

The role of Erasmus+ project leaders' digital competences in sustaining European transnational cooperation during the COVID-19 pandemic

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Abstract

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The current COVID-19 pandemic poses a significant threat to the realisation and sustainability of transnational cooperation projects of various types, especially those which are based on the mobility of their participants. This is especially the case for Erasmus+, which is the flagship European programme of cooperation between leaders of the educational, academic, vocational, industrial and business sectors. The aim of the article is to answer the question of whether digital competences can support Erasmus+ project leaders in sustaining their transnational cooperation, and if so, to what extent. The analysis also seeks to discover what factors can contribute to sustaining this type of cooperation. For this purpose, this research concentrates on a group of 990 Erasmus+ project leaders from Poland who undertook transnational cooperation projects during the COVID-19 pandemic, their digital competences and other contextual factors connected with these competences which may influence their performance. The discussion on digital competences as remedial tools for international cooperation during the COVID-19 pandemic is placed here in the broader context of Competences 4.0, Industry 4.0, and the relational and network approaches to the management of modern organisations. The results obtained prove that digital competences in conjunction with other contextual factors have facilitated the realisation and sustainability of Erasmus+ projects during the COVID-19 pandemic.

Key words

digital competences, competences 4.0, Erasmus+, COVID-19, temporary organisation, relational paradigm, network paradigm

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Introduction

The Erasmus+ Programme is the European Commission's main tool for (i) stimulating the development of entrepreneurial, creative and innovative skills across all educational and vocational sectors; (ii) improving the infrastructure for the transfer of knowledge of higher education institutions and improving their engagement in initiatives such as start-ups and spin-offs; (iii) encouraging higher education institutions to build partnerships and undertake cooperation with business; (iv) involving the higher education sector in establishing integrated local and regional development plans (European Commission, 2011). The 35-year history of the programme has proven its effectiveness in this respect and contributed greatly to the broader EU socio-economical and educational policies. However, Erasmus+ project activities are based on the international mobility of pupils, teachers, students, academics, professionals and youth workers as well as on the realisation and implementation of innovative, inter-institutional cooperation projects and strategic partnerships, the aim of which is capacity building in reference to organisational aspects and the improvement of educational offers. In this respect, Erasmus+ projects must be treated as entities of highly relational and networking character.

For obvious reasons, the COVID-19 pandemic has evidently limited the functioning of the activities of the programme in a substantial way. The nature and the extent of the harming effect of the COVID-19 pandemic as well as the potential of various sorts of remedies are proved by evidence from two sources. The COVID-19 pandemic has brought significant changes to the usual mode of work. As a result, 94.8% of people working in managerial positions in Poland were working from home for more than half of the working week, in comparison to 5.3% before the pandemic (Czerniak et al., 2020). This means a radical change, potentially

affecting work efficiency. In the case of the Erasmus+ Programme, the sudden necessity of transferring cooperation to virtual mode has posed a significant challenge to project leaders and become a real threat to European transnational cooperation. This situation has required of Erasmus+ project leaders both a smooth transition to using electronic forms of communication which require a considerable level of digital competences, as well as a content and methodological redefinition of projects, so that their goals and objectives could remain unchanged.

At the time of the first coronavirus outbreak, the European Commission surveyed both Erasmus+ participants and project leaders on the impact of the COVID-19 pandemic in reference to project sustainability. The first survey, focused on learning mobility activities, was carried out in April 2020, and collected the views of almost 40% mobility participants (European Commission, 2020a). Its findings show that approximately 25% of the participants were not, or only very mildly, affected by the pandemic and stayed abroad during the first lockdown. The remaining 75% reported that they continued their activities with different arrangements (42% of respondents), had to suspend their activity (22%) or had their activity cancelled (36%).

The respondents were asked how they assessed the quality of virtual activities offered to them as a replacement for those which were to be carried out abroad. A high proportion assessed the digital learning tools and platforms as very good (71%), the quality of activities as high (63%) and relevant to their planned mobility (71%). They confirmed that they were very satisfied with the overall support they received (over 80%) and in most cases (72%) these activities were to be recognised by the sending institutions. It also seems that the participants who have carried out virtual mobility periods are more confident of the validity of the

future “blended mobility” scenario. The results show that most preferred is starting the mobility as virtual learning and only 9% were in favour of cancelling the mobility periods (European Commission, 2020a).

The second survey examined the impact of COVID-19 on the European Universities subprogramme of the Erasmus+ programme and was carried out in May 2020. In its main conclusions the European Commission stressed the importance of much deeper cooperation between higher education institutions in education, research and innovation, and the need to pool together and share online courses, data, digital and research infrastructure. Although the COVID-19 pandemic is a significant hindrance to international cooperation, this survey suggests that being part of a European University network may help to cope with the challenges posed by the pandemic, e.g. by sharing good practices and solutions, pooling IT tools and creating a joint environment. This line of thinking has been confirmed by more than 60% of respondents. Additionally, almost 80% declared that they share good practices within their partnership, and 96% said that “they would have been better prepared to face the pandemic if their European University had already been fully operational” (European Commission, 2020b, 12).

According to the respondents – Erasmus+ project leaders from the higher education sector – the most useful features for managing the crisis caused by the pandemic are: (i) fully functional digital EU inter-university campuses; (ii) fully working infrastructure and methodology for joint blended courses; (iii) a wide range of short learning courses leading to the achievement of micro-credentials for equipping the workforce with “just-in-time” skills in cooperation with companies, regions and cities; (iv) a challenge-based approach in which students work with academics, researchers, companies, cities and regions to address societal challenges (European Commission, 2020b).

However, the above surveys show only the extent of the damage caused by the pandemic and the views of participants in the projects on what could contribute to facing the challenges caused by the pandemic. Yet the results of these surveys do not provide a detailed insight into what specific factors can facilitate the sustainability of Erasmus+ projects. Furthermore, the author of this article has already proved that there is a research gap in the area of establishing the links and assessing possible relations between Competences 4.0, including digital ones, and the sustainability of operations within transnational educational cooperation during the COVID-19 pandemic (Poszytek, 2021a; Wei et al., 2021).

1. Literature review

The study presented in this paper focuses on digital competences as a tool that can compensate for any breakdowns in the communication and realisation of Erasmus+ projects, as well as other contextual factors.

In order to assess whether digital competences can support Erasmus+ project leaders in sustaining transnational cooperation, the following questions were formulated:

1. What is the level of Erasmus+ project leaders' digital competences?
2. To what extent do project leaders' digital competences facilitate the sustainability of Erasmus+ projects?
3. To what extent do other contextual factors connected with project leaders' digital competences facilitate the sustainability of Erasmus+ projects?

Nevertheless, the issue of digital competences must be discussed in the broader context of (i) Competences 4.0; (ii) Industry 4.0; and (iii) relational and network approaches to modern organisational management. These aspects are fundamental to the current approach in business activities of any sort. It must also be noted at this stage that the consortia of Erasmus+ projects

fulfil the criteria of being temporary business organisations (Kast and Rosenzweig, 1970; Packendorff, 1995). A network approach to modern management, which one can extrapolate onto Erasmus+ project management, stresses that it was the turbulent, unstable, diversified, dynamic, global and unpredictable environment that led to the shift from hierarchical management towards horizontal relations between geographically dispersed partners forming different organisational units. These partners are usually connected via information and communication technologies, and they create organisational partnerships whose aim is to realise and reach specific goals (Florek-Paszkowska et al., 2021). Each configuration of partners is an original combination of the key competences that they contribute. These competences make the organisation or partnership stronger, more flexible and efficient than each individual partner. This type of organisation fosters the processes of adaptability to the new conditions of the environment in which they exist (Stead and Stead, 2008; Woźniak-Sobczak, 2015).

Other researchers also point out that the communicative aspect and complementarity of partners are characteristic features of the network paradigm in modern organisation management (Czakon, 2012). Both the external context of the unforeseen COVID-19 pandemic and the network character of Erasmus+ projects, which are conducted by organisations consisting of international partner units, draw a perfect analogy of the abovementioned organisational approach in management.

The relational approach to management postulates knowledge sharing within units of an organisation and building relations both inside and outside of it to enhance competitive potential and effectiveness (Wieland and Wallenburg, 2013; Szczepańska-Woszczyzna, 2020). This point of view is also crucial in analysing the effectiveness and sustainability of Erasmus+

projects in relation to leaders' competences, since the ability to communicate effectively on various levels and maintaining relations are integral parts of these competences.

The notion of Industry 4.0 was coined to define modern production and service procedures responding to new challenges and trends that require the introduction of increasingly digitalised and fully automated processes in the modern economy (Gajdzik et al., 2021; Dobrowolska and Knop, 2020; Górka et al., 2020; Janik and Ryszko, 2018; Tay et al., 2018; Jeschke et al., 2017; Rojko, 2017; Sanders et al., 2016; Schwab, 2015). The term 'Industry 4.0' embraces the following phenomena: the Internet of Things, meaning the advanced connectivity of systems, services and physical objects enabling object-to-object communication and data sharing; cloud computing that provides a vast space for data storage; autonomous robots which interact with each other and collaborate with humans; Big Data obtained daily from devices connected to the Internet; simulation in the form of modelling real or virtual processes by using real-time data to represent the real world in a simulation model; the Internet of Services, meaning services available on demand; augmented reality, meaning reality enhanced by virtual elements; and cyber-physical systems and human-digital interfaces, meaning systems that integrate humans with machines.

However, for the purposes of the research presented in this paper, the most important is the concept of Competences 4.0 that stems from Industry 4.0. They have marked the shift from strictly professional skills towards soft skills that are fundamental to the current labour market (Ślusarczyk, et al., 2020; Gancarczyk and Ujwary-Gil, 2021). The models of Competences 4.0 differ depending on the authors. The contexts and the detailed discussion on these differences can be found in Poszytek (2021b). Here, the most common model of Competences 4.0 is used: i) digital competences – including the

use of technology on different levels of advancement, and the ability to solve problems with the use of digital tools, knowledge of privacy and cybersecurity issues; ii) managerial competences – i.e. team coordination, cooperation, entrepreneurship, and leadership; iii) social and emotional competences – connected with communication and interaction with others, coping with one's own emotions and the ability to cooperate in a group; iv) cognitive competences – related to the ways of thinking, processing and verifying information, including creativity, critical thinking and openness (e.g. Hecklau et al., 2016; Pinzone et al., 2017; Bawany, 2017; Barata et al., 2018; Karabiegović, 2018; Erol et al., 2018; Imran and Kantola, 2018; Włoch and Śledziwska, 2019; Ellis and Van Der Merwe, 2019; Stuss et al., 2019; Zabolotniaia et al., 2019; Dobrowolska and Knop, 2020).

In this research, social and emotional competences as well as cognitive ones are treated as some of the contextual factors which will be further elaborated on in the analysis section. As regards the very digital competences in reference to the management of Erasmus+ projects, they are defined here by the following factors:

- Own preparation for online work;
- Using e-banking services;
- Filing tax returns online;
- Filing an official application via an electronic system;
- Making use of an electronic document workflow;
- Organising one's own online work;
- Starting a video conference with several people at the same time;
- Protecting one's own PC from network viruses;
- Sharing the screen with others during a video conference;
- Being up to date with modern ICT solutions that can be used at work;
- The use of web resources;
- The use of text editors (e.g. Microsoft Word);
- The use of spreadsheets (e.g. Microsoft Excel);
- The use of instant messengers;
- The use of e-mail;
- The use of online collaboration tools;
- The use of video conferencing tools;
- The use of project management tools.

It must also be stressed that the indicators of these digital competences are determined by the specificity of Erasmus+ projects and the role of their leaders. These indicators were reflected in the research questionnaire described below.

2. Methodology

Having formulated the research questions and having defined the model of Competences 4.0 with digital competences therein, the following analysis design was proposed (Table 1).

Table 1. Analysis design

No.	Research activity	Step
RA1	Establishing Erasmus+ project leaders' competence profile	Competence models; factor analysis which helped to fine-tune and calibrate the research competence model and questionnaire results (990 respondents).
RA2	Defining a research group that is statistically meaningful, significant and valid	Dividing the research group into quartiles: 25% of best performers and 25% of worst performers
RA3	Finding possible relationships between the level of Erasmus+ project leaders' digital competences and the sustainability of their projects	Data analysis
RA4	Finding possible relations between the level of Erasmus+ project leaders' digital competences and their other Competences 4.0 in the context of project sustainability	Data analysis
RA5	Finding possible relationships between the level of Erasmus+ project leaders' digital competences and contextual factors in the context of project sustainability	Data analysis
RA6	Predictive analysis in relation to Erasmus+ project leaders' digital competences	Data analysis
RA7	Formulating conclusions	Data analysis

Source: own elaboration

The questionnaire was distributed during the COVID-19 pandemic and was completed by 990 Erasmus+ project leaders in Poland. It included 70 questions which relate to the assessment of respondents' Competences 4.0, their motivation, engagement, experience, sex, age, institutional affiliation and to some of the characteristic features of their projects such as the budget, number of project partners, etc. These questions fell into the following categories:

- Questions on a Likert scale (from 1 to 5)
 - mainly concerning the assessment of competences.
- Contextual questions concerning the realisation of projects and metric ones relating to age, sex, etc.

- Indicator questions – a set of questions defining one characteristic feature.

It must be noted here that the respondents rated their level of proficiency in subsequent competences based on their own perception.

3. Results and Discussion

After data collection, factor analysis was carried out to define the competences more precisely. The data show that the respondents assessed their digital competences relatively highly with an average score of 4.33 on the five-point Likert scale (Table 2).

Table 2. Distribution of Erasmus+ project leaders' digital competences in percentiles

No. of respondents	990
Average score	4.3316
Median	4.3750
Minimum score	2.06
Maximum score	5.00
Percentiles	
25	4.0000
50	4.3750
75	4.7500

Source: own elaboration

For further analysis, two groups of Erasmus+ project leaders were distinguished: those with the lowest (lowest quartile; N = 220) and highest levels of digital competences (upper quartile; N = 255) respectively, in order to compare how these two groups performed during the COVID-19 pandemic in

relation to the sustainability of their projects. Overall, 21% of the best digital performers suspended or prolonged their Erasmus+ projects, whereas this figure was 29% in the group of the worst digital performers. This observation, which answers the main issue of RA3, is reflected in Table 3.

Table 3. Status of the Erasmus+ project in distinguished quartiles of the opinions of the project leaders on their digital competences

Digital competences	Project status	N	%
Worst digital performers: below the 1 st quartile	Project finished or ongoing	156	70.9
	Project suspended or prolonged	64	29.1
Best digital performers: above the 3 rd quartile	Project finished or ongoing	201	78.8
	Project suspended or prolonged	54	21.2

Source: own elaboration

Having established the above, relationships between the level of Erasmus+ project leaders' digital competences and the levels of their other Competences 4.0 in the context of

the sustainability of Erasmus+ projects needed to be presented and analysed according to RA4.

Table 4. Worst and best digital performers among Erasmus+ project leaders and their other Competences 4.0

Digital competences	Managerial cooperation with people (dimension 1)	Managerial team coordination (dimension 2)	Cognitive pro-activeness, innovation, openness to challenges	Social relations and emotions (dimension 1)	Social adaptability and managing stress during the pandemic (dimension 2)	Maintaining social contacts, cooperation (dimension 3)	Social communication (dimension 4)
Worst digital performers: below the 1 st quartile	3.5614	3.5739	3.6841	3.7236	1.7080	3.7015	3.3942
Best digital performers: above the 3 rd quartile	3.9601	4.1284	4.1686	4.1073	1.8559	4.1190	3.7922

Source: own elaboration

The following conclusions can be drawn from the above results: in both groups, low digital competences correlate with low managerial, cognitive and social competences, while high digital competences correlate with high managerial, cognitive and social competences. The above correlation does not come as a surprise because, as stated above, Erasmus+ projects are typical temporary international organisations of relational and networking character. This means that during the COVID-19 pandemic, which poses challenges in relation to effective cooperation and communication, elements such as (i) managerial competence, understood as cooperation with people and team coordination; (ii) cognitive competence, defined as openness to changes; (iii) social competence, understood as relations, adaptability, the ability to manage stress, maintaining contacts and the ability to communicate, can be compensated for or facilitated by a broadly understood digital competence. Such digital competence provides remedial tools in the case of a breakdown in personal contacts. According to data from RA3 and RA4, digital competence, along with other so-called Competences 4.0 correlated with it, provide a specific protective shield for Erasmus+ project leaders against the negative

effects of the COVID-19 pandemic on international cooperation.

Competences as such do not function in a vacuum, and the assessment of how Erasmus+ project leaders' digital competences facilitate the sustainability of their projects should also be carried out in relation to other contextual factors such as the age of the project leader, sex, work experience, type of institution, the number of partners in a project, the budget of the project as well as the ex-ante assessment of a project during the selection procedure for awarding financial grants. The data retrieved and processed in this respect (RA5) proves that the abovementioned moderators have almost identical distributions in both research groups. However, slight differences were observed. Young leaders and men declared slightly higher digital competences but with no significant relationship to project sustainability.

For a better insight into other possible contextual factors that may have an influence on the sustainability of Erasmus+ projects during the COVID-19 pandemic (RA5), the respondents' answers have been used once again. In Table 5, the distribution of answers in both analysed categories of project leaders have been grouped into contextual factors of the sustainability of the projects.

Table 5. Distribution of answers to the questions on the contextual factors of project sustainability in both categories of Erasmus+ project leaders

Contextual factors of project sustainability	Quartile	Answers	N	%
The effectiveness of projects conducted during the COVID-19 pandemic	Worst digital performers: below 1 st quartile	Question 1: In your opinion, to what extent were the project activities conducted during the COVID-19 pandemic implemented successfully?		
		Maximum of 25%	88	40.0
		Maximum of 50%	53	24.1
		Maximum of 75%	28	12.7
		Between 75% and 100%	51	23.2
	Best digital performers: above 3 rd quartile	Maximum of 25%	93	36.5
		Maximum of 50%	45	17.6
		Maximum of 75%	43	16.9
	Between 75% and 100%	74	29.0	
Quality of management	Worst digital performers: below 1 st quartile	Question 2: Please undertake a self-evaluation and rate your work in general as a project coordinator.		
		3 Sufficient	23	10.5
		4 Good	144	65.5
		5 Very good	30	13.6
		Difficult to say	23	10.5
	Best digital performers: above 3 rd quartile	1 Very poor	1	.4
		3 Sufficient	5	2.0
		4 Good	111	43.5
		5 Very good	114	44.7
		Difficult to say	24	9.4
Quality of management	Worst digital performers: below 1 st quartile	Question 3: Do you have a sense of continuous learning, or do you tend to rely on previously acquired knowledge and skills?		
		Yes, I'm still developing	105	47.7
	Best digital performers: above 3 rd quartile	I'm still developing, but more slowly than I used to	114	51.8
		I have no need for development – I rely on previously acquired knowledge and skills	1	0.5
		Yes, I'm still developing	223	87.5
		I'm still developing, but more slowly than I used to	32	12.5

Contextual factors of project sustainability	Quartile	Answers	N	%
	Question 4: Do you have a planned path for your own development and career?			
Development of human capital	Worst digital performers: below 1 st quartile	Yes, I have a clearly defined path	51	23.2
		Yes, but the path is rather general	122	55.5
		No, I do not currently have such a plan	47	21.4
Adaptability	Best digital performers: above 3 rd quartile	Yes, I have a clearly defined path	132	51.8
		Yes, but the path is rather general	104	40.8
		No, I do not currently have such a plan	19	7.5
	Question 5: To what extent, in your own estimation, are you emotionally and personally involved in the project?			
Emotional engagement		1	1	0.5
	Worst digital performers: below 1 st quartile	2	3	1.4
		3	23	10.5
	Best digital performers: above 3 rd quartile	4	70	31.8
		5	123	55.9
		2	2	0.8
	Worst digital performers: below 1 st quartile	3	6	2.4
		4	47	18.4
	5	200	78.4	

Source: own elaboration

The following conclusions can be drawn from these results:

Firstly, 45.9% of the best digital performers and 35.9% of the worst digital performers stated that their project activities were realised successfully in 75% or more cases during the COVID-19 pandemic. This means that Erasmus+ project leaders with higher digital competences turned out to be more effective in the realisation, management and sustainability of their projects. Consequently, the relationship observed here is that the higher the level of digital competences, the higher the level of effectiveness in terms of project sustainability.

Secondly, the best digital performers perceive themselves as being project better leaders. In the group of the best digital performers, 44.7% of project leaders assessed themselves as being very good, whereas in

the group of worst digital performers, the corresponding figure was only 13.6%. This means that the quality of project management is affected to a great extent by the level of digital competences.

Thirdly, 87.5% of the best digital performers and only 47.7% of the worst digital performers state that they are still developing. Again, this means that there is a relationship between the level of digital competences and the quality of project management as well as the development of human capital within a broader lifelong learning concept. At this point, it is worth making a reference to the latest studies, which stress that future competences including digital ones can only develop effectively within a lifelong learning process (Ehlers and Kellermann, 2019; Ehlers, 2020). These data also prove that the best digital performers adapt better to the external conditions in which their projects func-

tion. This brings the discussion back to the issue of networking and the relational character of modern organisations and the role of flexibility and adaptability that influence project sustainability as described above.

Fourth, the relationship between the level of digital competences and the development of human capital can also be observed in Table 5 where 51.8% of the best digital performers and only 23.2% of the worst digital performers state that they have a planned development path.

Fifth, emotional engagement also turned out to be a significant contextual factor contributing to Erasmus+ project sustainability during the COVID-19 pandemic, since 78.4% of the best digital performers and only 55.9% of the worst digital performers declared the highest level of engagement.

Additionally, predictive analysis in the form of logistic regression was carried out in order to see if the higher levels of Erasmus+ project leaders' digital competences could possi-

bly have any influence on the sustainability of their projects. Accordingly, the underlying question here referred to what relationships could be observed between a dependent binary variable, meaning the successful continuation of a project or the suspension thereof, and an independent variable, which in this case are Erasmus+ project leaders' digital competences. In practical terms, it means checking by what percentage the likelihood of the continuation or suspension of a project decreased or increased if the value of Erasmus+ project leaders' digital competences increases by one – which in relation to the data presented in Table 2 means reaching the maximum value of 5 on the Likert scale used. Firstly, a non-parametric Mann-Whitney U test was used to assess the significance of Erasmus+ project leaders' digital competences as a predictor. Two dimensions of these competences were analysed, namely the use of a computer in everyday work and work with online documents. The results obtained were as follows:

Table 6. Significance of digital competences as a predictor on the basis of a Mann-Whitney U non-parametric test

Dimensions of Erasmus+ project leaders' digital competences	Significance value of the Mann-Whitney U non-parametric test
The use of a computer in everyday work	0.042
Work with online documents	0.246

Source: own elaboration

Since the values obtained and presented in the above table are higher than 0.05, it means that Erasmus+ project leaders' digital competences are insignificant as a predictor in the logistic regression analysis. This means that the parameter $\text{Exp}(B)$, the exponentiation of the coefficients that show the odds ratios for a given predictor cannot be calculated. This also means that even if Erasmus+ project leaders' digital competences reached the maximum value of 5 on the Likert scale used, it would not affect the likelihood of the continuation or suspension of their projects in a significant way. This predictive analysis

treats Erasmus+ project leaders *en bloc* as a group and does not undermine the results presented in RA3, RA4 and RA5 above which show that there are differences in effective performance between low and high performers among Erasmus+ project leaders as far as their digital competences are concerned. This also proves that even if differences in relation to project sustainability between these two extreme groups of Erasmus+ project leaders can be observed, the entire examined population of 990 Erasmus+ project leaders is in fact relatively homogenous as far as the levels of their digital competences are concerned. On

the whole, Erasmus+ project leaders' digital competences are sufficiently high in practice.

Conclusions

In light of the above discussion, all three research questions are answered. However, it must be noted that although the differences between the best and worst digital performers can be observed, the entire research group of 990 Erasmus+ project leaders score relatively high as far as digital competences are concerned. The question arises as to whether even higher digital competences of Erasmus+ project leaders could support or facilitate the sustainability of their projects. The analysis within RA6 proves that Erasmus+ project leaders' digital competences as a whole are high enough to form a protective shield against the COVID-19 pandemic in terms of European transnational cooperation. Potentially higher digital competences among Erasmus+ project leaders would not have a significant impact on the lower proportion of suspended projects.

Secondly, RA3 proves that there is a significant difference in the ratio of suspended Erasmus+ projects of the best and worst digital performers among Erasmus+ project leaders, which form two extreme groups consisting of 255 and 220 project leaders respectively out of an overall total of 990.

Thirdly, such contextual factors as other Competences 4.0, effectiveness, management of projects, and the adaptability and engagement of project leaders also play a role in project sustainability. However, it must also be noted here that some of these factors are also correlated with each other. Adaptability is an integral part of social competence, whereas engagement, which can be manifested in proactiveness, is reflected in cognitive competence. The other reason why it would not be plausible to abstract the discussion on digital competences from other Competences 4.0 is the issue of communication. Effective communication is not only one of the ele-

ments defining social competence, but is also required for effective cooperation and group coordination, which are defining elements of managerial competence.

Finally, it should be stressed again that the use of digital tools for maintaining contacts and cooperation, which turns out to be one of the key factors in sustaining international cooperation projects during the COVID-19 pandemic, proves the assumptions of the modern relational and networking paradigm in management. In this respect, this research provides data in relation to the area which has not yet been researched. Since Erasmus+ projects fulfil the criteria of being organisations, although temporary ones, this research may contribute to the wider discussions on sustainability issues of modern organisations in line with the relational and networking view on management. Accordingly, bearing in mind the research gap described in the introduction to this paper, this analysis together with the research presented in Poszytek (2021a) and Poszytek (2021c) constitute a starting point for the discussion on relations between Competences 4.0 and the sustainability of Erasmus+ projects during the COVID-19 pandemic, fills the research gap in this respect and contributes to the sciences of management and quality. As regards the next steps, the author of this article is planning to carry out longitudinal research to observe the potential dynamics of the phenomenon in question, especially the further development of Competences 4.0 among the existing research group of Erasmus+ project leaders within the broader context of their lifelong learning process as well as the networking and relational character of their activities in relation to the current and future implications of the pandemic. What is more, further research in the field is also needed from the point of view of contributing to the validation of the results already obtained, since the research in question is of an innovative character and to date is only based on declarative answers from the research group.

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