The Impact of the New Technologies on Managing Projects Funded by Interreg Central Europe with Migrants as the External Stakeholders during the COVID-19 Pandemic

Anna Drabina, Sylwia Krzyżek-Liburska, Katarzyna Wójcik

Abstract

Purpose of the article: The objective of this research was to examine the helpfulness of new IT tools which are used to project management. IT tools have been an important part of project management for a long time but after the pandemic time became an absolute necessity. The authors of this research examined whether project managers dealing with big international projects based on soft skills with the necessity of quick communication with internal and external stakeholders are convinced to work with a new tool and find it helpful.

Methodology/methods: As a research sample, four consortiums of Interreg Central Europe have been chosen. Each consortium consists of 10 to 12 participant institutions, including the institutions of higher educations, NGOs and municipalities. The main objective of all selected projects is to support groups of migrants and refugees from programme countries. For the purpose of the research, the survey was designed and submitted to all institutions and project managers involved in four chosen projects.

Scientific aim: The aim of the paper was to identify the issues regarding project management and risk management before and during the COVID-19 pandemic within Interreg Central Europe programmes considering internal and external stakeholders of the four chosen projects.

Findings: The study showed that owing to the use of new IT tools, it was possible to maintain and improve communication in international project teams during the pandemic. The study also showed that surveyed project managers find helpful to work with new IT tools; however, they recognize risks related to communication with external project stakeholders. Most of those surveyed stated that new IT tool boosted the project teams' communication but did not affect communication with digitally excluded stakeholders.

Conclusions: In the authors' opinion, the results confirm the purposefulness of using and developing the new IT tools despite issues with reaching external stakeholders. In the next step, the research will focus more on the external stakeholders' issues with access to digital technologies, especially IT tools themselves.

Keywords: project management, IT tools, risk management, digital technologies, team communication, international research projects, digital exclusion

JEL Classification: M15, M21

Introduction

Nowadays, it is impossible to discuss research, interdisciplinary, and international cooperation without broadly defined project management. The objective of the research conducted by the authors was to examine the helpfulness of new IT tools which are used to project management. The selected projects are run by public institutions such as universities, polytechnics and research centres supported by NGOs, municipalities, and social enterprises. For all of these institutions and their projects, the COVID-19 pandemic had a deep and often negative impact. IT tools have been an important part of project management for a long time but after the pandemic time became an absolute necessity. The authors of this research examined whether project managers dealing with big international projects based on soft skills with the necessity of quick communication with internal and external stakeholders are convinced to work with a new tool and find it helpful. It is necessary to underline that this kind of projects involving higher education institutions and industry differ from development projects in regards of the management process (Huljenić *et al.*, 2005). The conducted research is a pilot survey addressed to project managers as experts on the subject.

1. Theoretical background

Project management is described as a set of activities which are leading to the realisation of project assumptions with a specific frame of time (Huljenić *et al.*, 2005). The other definition by Kerzner defines a project as an undertaking aimed at achieving a set goal, requiring the use of resources and within the framework of time, cost and quality constraints (Kerzner, 2003). Projects are usually unique in nature. There are different methodologies of project management dedicated to different kinds of project (Notargiacomo

Mustaro, Rossi, 2013). The literature on the subject distinguishes between different approaches to the project management and it is possible to find a number of methods and tools which are supportive for this kind of actions (Kostalova *et al.*, 2015; Brocke, Lippe, 2015). Traditional project management is recognized as an established methodology where projects are carried out in a sequential cycle. The concept of traditional project management is based on predictable experience and predictable tools. Each project follows the same life cycle, which includes five stages: initiation, planning, execution, controlling, and closing (Abu-rumman, 2020). Another approach to the managing project is Agile Project Management (APM), focusing primarily on flexibility and effective collaboration between team members. The APM allows project teams to be more flexible and ensures that the end of result is compliant with the requirements. In this methodology, the project is divided into smaller, time-limited sprints, which usually last 2 weeks. These sprints help project teams to deal with changes and development flexibly (Khoza, Marnewick, 2020; Soroka-Potrzebna, 2019).

In this article, the authors investigate the IT tools created to make management process and communication within it more productive and comprehensive. It is proven that communication technology is rapidly developing (Lovrek *et al.*, 2003). Communication among project teams, projects partners, and with external stakeholders play an important role in the management process. Projects managers have always been trying to find the best way to communicate as the lack of proper communication could result in failure of the project deliverable (Kozarkiewicz, 2020; Marnewick, Marnewick, 2021). The COVID-19 pandemic was a challenge to all kinds of project management and communication itself (Hai *et al.*, 2021). For the purpose of this article, the authors focus on projects built in interdisciplinary and international teams. Work organisation in this

kind of teams requires flexibility and various skills (Bond *et al.*, 2021; Waszkiewicz, Gumienny, 2021).

The four researched projects are financed from the Interreg Central Europe Programme, Priority axis 1 – Cooperating on innovation to make CENTRAL EUROPE more competitive (Programme Interreg Europa Środkowa, 2021). The programme mostly focuses on innovation and competitiveness increase, low-carbon strategies, natural and cultural resources and transport links. The programme's budget for the years 2014 –2020 was € 246 million from the European Regional Development Fund. The programme mainly supported soft actions which were of transnational importance and produce lasting results. Projects within Interreg CE may involve the participation of institutions such as public authorities and institutions, service providers and recipients, technology transfer centres, regional agencies, associations of legal entities, European Groupings of Territorial Cooperation, advisory institutions, universities, research organisations, non-governmental organisations, and enterprises.

The four selected projects tackle the issue of migrants and refugees in Central Europe.
1. Exploring social innovation approaches for the social and economic integration of non-EU nationals (Arrival Regions).
   - The project duration: 01.04.2019 – 31.03.2022.
   - The project consortium consists of 13 partners from 6 countries: Italy, Slovenia, Germany, Croatia, Poland, and the Czech Republic.
   - Total budget: EUR 2,204,872.00 (Arrival Regions, 2021).
2. Social Entrepreneurship as an Enabling environment for Migrants' Employment and Integration (SEE ME IN).
   - The project duration: 01.04.2019 – 31.03.2022
   - The project consortium consists of 10 partners from 5 countries: Italy, Slove-

nia, Germany, Croatia, and Hungary.
   - Total budget: EUR 2,126,052.14 (SEE ME IN, 2021).
3. Integrating Refugees in Society and the Labour Market Through Social Innovation (SIforREF).
   - The project duration: 01.04.2019 – 31.03.2022.
   - The project consortium consists of 11 partners from 4 countries: Italy, Slovenia, Germany, and Austria.
   - Total budget: EUR 2,213,206.85 (SIforREF, 2021).
4. Transnational Action to advance SKills and competences FOR COmmunity engagement and social Migrants Entrepreneurship initiatives in the Central Europe (TASKFORCOME).
   - The project duration: 001.03.2019 – 30.11.2021.
   - The project consortium consists of 13 partners from 5 countries: Italy, Germany, Austria, Poland, and Croatia.
   - Total budget: EUR 2,739,979.22 (TASKFORCOME, 2021).

2. Data sources

The research was carried out using the CAWI method (Computer-Assisted Web Interview). A structured questionnaire was prepared by the authors of the presented article. The questionnaire was prepared in Microsoft Forms. The link to the questionnaire was provided via e-mail to the project manager of each partner from the 4 projects in the period from 19 July to 7 September 2021.

The sampling was purposive, as the study was aimed at collecting the opinions of management experts from the examined projects to develop the reliability of the research. 17 correctly completed questionnaires were collected. The dataset was analysed quantitatively and qualitatively.

The questionnaire was divided into 5 sections:

1. The first section included 10 general questions that allowed identifying the project, country and type of respondent institution. The questions in this section also concerned the methods of project management.
2. The second part contained 13 questions on the management of the entire project and concerned inter-institutional and international communication. This section was only filled in by project leaders.
3. This section consisted of 10 questions about the IT tools used.
4. The fourth section consisted of 6 questions that focused on communication in project teams.
5. The last section consisted of 7 questions related to communication with external stakeholders.

Single-choice and multiple-choice questions were used, as well as rating questions with the Likert scale.

Most of the responses were received from the representatives of the TASKFORCOME project (8 responses representing 47% of the research sample). SEE ME IN and Arrival Regions provided 4 responses each and 1 response was received from a representative of the SiFoREF project.

The largest fraction (24% or 4 respondents) included the Italians, closely followed by the Croats, the German and the Polish (18% each). Next came Hungarians with 12%. The least numerous groups were Austrians and Slovenes (5% each). The Czechs and Slovaks did not take part in the survey.

The highest number of responses came from the representatives of NGOs with 5 respondents, followed by the other public institutions with 4 respondents, and the research institutes and the territorial self-government units with 2 respondents each. The questionnaire was also completed by one representative of the universities, the social enterprises and the foundations, and other types of institutions, respectively. The representatives of the private enterprises did not take part in the survey. 3 of these institutions are project leaders; the remaining 14 are project partners. More than half of the surveyed teams consisted of less than 4 members (9 responses). The remaining 8 teams had 4 to 8 members.

3. Discussion

3.1 General communication within the examined projects

When it comes to communication between the lead partner and the rest of the consortium, the research shows that the pandemic has not impacted it deeply. Generally, e-mail as a tool was used before the pandemic as frequently as during and after the lockdown. Project managers from lead institutions are users of the network drive; however, tools such as project management software and Microsoft task management tool are unknown to them. Most of them declared that they are familiar with IT communication tools, using them for international communication but one third admitted that they had never used such tools. Among the most popular communicators, it is possible to indicate ZOOM, WhatsApp, and Microsoft Teams. Lead partners' project managers use network drives such as Google Drive and Dropbox to store data and project documents. From the Microsoft Management tool, they usually choose to use Excel and Outlook. The decision on using the specific tool was made on the basis of the price and the user-friendliness. The least important was e-mail integration and the mobile version. From the point of view of the lead institutions' managers, the pandemic impacted the process of communication within Interreg projects in a negative way.

3.2 Project management tools in partners' institutions

Within the survey, it appeared that most of the respondents use IT management tools that were known and popular before the pan-

demic time, including communicators such as WhatsApp or Skype yet still the communication via e-mail has remained the most popular (Figure 1).
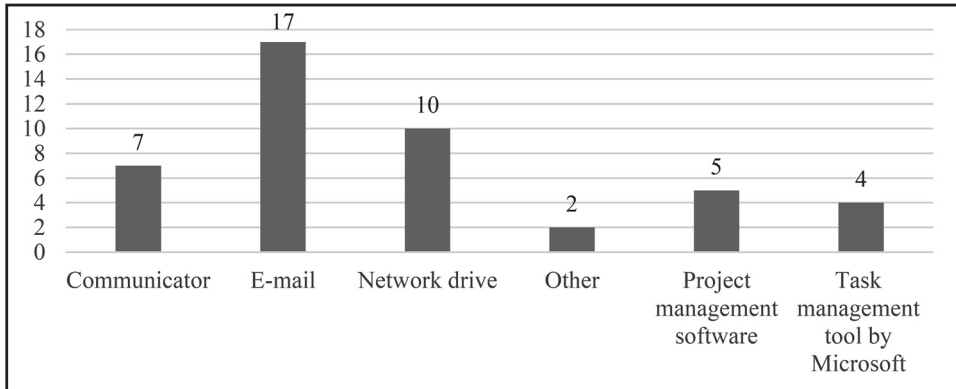

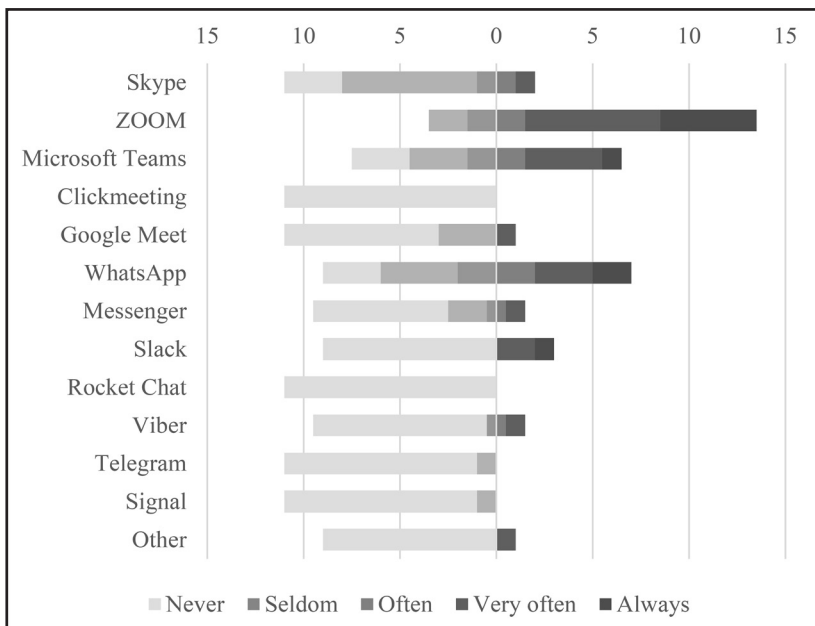*Figure 1. The use of IT management tools. Source: Authors' own work.*

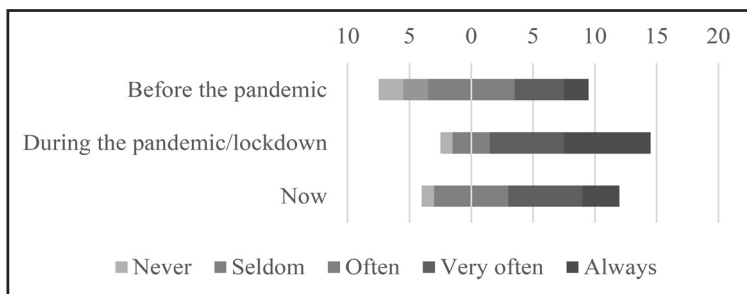*Figure 2. Communication tools. Source: Authors' own work.*

Figure 3. The COVID-19 pandemic's influence on using communication tools within projects.
Source: Authors' own work.

The most popular communication tools are chosen usually from these of the most accessible and often free of charge versions (Figure 2), including WhatsApp, ZOOM, Microsoft Teams. The reason for this could be the lack of funding dedicated to the programme for such expenditures and the lack of IT knowledge among the project managers under the investigation. The managers selected for the research are usually professionals in different areas such as social workers and researchers with social sciences backgrounds (Brière *et al.*, 2015). The pandemic forced them not to use new IT communication tools but to use the previously known tools more often (Figure 3).
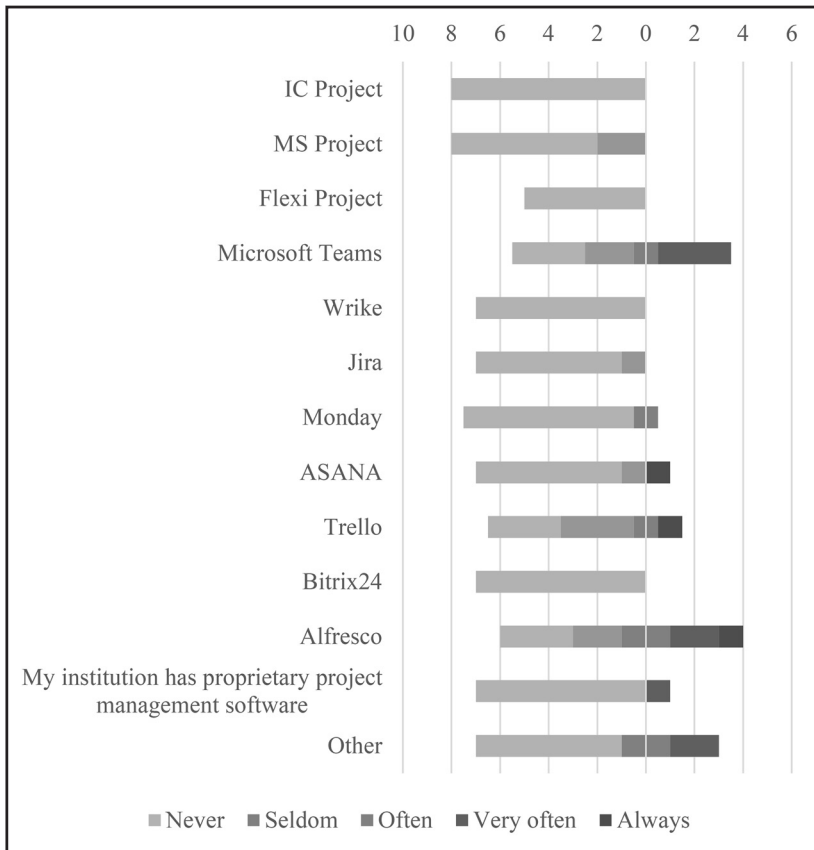
Figure 4. Project management software. Source: Authors' own work.
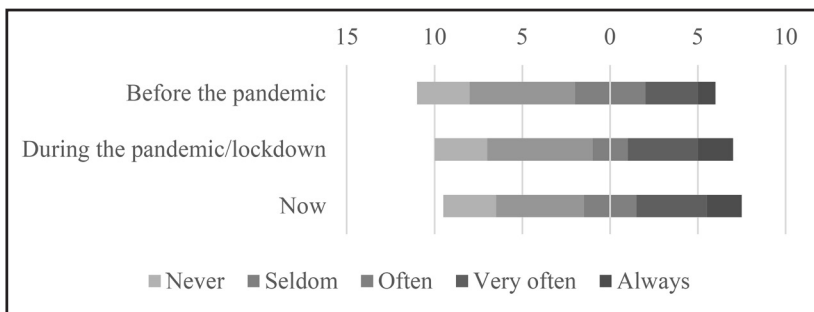
Figure 5. The COVID-19 pandemic's influence on using project management software within projects. Source: Authors' own work.

When it comes to project management, software the most popular examples include MS Teams, ASANA, Trello but software items such as Jira, Monday.com or MS Project are unknown (Figure 4). The frequency of using the project management software is higher during the pandemic and later it is maintained (Figure 5).
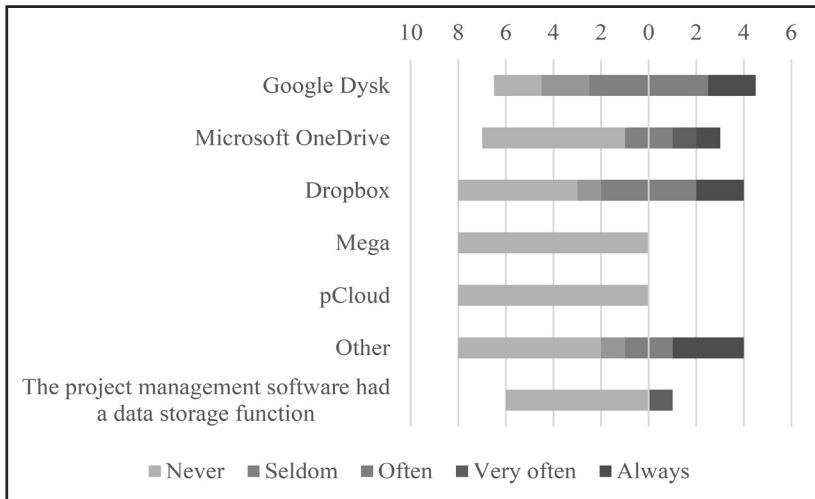

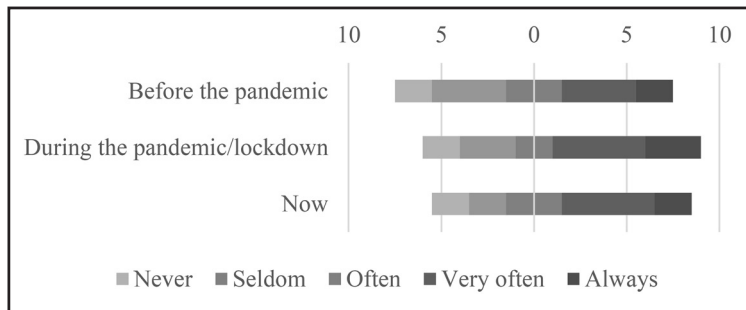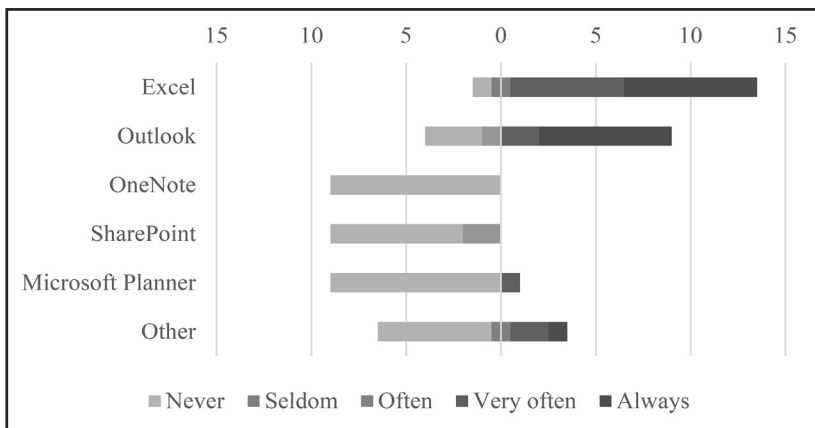*Figure 6. Network data storage. Source: Authors' own work.*

Figure 7. The COVID-19 pandemic's influence on using network data storage within projects. Source: Authors' own work.

Figure 8. Microsoft management tools. Source: Authors' own work.

Regarding network data storage the most popular are networks used by individual clients especially Dropbox (58 %), Google Disk (82 %), Microsoft OneDrive (40 %) (Figure 6). It seems that in the case of network data storage, the pandemic has not had a strong impact on working processes within the examined projects (Figure 7).

Microsoft management tools are one of the most popular tools used by project managers from all over the world (Statista, 2021). There is no difference in the case of the examined projects. Excel and Outlook are moving forward when it comes to popularity among

project managers (Figure 8). The same tools were also used before the pandemic, but it can be said that pandemic slightly increased the frequency of using Microsoft management tools (Figure 9).

3.3 Organisation of teams' cooperation

Regarding project team meetings using communicators, it can be seen clearly that before the pandemic, it was not as popular as during the pandemic time. It looks that now meetings via IT tools have become the standard. Among the respondents, most are using communicators. 23.5 % of the respondents decla-
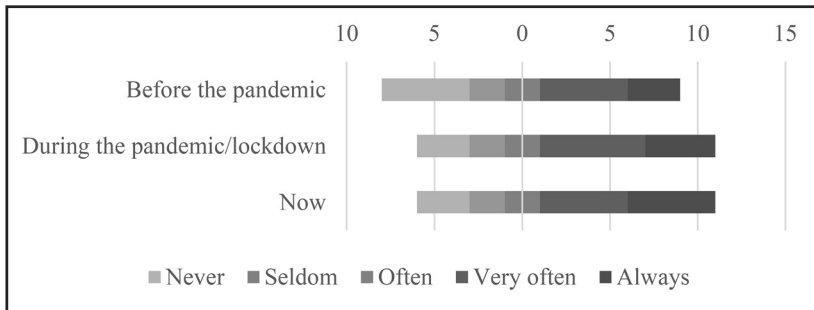

Figure 9. The COVID-19 pandemic's influence on using Microsoft management tools within projects. Source: Authors' own work.
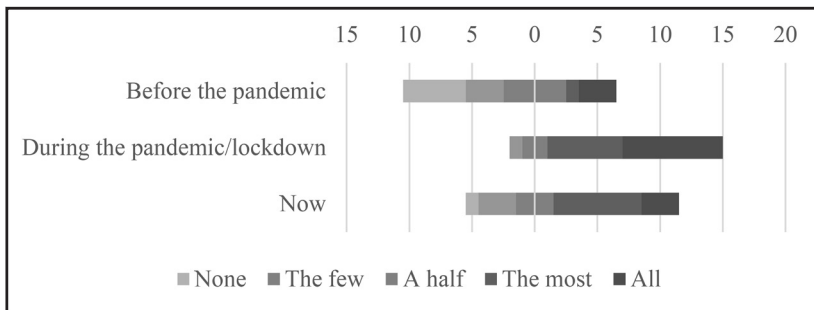

Figure 10. Share of the project team meetings organized using IT tools (i.e. communicators). Source: Authors' own work.
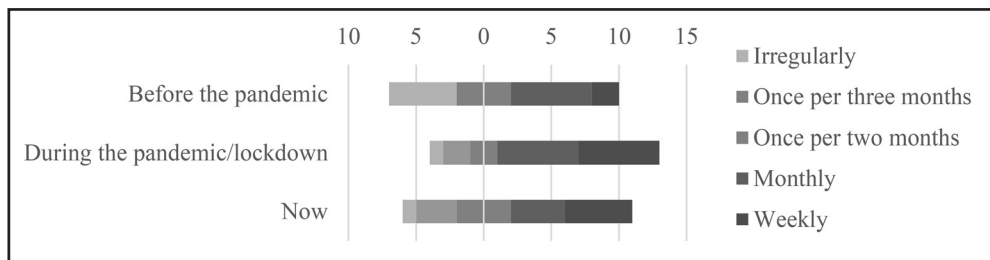

Figure 11. Frequency of on-line project team meetings. Source: Authors' own work.

red that they are using them often 35.3 % declared that they are using IT communication tools very often, and 17.6 % declared that they always use communicators during project meetings. Some of the project activities involving communication were implemented via communicators before the pandemic yet more than 29 % of the respondents stand that they had never used communicators before the pandemic (Figure 10).

When it comes to the frequency of meetings it can be observed that during the pandemic, time the intensity was increased, most often the meetings were settled once a week or once a month (Figure 11). Now the respondents state that the frequency has slightly decreased but still most maintain the regular meeting via communicators.

The authors of the research tried to rate the project managers satisfaction with using the basic communicators. E-mail communication still prevails (Figure 12); this tool is used by all respondents. Project management software is not used by 37.5 % of the respondents, network drive is unused by 13.3 %, and communicators are unused by 6.3 % of the respondents.

The respondents underline that when it comes to determinants of used IT tools, the most important are user-friendliness, availability, flexibility, and costs (Figure 13).
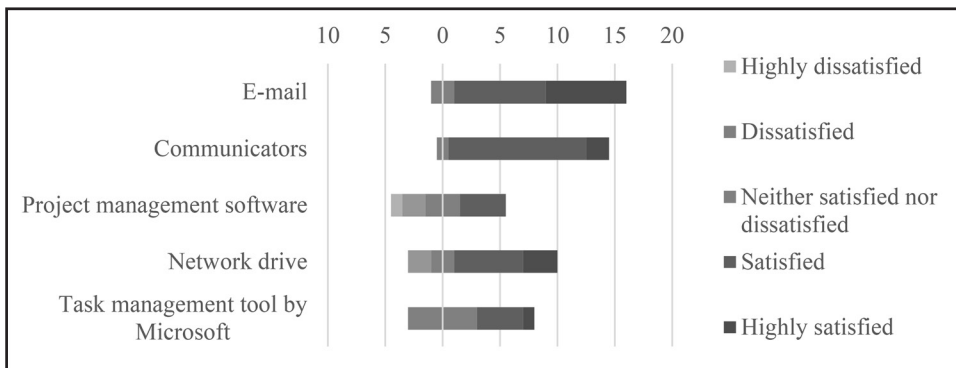

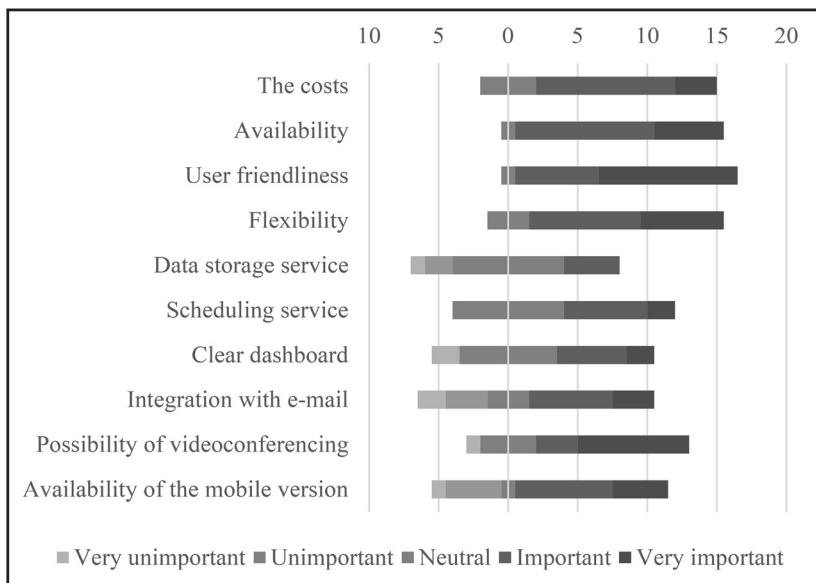*Figure 12. Rate your satisfaction. Source: Authors' own work.*

Figure 13. How important were the following determinants of used IT tools for you. Source: Authors' own work.

Determinants such as integration with e--mail, scheduling service or data storage service seem to be less important.

Still, it is visible that pandemic had rather a negative effect on communication process within project teams (Figure 14). None of the researched project managers agreed with the statement that the pandemic had no effect on team communication. Most of them agree that the pandemic impacted the team communication negatively.

3.4 Communication with projects' external stakeholders

It is clearly seen that the pandemic time had a negative impact on communication with external stakeholders. No respondent agreed with the statement that the pandemic had no effect on communication with them. At the same time, 58.8 % of the respondents agreed and 23.5 % of the respondents strongly agre-

ed with the statement that the pandemic had made it difficult to contact external stakeholders (Figure 15).

When to ask about facilitating communication by IT tools, opinions are divided. 29 % of the respondents claimed that IT tools did not facilitate communication within projects but 35 % of the respondents admitted that communicators were very helpful (Figure 16).

All of the project managers who participated in the research agreed that one of the issues with remotely contacting external stakeholders was the mentality of the group, difficulties in establishing personal contact and inner barriers (Figure 17). The whole attitude to communication via IT tools together with the lack of equipment and quite often lack of skills could result in digital exclusion.

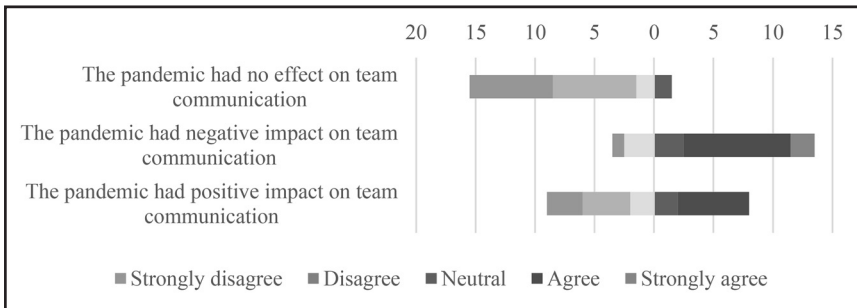The respondents indicated that the possibility of online meetings with people from

Figure 14. To what extent do you agree with the following statements? Source: Authors' own work.
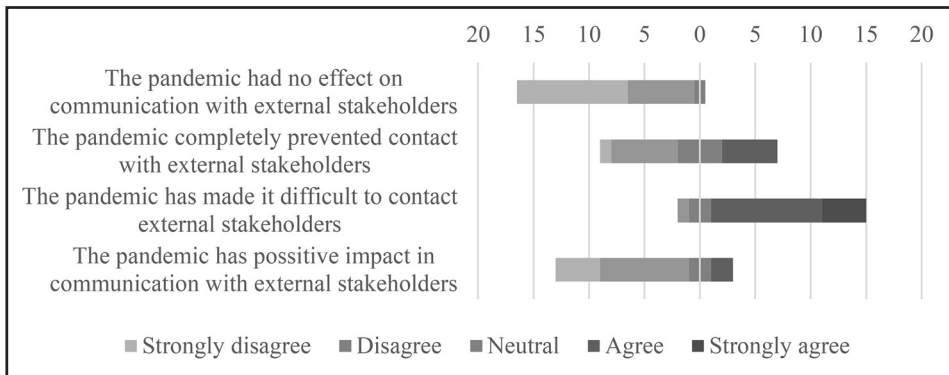

Figure 15. The COVID-19 pandemic impact on the communication with external stakeholders.
Source: Authors' own work.

all over the world should be treated as an advantage (Figure 18). They also admitted that owing to IT tools, they were able to reach a larger group than initially assumed.

Most of the respondents claimed that the project's results would get better if project activities could have been carried out traditionally, including personal meetings (Figure 19).

4. Conclusions

The research conducted by the authors shows that when it comes to project management within the Interreg CE programme and its projects focused on migration and refugees' problems, most of the managers did not change their IT tools during the pandemic time and after that. The research indicates
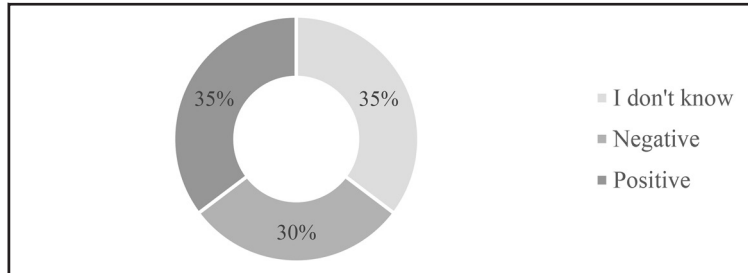

Figure 16. The impact of the application of IT tools on communication with external stakeholders. Source: Authors' own work.
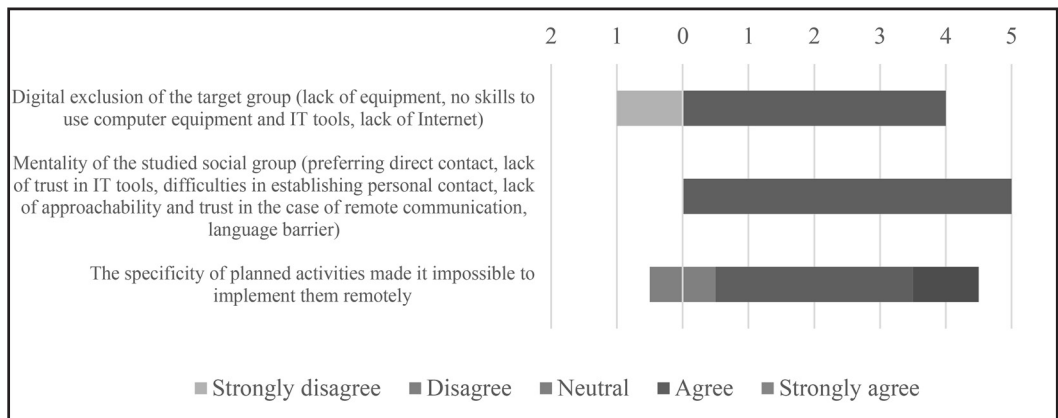

Figure 17. Obstacles in remote contact with project stakeholders. Source: Authors' own work.
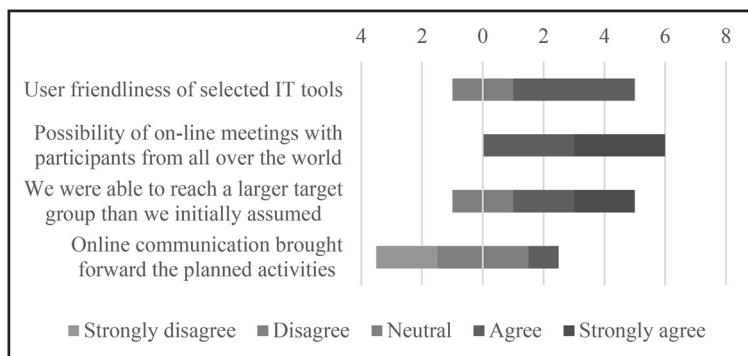

Figure 18. Benefits of remote communication with external stakeholders. Source: Authors' own work.
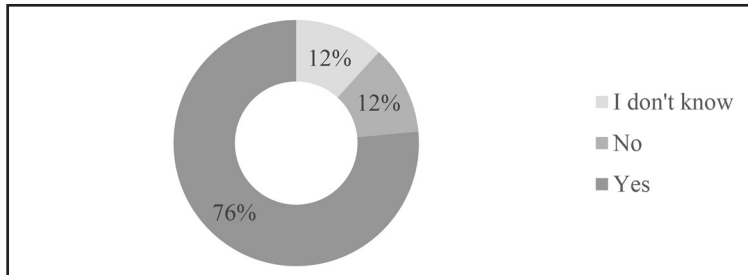
Figure 19. Projects' managers attitude towards remote communication with external stakeholders.
Source: Authors' own work.

that institutions which worked primarily in the stationary mode before the pandemic did not use communication tools for project meetings. Even though these institutions have returned to stationary work, they still use communication tools for project meetings. This is a confirmation of the growing importance of digitalisation in project management. The projects selected for the research forced using some of IT tools before the pandemic. The reason for this included the construction of a consortium built of international teams. The most important change was the frequency of using IT tools, especially communication tools. During the pandemic, institutional and international teams could only communicate via IT tools. That was not the case with communication with external stakeholders. Here, the accessibility of beneficiaries was difficult. The external stakeholders indicated in the projects are migrants and refugees. The pandemic often had a very negative impact on their finance and life situation which could have resulted in a lack of access to electronic equipment and digital exclusion. The authors of the research see the necessity of conducting a deeper investigation, especially on the communication with external stakeholders during and after the pandemic time.

Acknowledgment

References

Abu-rumman, A. (2020). Project Management: a help or hindrance a collaborative research. Al-Balqa Journalfor Research and Studies, 23(1).

Arrival Regions (2021). Retrieved from: https://www.interreg-central.eu/Content.Node/Arrival-Regions.html 12.11.2021.

Bond, M., Marín, V. I., Bedenlier, S. (2021). International Collaboration in the Field of Educational Research: A Delphi Study. Journal of New Approaches in Educational Research, 10(2), pp. 190–213. DOI:10.7821/naer.2021.7.614.

Brière, S., Proulx, D., Flores, O. N., Laporte, M. (2015). Competencies of project managers in international NGOs: Perceptions of practitioners. International Journal of Project Management, 33(1), pp. 116–125. DOI: 10.1016/j.ijproman.2014.04.010.

Brocke, J. vom, Lippe, S. (2015). Managing collaborative research projects: A synthesis of project management literature and directives for future research. International Journal of Project Management, 33(5), pp. 1022–1039.DOI:10.1016/j.ijproman.2015.02.001.

Hai, T. N., Van, Q. N., Tuyet, M. N. T. (2021). Digital transformation: Opportunities and challenges for leaders in the emerging countries in response to covid-19 pandemic. In Emerging Science Journal, 5(Special Issue), pp. 21–36. Ital Publication. DOI:10.28991/esj-2021-SPER-03.

Huljenić, D., Dešić, S., Matijašević, M. (2005). Project management in research projects. Proceedings of the 8th International Conference on Telecommunications, ConTEL 2005, 2, pp. 663–669. DOI:10.1109/contel.2005.185981.

Kerzner, H. (2003). PROJECT MANAGEMENT (Eight). John Wiley & Sons, Inc.

Khoza, L., Marnewick, C. (2020). Waterfall and agile information system project success rates-a South African perspective. South African Computer Journal, 32(1), pp. 43–73. DOI:10.18489/sacj.v32i1.683.

Kostalova, J., Tetrevova, L., Svedik, J. (2015). Support of Project Management Methods by Project Management Information System. Procedia – Social and Behavioral Sciences, 210(December), pp. 96–104. DOI:10.1016/j.sbspro.2015.11.333.

Kozarkiewicz, A. (2020). General and Specific: The Impact of Digital Transformation on Project Processes and Management Methods. Foundations of Management, 12(1), pp. 237–248. DOI:10.2478/fman-2020-0018.

Lovrek, I., Kos, M., Mikac, B. (2003). Collaboration between academia and industry: telecommunications and informatics at the University of Zagreb. Computer Communications, 26, pp. 451–459.

Marnewick, C., Marnewick, A. (2021). Digital intelligence: A must-have for project managers. Project Leadership and Society, 2, 100026. DOI:10.1016/j.plas.2021.100026.

Notargiacomo Mustaro, P., Rossi, R. (2013). Project Management Principles Applied in Academic Research Projects. Issues in Informing Science and Information Technology, 10, pp. 325–340. DOI:10.28945/1814.

Program Interreg Europa Środkowa (2021). Retrieved from: https://www.ewt.gov.pl/strony/wiadomosci/program-interreg-europa-srodkowa-zatwierdzony-przez-komisje-europejska/. 06.11.2021.

SEE ME IN (2021). Retrieved from: https://www.interreg-central.eu/Content.Node/SEE-ME-IN.html. 12.11.2021.

SIforREF (2021). Retrieved from: https://www.interreg-central.eu/Content.Node/SIforREF.html. 12.11.2021.

Soroka-Potrzebna (2019). ZARZĄDZANIE PROJEKTAMI – PODEJŚCIE TRADYCYJNE CZY ZWINNE ? PROJECT MANAGEMENT – TRADITIONAL OR AGILE ? ZN WSH Zarządzanie (1), pp. 89–98. DOI:10.5604/01.3001.0013.2423.

Statista (2021). Retrieved from: https://www.statista.com/statistics/267966/brand-values-of-the-most-valuable-technology-brands-in-the-world/. 13.11.2021.

TASKFORCOME (2021). Retrieved from: https://www.interreg-central.eu/Content.Node/TASKFORCOME.html. 12.11.2021.

Waszkiewicz, M., Gumienny, K. (2021). Benefits of using IT systems in multi-sector projects: A case study of the Polish construction industry. Procedia Computer Science, 192, pp. 4269–4278. DOI:10.1016/j.procs.2021.09.203.

Anna Drabina
Cracow University of Economics
International Project Department (DWPB)
27 Rakowicka St.,
31-510 Krakow
Poland
Phone: +48 604 998 530
E-mail: drabinaa@uek.krakow.pl

Sylwia Liburska-Krzyżek
Cracow University of Economics
International Project Department (DWPB)
27 Rakowicka St.
31-510 Krakow
Poland
Phone: +48 602 682 334
E-mail: krzyzeks@uek.krakow.pl

Katarzyna Wójcik
Cracow University of Economics
Department of Computational Systems
27 Rakowicka St.
31-510 Krakow
Poland
Phone: +48 602 534 763
E-mail: wojcikk@uek.krakow.pl