting a study focused on the utilisation of social media for co-creating community-based solutions for vulnerable groups. We consider the primary risk group of the COVID-19 to be vulnerable groups, including the elderly, the disabled, and other target groups in need of support.

In Western European countries, though declining, local communities are still much stronger than those in Eastern Europe. In Western Europe, organic support networks, neighbourhoods, religious groups, and civil initiatives were mobilised during the pandemic, while in Eastern Europe, we couldn’t rely on these traditional communities, especially in post-Soviet countries. Nevertheless, Estonia had an advantage in the form of its very advanced digital society, in which new types of (online) networks could be recognised, emerging from the crisis. These were especially important during the strictest periods of lockdowns, when physical encounters were restricted, making online solutions the main means of communication.

Our goal was to learn how Facebook can be used as a tool and accelerator in a crisis, enabling people to find solutions to social problems in the community. Our main research question is as follows: How did the residents of Estonia use FB in co-creating solutions for vulnerable target groups under the conditions of social distancing and radical self-isolation, and which common solutions were found? Furthermore, the term ‘caring citizen’, who helps others, especially in times of crisis, was adopted as an analytical lens to offer design recommendations for extending the capacity of FB to address this response. This research expands the role and potential of using FB as a communication platform to empower co-creation.

THEORETICAL FRAMEWORK

In this theoretical overview, we try to conceptualise community prosocial behaviour and describe the process of community co-creation in times of crisis to conceptualise solutions created with the support of social media to assist vulnerable target groups in Estonia during the COVID-19 pandemic.

Community prosocial behaviour and co-creation. We have based our understanding of community prosocial behaviour on Kendra Cherry's (2010) definition, according to which prosocial behaviour is described as actions aimed at helping other people, and characterised by a sense of empathy, concern for other people's rights, feelings, and well-being. Prosocial behaviour includes activities such as helping, sharing, comforting, and co-operating.

The term 'co-creation' is often used in the context of the creation of services. Co-creation of (public) services is a process in which citizens as the end-users of services, communities, public authorities, and other stakeholders work together in a balanced way to find sustainable solutions to societal issues. During co-creation, citizens are not merely consumers, but are actively engaged in different stages of service innovation through meaningful involvement, trust, and partnership with stakeholders (Oertzen, Odekernen-Schröder, Brax, & Mager, 2018; Osborne, 2018; Voorberg et al., 2017).

A community's response to a crisis can be seen as prosocial behaviour that seeks to bring the crisis under control through the involvement and co-operation of organisations and individuals. According to Penner, Dovidio, Piliavin, and Schroeder (2005), prosocial behaviour represents a broad category of activities that some important groups in society or a smaller social group generally identify as beneficial to other people. Examples of prosocial behaviour in Estonia during the COVID-19 pandemic include helping different target groups cope at home, informing each other on how to behave better in a crisis, and organising supportive campaigns to provide help and attention to certain target groups.

In this context, Zukin, Keeter, Andolina, Jenkins, and Carpini (2006) noted that civic engagement includes actions citizens take to pursue common concerns and address problems in the communities they belong to. In crisis situations, people concerned about changes and those affected in surrounding areas engage in largely prosocial behaviour – they care for others, volunteer, donate money, and otherwise support those who are struggling (Dynes, 2006). In turn, several academics have noted that social media enables users to intensify interactions with their online and offline contacts, expanding through their social networks (Hampton & Wellman, 2005; Sessions, 2010; Campbell & Kwak, 2011). Ellison, Steinfield, and Lampe (2011) suggested that Facebook is particularly useful in facilitating the conversion of casual connections or latent ties into weak ties that can be considered bridging social capital.

Simultaneously, communication within the community must consider the mutual trust of the community members, which is the basis and precondition for co-creation in the community. Without trust, it is impossible to work together or achieve results. Putnam (2000) pointed out that trust and civic engagement are mutually reinforcing, because people who trust their fellow citizens volunteer and participate more often in community and political activities.

The role of social media in the co-creation process. Social media can be defined as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content" (Kaplan & Haenlein, 2010, p. 61). According to Boyd and Ellison (2007), social media is about sharing information through networking. We can consider the content creation by the contributors to be a co-creation process in which both the content and the resulting solutions can change. Couldry et al. (2017) pointed out that developments in digital technologies over the past 30 years have massively expanded humans' capacity to communicate across time and space, and more people can now connect and make meaning through media, providing an important resource for new movements for justice and social progress.

Martini, Massa, and Testa (2012) noted that social media has a crucial role in creating values with customers and changing citizens' behaviour to better meet societal norms and expectations, and digital technologies can significantly influence behaviour change and the implementation of activities in the co-creation of citizens and public service professionals. The use of social media requires that users know and want to use this communication channel for co-creation. Tiidenberg and Siibak (2018) have argued that social media platforms allow people interested in particular issues to receive and share information instantly in large populations.

This article focuses on FB because social media power has largely concentrated into FB in Estonia. On the one hand, FB is a highly effective communication and integration tool that fulfils the desired functionalities on individual, group, and societal levels (Appel, Grewal, Hadi, & Stephen, 2020). In the national context, Kalmus, Realo, and Siibak (2011) found that Estonians trust FB, and they tend to use a narrow selection of social media platforms. This is the reason why FB has developed several new functionalities, such as closed groups (Tiidenberg, 2020). If all users have gathered on one platform, this provides a theoretical opportunity to realise risks but also a practical opportunity to reach many.

Saxton and Wang (2014) have emphasised that social network members can initiate petitions for donations to charities, re-circulate solicitations from civic organisations, as well as crowdsource funding for their own needs, thus creating a social norm of giving to charity.

Bekkers and Wiepking (2011) elaborated that social norms are particularly effective in networks where people know each other and care about their reputation. As such, FB and other social media networks can be particularly effective in creating norms of giving. Bennett and Segerberg (2012) observed that social media has changed interactions between citizens so that they no longer require significant organisational resources. This aspect is also important in the context of the prosocial crisis response in the community.

Several researchers found that social media (SM) also provides opportunities to advertise one's donation, adds to reputation and validates an identity of a good, 'caring citizen' who helps others, especially in times of crisis, when the need for support is greater than normally (Bekkers & Wiepking, 2011; Saxton & Wang, 2014; van Leeuwen & Wiepking, 2013).

Social media supporting civic participation and social behaviour of the community. To study co-creation and civic participation in social media during the COVID-19 crisis, we adopted Kaun and Uldam's (2018) model, which is based on Couldry's (2004, 2012) socially-oriented media theory that conceptualises media in the context of other social institutions, and describes civic participation in social media on the basis of four dimensions: power relations, affordances, practices, and discourses.

Couldry et al. (2017) indicate that support and spaces to encourage media should become an essential component of struggles for social progress and social justice. If progress is to be made towards these wider goals, major efforts are needed by civil society, governments, and international organisations to promote and sustain media that exist outside market forces. Couldry et al. (2017) also point out affordances, saying that media is an important resource for movements that promote social progress, and effective access to media is a necessary component of social justice. All individuals and communities should be able to use media infrastructures to produce content, access information and knowledge, and actively participate in the realms of politics, culture, and governance. Issues of accessibility, as well as the potential affordances of these platforms, are particularly salient for disadvantaged people. Kang (2014) indicates that organisational efforts can be most valuable when they are focused on increasing public engagement by fostering positive feelings, affective commitment, and a sense of empowerment via participation. When trust is present in the interactions between organisations and the public, organisations must work to develop a sense of a community that is centred on feelings such as affection and pride. Couldry et al. (2017) noted that equally, processes for the design of digital platforms and other means of accessing the Internet should recognise and effectively include representation from the full range of human communities. Access to media infrastructures as consumers, receivers, or audiences of content and information is not enough; individuals and communities need access as content creators. Hence, issues of language, affordability, user competencies, and technology design become fundamental. Couldry (2012) further details that media practices are concerned with the need for coordination, interaction, community, trust, and freedom. He emphasises the focus on political participation in media practice and the consideration of how social media supports political participation.

Our focus in using this model was on learning how Facebook as a channel of social media can be a tool and accelerator in a crisis that enables people to find solutions to social problems in their community under the conditions of social distancing and radical self-isolation. Based on the thought development of the above model, we focus our analysis on all aspects – power

relations, practices, affordances, and discourses. As we have indicated in relation to the four dimensions, they each play a key role for possibilities in prosocial behaviour within the community and in co-creating solutions for vulnerable target groups during the conditions of social distancing and radical self-isolation.

METHOD

Aim and research questions. An emergency in the administrative territory of the Republic of Estonia was declared on March 12, 2020 (Government of the Republic of Estonia, 2020), ending on May 17, 2020 (Government of the Republic of Estonia, 2020). Communities were invited to protect the elderly and people with special needs as the groups at the greatest risk from COVID-19 during lockdown period.

Our study aims to explore and describe prosocial behaviour and co-creation of the community on Facebook during the COVID-19 crisis in Estonia. Based on the main research question, we investigate - how the residents of Estonia used FB in co-creating solutions for vulnerable target groups under the conditions of social distancing and radical self-isolation? We sought answers to the following sub-questions:

- 1) Did the number of posts related to prosocial activities towards vulnerable groups at the community level increase during the lockdown period compared to the 3-months period before and after?
- 2) Which, if any, of the following four dimensions – power relations, practices, affordances, and discourses – identified by Kaun and Uldam's (2018) model were evident in the cases?

Study design. The study is characterised by a descriptive and exploratory study design. Saunders, Lewis, and Thornhill (2012) stated that the aim of an exploratory study is not to determine the nature of the problem and provide convincing evidence but rather to help us understand the problem better. We explore prosocial behaviour within the community in Facebook through mixed-method three-step content analysis of existing data, including posts and comments on FB pages. The content analysis method is a commonly used method of analysing a wide range of textual data, including interview transcripts, postings, and media such as drawings, photographs, and video (Given, 2008). In the process of the content analysis, we used both quantitative methods (descriptive statistics – e.g., number of comments and number of views) and qualitative data analysis methods, precisely theory driven thematic analysis framed with approaches by Kaun and Uldam.

Data collection and the sample of the study. For the data collection from December 15, 2019, to May 18, 2020, we used two web-based platforms for social media monitoring – Social Searcher (2019) and Export Comments (2019). In addition, we used manual data searches and data input. We defined search words (codes) both deductively and inductively, which aligns with the current standard of social media research (Creswell, 2009). The keywords determined deductively by researchers were (a) descriptive of the target group ('elderly people', 'people with disabilities', 'problems', 'difficulty in coping', and 'unemployment') and (b) related to community activities to help each other, such as 'citizens' initiatives', 'calls to action', 'on a voluntary basis', 'the community', 'inclusion', 'co-creation', and 'development of services' (See Tables 1 and 2). Also, we expanded the keywords to slang that people used to ensure maximal content coverage.

The search in the first step of the sampling process covered publicly available posts, expressions, hashtags (#), and acronyms that were immediately anonymised and transferred to the database. In total, 1,169 posts and comments were found and coded manually based on the main content of the post (see Appendix 1). In the second step of the sampling, we selected 31 cases with the following criteria: the characteristics of the target group, the involvement of the community, volunteers and organisations involved in the activities, their role in the follow-up activities, and finally, the results of the activities. During this, four cases were selected for the analysis to answer sub-question 2 (See Table 1).

In this paper, thematic coding is used. When analysing the selected cases, Kaun and Uldam's model (2018) was used as a theoretical framework, which is based on Couldry's (2004, 2012) socially oriented media theory that describes citizen

Table 1. Cases analyzed

No	Case name	Case description
1	A hospital's request for volunteers	A hospital's request for volunteers to support hospitals and care homes led to a healthcare provider, citizens, and a voluntary organisation communicating and exchanging data with each other, ultimately resulting in co-creation of a solution to help the community.
2	A false rumor	A false rumor of the state intention to cut funding for organisations that assist people with special needs during the crisis led an advocacy organisation to respond that this should not be the case.
3	A computer for every schoolchild	The citizens' initiative 'A computer for every schoolchild' grew out of a closed group and quickly expanded into a nationwide campaign and movement of co-creation involving citizens, public authorities, and businesses, who provided working computers or tablets for students to use. The further direction of the campaign was taken over by a children's advocacy organisation that invited entrepreneurs to participate in the charity project.
4	Help for people with special needs	People with special needs felt that they were not trusted, and their opinions were not considered. In FB posts, people with special needs discussed and shared their stories about coping with everyday life and its challenges and informed the public how to better understand them and how to trust and involve their community in co-creation.

participation in social media, in the context of other social institutions using four dimensions: power relations, opportunities, practices, and discourses. The FB posts in Estonian analysed during the research are presented in the article translated into English by the authors.

Ethical considerations. At the sampling stage, as well as during data collection, processing, and analysis, special attention was paid to the vulnerability of the target groups and the potential sensitivity of the data (Tiidenberg, 2018). We followed the Estonian Code of Conduct for Research Integrity (2017), the scientific ethical principles of the European Federation of Academies of Sciences and Humanities (2017), and the Ethics approval from the Research Ethics Committee of the University of Tartu No 275/T-6, 2020. All posts and comments in this article have been used in the coded form (the data were encoded before storing in the database). Informed consent of the post writers was not requested, as the comments were immediately encoded in the database to ensure the anonymity of their authors. When choosing whether to present a comment in the survey results, we checked whether searching for it on Google led back to the original post, and if possible, we changed the wording in such a way that such searches did not lead back to the original post.

In this article, all comments related to the posts about these 4 cases are accompanied by the codes given to the corresponding text in the database. 'KA' means the code in the database. The letters 'ÜG', 'VG', 'PIG', 'ÜH', 'KAG', and 'KKG' are case identifiers. The number added to the case identifier indicates the number of the corresponding comments in the database. All case-related posts with responses are provided in Appendix 2.

FINDINGS

The number of posts related with prosocial activities towards vulnerable groups at the community level during the lockdown period and the 3-month period before and after (RQ1)

The present study indicated that in a crisis, the number of posts related to our search terms increased significantly. As can be seen in Table 2, posts written before the emergency accounted for only 3.9% of our sample for the 6-month study period, with an average of less than one post or comment per search term per day. During the lockdown, the number of posts containing

Table 2. Frequency and share of topics on Facebook before, during, and after the emergency

Search Words	Posts 3 months before lockdown		Posts during lockdown		Posts after lockdown		Total posts	
	n	%	n	%	n	%	n	%
	12.15.19–03.14.20		03.15.20–05.18.20		05.19.20–06.15.20		12.15.19–06.15.20	
Call to action	1	2	359	32	43	54	403	34
Elderly people	1	2	263	23	20	25	284	24
Citizens' initiative	34	69	63	6	5	6	102	9
People with disabilities	1	2	98	9	2	3	101	9
On a voluntary basis	1	2	85	8	1	1	87	7
Community	0	0	74	7	3	4	77	7
Problems	0	0	39	3	0	0	39	3
Difficulty in coping	3	6	16	1	0	0	19	2
Unemployment	0	0	19	2	6	8	25	2
Inclusion	1	2	22	2	0	0	23	2
Co-creation	6	12	1	0	0	0	7	1
Development of services	1	2	1	0	0	0	2	0
Posts per day	0.8		16.3		2.9		7.7	
Total posts	49	100%	1040	100%	80	100%	1169	100%

search terms increased exponentially (averaging 89% of the total sample or 16 per day), indicating that the community became more active in its prosocial behaviour during the crisis and actively interacted, asked for, and received help.

The data indicates that in the pre-lockdown period, most posts were related to civic initiatives in general (69% of the posts during this period). The crisis period brought a change in topics, increasing call-to-action posts (34%) and posts by seniors (24%), which may have been related to the government's appeal to support the coping of the elderly who have been a risk group during this crisis both in Estonia and around the world. During this period, the focus of the public sector was on helping the elderly and people with special needs by providing home delivery services, home care, and other services. In the 28 days following the lockdown, the average number of posts per day quickly fell from 16 to pre-crisis levels, but the focus on calls to action and elderly people remained the same.

As mentioned above, Estonian Facebook is a common way of communicating with each other in the community, and it can be successfully used to study prosocial behaviour within the community.

Characteristics of these cases from Kaun and Uldam's (2018) model (RQ2)

Power relations. The analysed FB posts indicated that during times of crisis, civil society can receive and disseminate information through social media. For example, in Case 3, the campaign '*A computer for every schoolchild*' was initiated by a private individual but was quickly picked up by an organisation that carried it out as a campaign, inviting both citizens and other organisations to work together.

This initiative started on a Sunday, when people had their first problems related to the crisis and children's home-schooling (KA: ÜH266, 03.15.2020). On March 20, the campaign was in full swing, and both citizens and state agencies had joined the campaign.

Within the framework of the social media initiative, 'A computer for every schoolchild', more than 1,200 computers changed hands in a month. The initiator of the campaign received recognition by the President of the Republic of Estonia (KA: KAG105, 06.1.2020). On the other hand, the misinformation case (Case 2) during the same period revealed unequal positions in prosocial co-operation in Estonian social media posts during the crisis, where people and organisations felt that they were not considered equal partners for providing assistance in the community. This was a situation in which people with disabilities, who traditionally need help and receive the necessary resources from the state, panicked and felt excluded because they misinterpreted the information sent out by the Ministry of Social Affairs, on reducing funding for disabled people's organisations and posted an emergency signal on social media: "The state wants to cut funding for organizations for people with special needs" (KA: PIG4, 04.18.2020).

The trigger was a request by the Ministry of Social Affairs of the Republic of Estonia to negotiate a reduction in funding for disabled people's organisations due to decreased tax receipts during the crisis situation, and a possible reduction in the amount of support paid to these organisations. Organisations advocating for people with disabilities responded immediately, posting a press release at 15:41 on April 18, 2020, saying "the reduction of funding clearly means a struggle for survival for all" (KA: PIG4, 04.18.2020).

The Minister of Social Affairs of the Republic of Estonia responded to this post publicly via FB on the same day, stating there were no plans to cut funding for disabled people:

People with disabilities and their representative organisations are the last area where the Ministry of Social Affairs and the state would like to make any cuts. I am very sorry that claims to the contrary have been made in the media today, as if a 50% reduction in funding for these organisations had been decided. I confirm that this is not true. (KA: PIG21, 04.18.2020)

A more detailed investigation revealed that the letter had been sent out of the Ministry by an official and the Minister was not aware of it. It was a communication problem. In the misinformation case, people felt pressure from the authorities for cuts, prompted by rumours, and immediately responded through advocacy organisations. As a representative of the authorities, the Minister of Social Affairs perceived the seriousness of the situation and tried to explain it, and restore trust through immediate social media posts. (KA: PIG4, 04.20.2020)

We can see from the analysis that this case was indirectly induced by the crisis. There was a communication problem in which incorrect information was circulating among the public, which was later explained by the Minister personally. An example of the circumstances of the Estonian COVID-19 response can be found in the case of a hospital's request for help (Case 1). On March 21, 2020, a hospital posted a call to action regarding the need for additional doctors and nurses:

We have sent a call for help to the medical students of this academic year who have had an internship or work as an assistant doctor, and we hope that someone will be able to respond to our request throughout the country, despite the already difficult situation. (KA: ÜG390, 03.21.2020)

The non-governmental organisation "Voluntary Online Platform for Healthcare Professionals" responded to the call on April 12, by providing support to address the problem with an additional call to healthcare professionals, stating:

COVID-19 infections are on the rise and hospitals lack competent help. We all have the power to help hospitals find medically trained volunteers! If you have medical training or education, register in our database, and join volunteer or paid challenges in hospitals. By working together, we can do more! (KA: VG4, 04.12.2020)

Developments on Facebook in connection with the above posts were effective and supported the resolution of the crisis by involving volunteer healthcare professionals in the X county hospital and nursing homes. Even this case eventually led to the positioning of power. On May 7, it became public that the doctors of the hospital in question had collected signatures to dismiss the hospital's manager, after which the residents of that county submitted a petition entitled "Community support for [redacted] continuing as a manager" that stated the following:

Dr. ... needs our community support so that he could continue as a hospital manager! What has happened in recent months has been difficult for all of us, but Dr. ... helped the county to cope with all of it. (KA: KKG79, 05.09.2020)

The above situation suggests that in a crisis situation, trust increases between individuals and in the community as a whole. Such power relations can also be seen in the trust case (Case 4). On May 15, 2020, Helpific – a volunteer organisation that provides services to people with special needs – posted the question, 'Are people with special needs trusted?' and invited people to comment on its post (KA: PIG33, 05.15.2020). Commenting on the post was lively. For example, one person in the comments pointed out, "It often seems to people with special needs that involvement is only an apparent illusion." An artist with special physical needs continued:

In authorities and institutions, people believe that a person with special needs may provide advice, but he or she is still in need of help and cannot be an actor or any kind of decision-maker. If a person with special needs must trust officials, such as social workers, why not trust people with special needs more, since they know their own lives best. (KA: PIG33, 05.15.2020)

Affordances. This analysis of social media indicated that Facebook has established a code of conduct that its users must follow. The rules cover issues of security, authenticity, confidentiality, intellectual property, and non-violence. Separate rules have been formulated for behaviour during the COVID-19 crisis. We found no hate speech, disturbing activities and anomalies, or violent content in the cases we analysed. The communication style used by all social media participants supported the achievement of common results, and it can be said that the established rules supported calls to action and co-creation activities on Facebook.

Facebook also encourages users to communicate, respect, trust, and accept each other by stating, that as the situation evolves, we need to continue to look at content on the platform, assess speech trends, and engage with experts, and will provide additional policy guidance when appropriate to keep the members of community safe during this crisis (OECD 2020). Our analysis indicated that in the crisis situation in focus in this study, all those who posted the initiatives were primarily relying on the fact that posting on FB is a way to quickly inform people about a situation and involve the community in resolving it. All the initiatives analysed in this article achieved a relatively large spread on Facebook in a very short time. For example, the post 'Hospital call for all doctors' (Case 1) was distributed up to 1.1 thousand times in the week after March 21. For example, in Case 1 – A hospital's request for volunteers (KA: ÜG390) – the number of Facebook page views reached 6,546 in a week, and the number of likes for the page reached 6,207. A post related to Case 2 – "The state wants to halve the funding of organizations of people with disabilities in the context of crisis cuts" – was followed 1,884 times on Facebook since the press release was published on April 18, 2020, and by May 18, 2020, it had received 1,771 likes. In Case 3 ('A computer for every schoolchild'), a Facebook group was created on March 20 and grew rapidly to 3,800 members. Regarding Case 4, Helpific now has 6,605 followers who are active in discussions about the need for services and equal opportunities for disabled people.

When analysing affordability, we must consider the algorithm of FB. The algorithm allows only some posts to reach users, as it determines what, how, and in what order users see content as they browse their feeds. According to Cooper (2020), "The algorithm currently ranks the posts each user sees in the order that they're likely to enjoy them, based on a variety of factors, a.k.a. ranking signals." For example, regarding Case 1 (the hospital case), FB may not have shown its users the entire content of the posts created by the hospital because of their size and the topics raised.

Our analysis shows that FB was actively used in Estonia during the crisis because information could be transmitted and received quickly through this channel, and its use was convenient and affordable for every user. The fact that more than half of Estonian citizens have FB accounts could also have been a factor that contributed to the flow of information through FB.

Practices. This analysis indicated that it is customary for Estonian citizens and organisations to use the Facebook in a rapidly changing situation, because its rules meet the needs of ordinary citizens, it can be used quickly, and the visibility of information shared on FB is ensured. People on social media can initiate petitions, ask for donations, or organise crowdfunding campaigns. Their actual practice of using FB shows that it worked well. For example, in the hospital case (Case 1), multiple stakeholders, including a healthcare provider, a volunteer organisation, and a volunteer specialist, responded to the call for the same purpose. Co-creation achieved results and helped solve the problem. The same can be said about the case of obtaining computers for children (Case 3), where active citizens, entrepreneurs, volunteer organisations, and both schools and students (as end-users) came together and participated in remote learning.

During the period under review, extensive linking was found on FB so that users could read and discuss the topic further. In practice, a significant amount of information was shared, such as the transmission of posts, press releases, media links, and users' sharing others' posts, adding their own comments. As an example, in a case related to people with disabilities, after the press release of the head of the organization Helpific, information was shared by members of the organization with comments and suggestions on how to support people with special needs and how to solve trust problems between officials and people with special needs. (ALSO: PIG4, 18.04.2020) (KA: PIG4, 04.18.2020).

FB has restrictions, such as volume or text removal for hate speech, etc., but our study did not reveal the direct impact of FB restrictions on the crisis response. In practice, both organisations and citizens were free to post calls for information and assistance, and found active response. Our analysis of Facebook communications indicated that when a group reached actual activities, the group was closed for public communication, but the activities likely continued (for example, in the case of school computers collected for children or in the case of the hospital's call for volunteer health professionals). Specific activities that continued after the group was closed related to confidential information, such as email addresses, telephone numbers, and personal information that was not to be shared publicly. This highlights the fact that, in a crisis situation, social media is suitable for conveying primary information, posting calls, and generating ideas in the initial phase of the crisis. When co-creation reaches specific activities that may involve sensitive data, trade secrets, and other confidential information, the use of closed social media groups ensues.

Discourses. All initiatives in the four cases analysed described the involvement of stakeholders in aid-delivery processes, co-creation, and finding common solutions, thus highlighting different aspects of involvement based on policies, traditions, and practices. Cross-cutting topics in social media discussions focused on the involvement and trust of community members. We noticed this involvement and trust in our study. In the case of the hospital (Case 1), the help desk of healthcare volunteers joined the call, inviting specialists to help control the COVID-19 outbreak (KA: ÜG390, 03.21.2020). This can be considered one of the important co-created solutions for supporting the Estonian population during the crisis. The purpose of the volunteer database was to identify volunteers with medical and healthcare training who were ready to help colleagues during the crisis situation, including doctors, nurses, and laboratory specialists. (KA: ÜG406, 04.13.2020). As of October 22, 2020, there were more than 1,350 volunteers with medical training listed in this database (Volunteer Database of Health Professionals [VAAB], 2020).

We also identified the issue of trust in the misinformation case (Case 2). The task of advocacy organisations was to mediate the information provided by the state by inviting authorities and officials to think about the needs of people and ways of supporting their subsistence, and to be a partner in restoring trust and protecting the interests of people with special needs. It can be said that, with the timely intervention of the advocacy organisations for people with special needs, and because of the explanations of the Minister of Social Affairs, the situation was quickly resolved and confidence in the state was restored.

One of the biggest solutions for helping families in times of crisis appeared in Case 3, '*A computer for every schoolchild*', which grew out of a citizens' social media initiative and received feedback from organisations and citizens. It was a process of mutual need for help and assistance, which was created by the crisis situation.

The trust case (Case 4) involved the volunteer platform Helpific, which was designed to help people with special needs. Helpific's online support environment combines voluntary and paid services to meet the needs of everyday life, such as transport, attending events, and doing household chores (Helpific, 2020). Through the organisation, those in need can communicate their wishes for help, and helpers can provide assistance.

DISCUSSION

As Penner et al. (2005) pointed out, prosocial behaviour includes a broad category of activities that some important groups in society or one's own social group generally identify as beneficial to other people. The results of the research show that the Estonian community reacted actively in a crisis under the conditions of social isolation, using FB as a social media channel. The study indicated that community members' motivation to participate in both seeking and providing help was high, and calls were responded within hours or days. As Putnam (2000) argued, trust and civic engagement are mutually necessary to strengthen a community, as people who trust each other volunteer and participate more often in community and political activities. In this study, we have seen an increase in collectivism and concern for well-being for the benefit of the community as the main motives for co-creation in the community. Social media posts show that ways to support each other are quickly found, and in times of crisis, efforts are made to resolve problems through co-creation.

Penner et al. (2005) pointed out that a collaboration that involved two or more individuals or organisations, who came together as partners to work interdependently for a common goal, benefitted all involved. Our research results show that prosocial behaviour within the community was characterised by community members actively assisting each other during crisis situations to solve problems. Entrepreneurs, service providers, active citizens, voluntary organisations, and state institutions all communicated and exchanged information.

In the social media posts we analysed, we noticed that some co-creation parties, including organisations dealing with interest groups of people with special needs, felt that they were not considered equal partners in providing targeted aid. Those feelings are usually more evident in a crisis situation. If such problems arise, the communication issues must be resolved and trust between the partners must be restored before moving on to co-creation. We can speak of equal partnership on the condition that both parties are helping, and both are receiving help.

Our study shows that to be an open and active partner, it is necessary to feel that you are trusted and welcome in the communication process, and, as Fledderus and Honingh (2016), van Eijk and Steen (2014), and Fledderus (2018) pointed out, having trust in fellow citizens is likely to be an important precondition for effective solutions. Our study shows that gaining trust is an important early task for involving people in co-creation at the community level. The issue of trusting "other" participants on SM is also important here. For example, the fear that a proposal will receive unconstructive criticism may hinder the presentation of ideas on SM.

Based on this study, we can highlight important aspects of the four dimensions of the analysis model that must be addressed in the actual process of prosocial co-creation and civic participation on social media (see Figure 1).

Using the Kaun and Uldam model (2018), and based on the present study, we have shown that the latter is theoretically possible, but the actual behaviour of communities and people in crisis depends on very different, though related aspects, such as speed of reactions, needs of communities, and different ways to finding a solution, all which require further investigation over longer periods and in various situations (in the SM environment). For example, our study shows that various methods

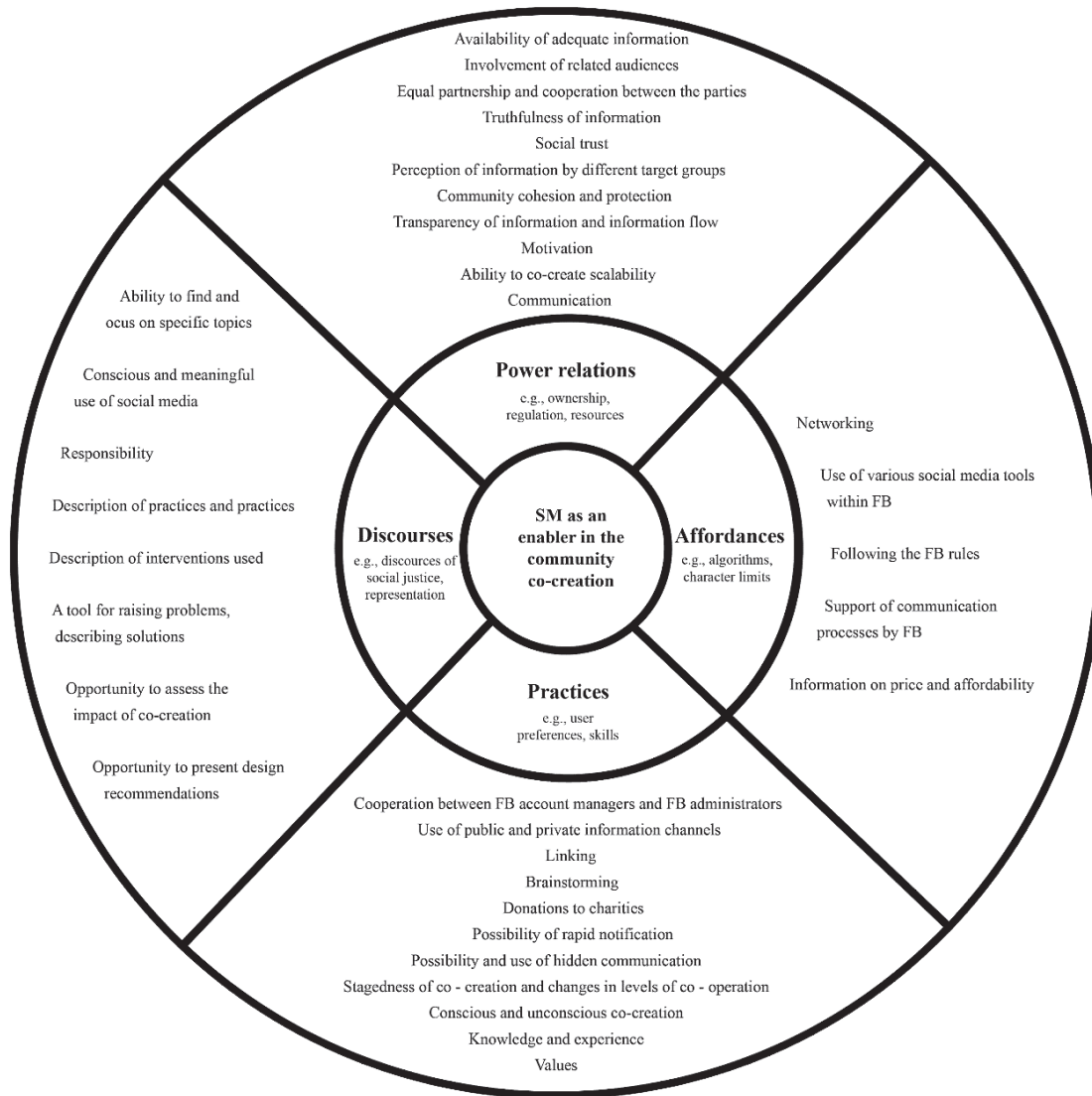


Figure 1. Social media as an enabler in community co-creation (Based on Kaun & Uldam, 2018)

of communicating on FB were used, including posting calls and sharing information. At the same time, our analysis of the timing of the posts has confirmed that SM is a communication channel used to elicit quick responses and reach many people, rather than a communication channel used to facilitate deep and multi-stakeholder co-operation.

This study highlights the limitations of the use of social media in the public sector and their impact on crisis response. It is more difficult for the public sector to launch various co-creation campaigns in the community, because it is their responsibility to stand up for people’s well-being, and the involvement of the population and organisations comes into play only after the local government’s resources are exhausted. Our results also support design recommendations for increasing the capacity of social media in co-creation processes.

Our analysis on the rules of Facebook shows the limitations of social media communication, such as that sharing information is easier for organisations and individuals who have better financial resources to pay to share information with more people. In the event of a crisis, it is necessary and possible to co-operate with institutions to share community-focused information and use the assistance of FB professionals. It is possible for volunteer organisations and citizens to share information from friend to friend or in public or private groups, and thus make themselves visible and find partners.

CONCLUSION

This study revealed that the Estonian people prefer to use FB to exchange information. Calls to action and requests for help can be posted, ideas can be brainstormed, and knowledge and experience can be shared. The COVID-19 crisis highlighted calls for donations to vulnerable groups as a positive result of the co-creation process.

The content analysis of social media posts revealed that in prosocial behaviour within the community, both conscious and unconscious co-creation can be distinguished. There may be other processes that people are involved in that are not directly perceived as co-creation, but that may have useful results. For example, social media can be used in collaboration with other platforms to develop services that are not normally provided in the community but are necessary for community members. A more informed use of social media would contribute to the effectiveness of co-creation.

A definite advantage of social media-based communication is networking – social media provides opportunities to participate in networks where information flows quickly, and this in turn encourages co-creation. These aspects highlight that FB allows people interested in particular issues to attract the attention of the public in real time, as events happen, and respond to breaking news with great speed. Content creation by social media users allows them to find and focus on certain discourses that are specific and necessary to the community and that describe their beliefs and values (ideologies). We evidenced taking the responsibility on a broader level, where every person can participate as an equal partner to solve problems, care for those in need, or preserve valuable activities, conventions, and/or institutions in the community.

In conclusion, the results of this study contribute to a better understanding of community prosocial behaviour in crisis situations, community members' motivation, opportunities for mutual support, co-creation activities, and efforts to address crisis issues, as well as ways to interact through social media.

An important limitation of this study is its very short observation period. We observed projects that were implemented very fast because a quick solution was necessary and could be found and implemented. Future studies should focus on long-term projects that require long-term content monitoring (e.g., 24 months). Future studies should also utilise other active methods (including interviews with co-creators). The topic of equality of co-creation partners would need more investigation in the future.

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APPENDIX 1. FINAL SAMPLE OF SELECTED CASES

Case no. and nickname	Posts	Number of total emoticons, reactions, and post comments	Number of total shares
Case 1. 'Hospital request'	Hospital call for all medical personnel (KA: ÜG390, 03.21.2020)	Like 600 Heart 91 Sad 9 Comments 15	1100
	Web platform of voluntary healthcare employees (KA: VG4, 04.12.2020)	Like 5	7
	Health Department's call for web platform of voluntary healthcare employees (KA: ÜG406, 04.13.2020)	Like 55 Comments 1	100
	Petition (KA: KKG76, 05.09.2020)	Like 21 Happy 2 Comments 7	5
Case 2. 'Mis-information'	ELIL and EPL about the possibility of decreasing funding (KA: PIG4, 04.18.2020)	Like 9 Surprised 3 Sad 15 Angry 17 Comments 16	5
	The Minister of Social Affairs refutes false information (KA: PIG21, 04.18.2020)	Like 77 Heart 9 Sad 2 Comments 12	39
Case 3. 'Citizen initiative'	A woman's post on her page 'A computer for every schoolchild' (KA: ÜH266, 03.15.2020)	Like 12	9
	Post 'A computer for every schoolchild' (KA: ÜH268, 03.20.2020)	Like 3	3
	Children's advocacy organization LKL 'A computer for every schoolchild' (KA: KAG7, 05.28.2020)	Like 8	6
	The school recognizes the parent (KA: KAG105, 06.01.2020)	Like 78 Heart 7 Happy 1 Comments 1	2
Case 4. 'Trust'	Are people with special needs trusted? Posted by NGO Helpific (KA: PIG33, 05.15.2020)	Like 13 Sad 1 Angry 1 Comments 26	12
	Discussion of the post about the possibility of decreasing funding (KA: PIG49, 05.15.2020)	Comments 4	
	Helpific's support platform's call for finding volunteers (KA: PIG104, 06.13.2020)	Like 10 Heart 1 Comments 1	102

* The analysis uses comments related to the posts, which have separate codes in the database.