

NON-PROFIT ORGANIZATIONS IN THE CONTEXT OF DIGITAL TRANSFORMATION: RESEARCH RESULTS FROM POLAND

Introduction

Digital transformation is defined as the process of changing how an organization operates by using modern technologies and digital tools. This change aims to improve organizational efficiency; however, not every organization is ready for this process. It is essential first to identify the organization's needs, including human, organizational, financial, and technical capabilities, as well as potential constraints and risks. Successful implementation depends on managers who should both support digital transformation and understand its purpose. This change requires an appropriate approach and an understanding of the importance of the changes being made. Implementing new digital solutions (e.g., in process management or project management) also involves changing how people think and approach their work. Literature emphasizes the importance of first conducting a digital maturity audit of the organization, and then developing a digital strategy to guide the transformation [Dudal, 2023].

The topics addressed in this article concern the use of digital solutions in non-profit organizations and their relationship to organizational performance. Nowadays,

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digital solutions enable more effective implementation of processes and help achieve goals that might otherwise be difficult or impossible to reach. Digital transformation is a process that can bring many benefits to non-profit organizations, especially if it is carried out consciously [Schmeichel-Zarzeczna, 2023]. While digital transformation has been widely studied in the context of business [Thordsen, Bick, 2023; van Deursen, van Dijk, 2019; Schallamo, Williams, 2018; Sebastian et al., 2017], it is rarely discussed in the context of non-profit organizations (NPOs) or in relation to organizational performance.

This research gap supports the need to investigate how digital transformation impacts NPO performance. Consequently, the following research problem is posed: whether and how digital transformation affects NPOs performance. In reference to the identified research problem, two research questions were asked:

- whether the digital advancement of non-profit organizations is lower than in of for-profit organizations, and
- whether the employee's digital skills can influence the performance of non-profit organizations and how digital and technological advancement can support this relationship.

The primary aim of this article is to identify the relationship between employees' digital skills, the level of digital advancement in NPOs' and their organizational performance. An additional objective is to assess the digital advancement of non-profit organizations compared to for-profit ones in Poland. To achieve these objectives, quantitative research was carried out in the last quarter of 2023 among non-profit organizations in Poland. The CAWI method was used, and NPOs were selected based on purposive sampling. The calculations were made using the PS Imago Pro 9.0 and Process macro for SPSS ver. 4.2. The paper is organized into three chapters. The first chapter presents the theoretical background for the study and develops research hypotheses related to the research questions. The second chapter presents the empirical research methodology, sample description, and research results. The third chapter discusses the findings.

1. Theoretical background

1.1. The level of digital advancement in a non-profit organization

Digital transformation is an ongoing, complex endeavor that can significantly shape a company and its operations [Matt et al., 2015]. According to another definition, it is a sustainable transformation of an organization that results from implementing new or improved operations and business models, achieved through the added value resulting from digital innovation, ultimately leading to improved

profitability [Schallamo, Williams, 2018]. The characteristics of digital transformation are the sustainability of the changes being implemented, which affect the processes being carried out, and the desirability of their implementation. In practice, it means the progressive digitization and automation of processes by introducing advanced IT systems, the Internet of Things, data analytics and artificial intelligence [Sysko-Romanczuk, Kluj, 2023]. Organizations recognize the opportunities in digital solutions, often treating them as a catalyst for innovation and an element that allows their business to persist and grow.

In today's dynamic environment, the importance of NPOs being flexible and innovative is highlighted. This is related to the volatility of the environment, which necessitates taking quick decisions and action to meet the emerging needs of the NPO's stakeholders. Therefore, digital transformation can become an important asset for the functioning of non-profit organizations, provided they have sufficient knowledge of the key tools and their applicability. Digital transformation is a complex process requiring a constant search for tools to more efficiently achieve statutory and project objectives. From the point of view of NPOs and the benefits that digital transformation can bring them, it is worth noting the opportunity to use (1) social media and mailing campaigns (reaching out to stakeholders, attracting new members and volunteers and promoting the organization's goals and values), (2) crowdfunding (collecting donations from people all over the world) and (3) technologies for data analytics and process automation (increasing efficiency and effectiveness to solve socially relevant problems, identifying and monitoring current trends and patterns of activity or automating administrative processes to save time and resources).

Research conducted by the Klon/Jawor Association [Charycka, Gumkowska, 2021] indicates a dramatic increase in the use of the Internet by non-profit organizations to communicate with the public. It was noted that between 2002 and 2021, the percentage of organizations about which information can be found on the Internet increased (from 20 per cent to over 90 per cent). This trend means that the majority of NPOs have a website or other type of business card on the Internet. The report emphasizes that this growth runs parallel to the increasing access to and use of the Internet by the whole population, as well as the development and increased use of various types of online applications. Until 2010, an organization's online presence primarily meant having a website. Figures from 2012 show the beginning of the popularity of social media – the use of social media to communicate the organization's activities was then declared by 24% of organizations. Subsequently, the use of social media to communicate the organization with the public has gradually increased. The pandemic conditions of 2020–2021 consolidated the role played by the Internet in the activities of organizations [Charycka, Gumkowska, 2021: 19–20].

Also of note is research conducted in 2020 by the TechSoup Global Network Foundation. They indicate that up to 75 per cent of the non-profit organizations

surveyed experienced significant benefits after investing in and implementing technology. This was primarily related to higher staff efficiency levels. On the other hand, only 22% of the surveyed organizations defined a strategy and timeline for achieving technology readiness.

From the point of view of non-profit organizations, the digital transformation process requires attention to internal values and behaviors relevant to their organizational culture. This approach can help to elucidate, and therefore accelerate, digital transformation. Executives should have a clear vision of the transformation and should communicate it effectively and continuously within the organization and to stakeholders [O'Grady, Roberts, 2019; Nahrkhalaji et al., 2018].

The literature points out that digital transformation has become a key element of modern business. It has ceased to be a trend and has become a necessity. This has been driven primarily by the benefits that companies achieve from it. Despite the increased interest in digital transformation from non-profit organizations, many still are taking minimal or no action. This is due to the fact that NPOs very often take quick decisions about challenges that arise. They then use the technology they need without verifying their long-term goals [TechSoup Foundation, 2022]. The cost of implementing digital solutions is also an issue. Non-profit organizations that are financed mainly by funds raised through specific projects often need more resources to carry out tasks that are not related to the project's objectives. The absence of incentives to increase productivity is characteristic of NPOs [Bartosova, Podhorska, 2021]. According to Cipriano and Za [2023], a small number of NPOs are considered to have already been successful in digital transformation, and the strategic development of digital transformation processes in NPOs still needs to be discovered. It therefore appears that the level of sophistication of commercial actors in the digitization process is higher than that of NPOs. Based on these considerations, research hypothesis H1 was defined.

H1: *The level of digital advancement of non-profit organizations is lower than the level of digital advancement of for-profit organizations.*

1.2. Employees digital skills as a driver of the digital transformation process in non-profit organization

Non-profit organizations are faced with the need to change in the direction of digitizing their management systems. The implementation and skillful use of digital technologies is therefore becoming a condition for development. They make it possible to achieve statutory objectives by, for example, (1) improving communication with stakeholders, (2) increasing business efficiency through data analysis, (3) creating virtual teams (the ability to involve people from outside the organization who can share knowledge and ideas) or (4) making effective use of the resources they have

[Adamczewski, 2018]. Today, information technologies are one of the key determinants of success, in NPOs as well. Their use has a significant impact on the way organizations communicate with stakeholders, the course and quality of the organizational processes and the level of employment. This means that the digital competences of organization's members is one indicator determining the degree of its digitization [Rigby, Bilodeau, 2018]. The nature of NPOs indicates that their slow development of digital technologies is linked to both financial problems, including the prediction of the benefits of their implementation, and a competence gap among managers. Unfortunately, this translates into limitations in investment in digital technologies and limitations in improving the digital competencies of staff and volunteers [Batko, 2019], which in turn results in insufficient knowledge and skills of both managers and employees. Some reasons for the negative attitude towards implementing digital technologies include the age of the people involved in the NPOs (middle-aged and older people predominate) and the limited cooperation between organizations, which otherwise could force NPOs to adapt to more digitized partners [Jemielniak, Przeglasińska, 2020].

NPOs need the ability to efficiently exploit the opportunities that digitization brings. Nowadays, digitization represents an opportunity to remodel the way non-profit organizations are run and to strengthen their innovation potential. It is important to bear in mind, though, that the rapid changes in digital technologies can render knowledge and applied solutions obsolete [Mieszajkina, 2020]. For this process to effectively support non-profit organizations in achieving their statutory goals, and project objectives, it is necessary to ensure that those managing, working, volunteering for and cooperating with these organizations are aware of the possibilities of and conditions for implementing digital solutions [Petruch-Reizes, 2020]. Of these stakeholders, the knowledge and digital competence of managers, in particular, are crucial, as they hold the most significant influence over digital transformation efforts in NPOs [Nahrkalaji et al., 2018]. Currently, beneficiaries, funders and donors are setting their expectations for non-profit organizations, agreeing that a contemporary NPO should be ready to embrace change, including technological change. Therefore, it should improve its processes by using specific information and communication technologies and by emphasizing human capital development. How a non-profit organization functions and whether it can raise funds and achieve its goals depends primarily on the people who work for it and its adaptability to changes in its environment, including technological changes. Based on these considerations, research hypotheses H2a-H2c were defined.

H2(a): *There is a positive relationship between employees' digital skills and digital advancement of a non-profit organization.*

H2(b): *There is a positive relationship between employees' digital skills and technological advancement of a non-profit organization.*

H2(c): *There is a positive relationship between employees' digital skills and the organizational performance of a non-profit organization.*

1.3. Links among digital advancement, technological advancement, and organizational performance in non-profit organizations

According to Nahrkalaji et al. [2018], there is an increasing call for digitalization in NPOs. Digital transformation – understood as the process of introducing digital technologies (devices or systems) into the organization to improve existing processes or potentially transform the business model [Berghaus, Back, 2016], thus changing how organizations operate and deliver value to stakeholders – is a necessity, not a luxury, for NPOs as well. Under the term digital technologies, there is a broad array of solutions, including mobile technologies, cloud computing, blockchain, Internet of Things, robotics, big data analytics, virtual reality, systems based on artificial intelligence (AI). SMACIT acronym (social, mobile, analytics, cloud, and Internet of Things [IoT] technologies) [Sebastian et al., 2017], however, SMACIT cover the full range of possibilities, including emerging technologies yet to be developed. According to Vial [2019: 10], organizations use digital technologies to “alter the value creation paths they have previously relied on to remain competitive”. For NPOs, digital technology can accelerate social impact, simplify communication, and make achieving the organization’s mission more efficient. Nahrkalaji et al. [2018] highlight that digitalization enables NPOs to reduce labor costs by automating manual tasks, personalize and increase transparency of the donation process, build relationship, and raise funds, adopt paperless marketing, or decentralize services. However, despite the growing awareness of digital technology’s potential, fully main streamed deployments of these emerging technologies into NPO’S core operations remain relatively rare [O’Grady, Roberts, 2019].

According to Thordsen and Bick [2023], the status of an organization’s digital transformation is reflected in the organization’s digital advancement (digital transformation maturity), which describes what an organization has already achieved with regard to transformation efforts. A lot of models have recently been developed for assessing the digital transformation of different kinds of organization (e.g., manufacturing, educational, services, or public sector [Ochoa-Urrego, Peña, 2020; Gajsek et al., 2019; Jugo et al., 2017; Kafel et al., 2021]). These models have various dimensions and stages of maturity [Aslanova, Kulichkina, 2020; Gökalp, Martinez, 2021; Ochoa-Urrego, Peña, 2020], which leads to great uncertainty regarding their value for both theory and practice. Digital advancement can be measured both by the intensity of implementation and diversity of applied technical solutions (technological dimension), the universality of their use (widespread), and the scope of

their implementation (i.e., strategic or operational layer). In proposed models, apart from the technological dimension that most models have in common, there are often additional dimensions, such as digital-driven business strategy, organizational culture, leadership, market and governance capabilities, openness to stakeholder's needs, or digital competencies of employees. Nahrkhalaji et al. [2018] note that organizations aspiring to digital transformation maturity need to reinvent their organizational business models, change the culture, improve decision-making, and find the right leadership. Thus, assessment of the organization's progress in the above-mentioned areas is important.

Measuring digital advancement provides management with insight into the level of digital transformation, serving as a starting point for decisions about further developing the organization's digital competences. According to Haryanti et al. [2023], digital transformation can positively impact an organization's productivity and efficiency. Westerman et al. [2014] also provide evidence that firms with higher digital maturity achieve superior corporate performance, while Çallı and Çallı [2021] confirm a positive relationship between digital maturity and firm performance. Although these studies focus on profit-driven organizations, they appear equally relevant to NPOs. Advanced communication tools, such as social platforms, marketing emails, and mobile applications, can help build connections and engage communities. Technologically advanced online fundraising platforms, such as crowdfunding, donation platforms, or online charity events online, can enhance funding sources. A more digitally mature non-profit organization can also more effectively collect, process and analyze data on its activities, donors, and beneficiaries. Moreover, greater digital advancement in NPOs may lead to the introduction of innovative programs, services, or activities that better address specific social issues. All of these achievements and results can be perceived as measures of an NPO's organizational performance. Summarizing the above, the following hypothesis was formulated:

H3a: *There is a positive relation between digital advancement of a non-profit organization and its organizational performance*

In case of NPOs, digital advancement primarily involves embeddedness and widespread use of digital platforms and tools in day-to-day collaboration and fundraising. Digital channels allow NPOs to use social media and email campaigns to reach stakeholders, attract new members, volunteers, or supporters, and promote their goals and values. This is one of the most obvious directions in shaping the digital reality of NPOs. However, increasing NPO effectiveness in addressing socially important issues also relies on using technologically advanced data analysis tools. These tools can provide valuable insights into organizational effectiveness (e.g., tracking and reporting NPOs activities for transparency and support), behavioral patterns of potential donors and beneficiaries, and community needs, which allows for better

decision-making. Digital advancement in NPOs supported by the developed digital skills of employees and volunteers, can have a significant impact on their ability to use advanced technologies. Highly digitally developed organizations typically have a clear digital strategy that defines goals, priorities, and direction for technology development, and what is more important, strong management support (viewed as the most influential drivers of digital transformation [Nahrkhalaji et al., 2018]). Consequently, they can more effectively build partnerships with technology providers and other organizations to create digital ecosystems that support their social goals. The ability to collaborate with software developers or hardware manufacturers creates opportunities for technology donations, which, as noted by O'Grady and Roberts [2019], can overcome one of the primary barriers to digital development in NPOs.

Finally, organizations with high digital advancement are generally more willing to invest in developing the digital competences of their employees. This enables them to better utilize existing and emerging advanced technologies, such as artificial intelligence, data analysis, or blockchain, to achieve their statutory goals. Thus, the digital maturity of an NPO may directly affect its technological advancement compared to other organizations with similar profile. Therefore, the following hypothesis may be formulated:

H3b: *There is a positive relation between digital advancement and technological advancement of the non-profit organization*

Westerman et al. [2014] note that slow adaptation to new digital technologies carries the risk of being left behind. The development of digital technologies should be seen as a market opportunity. NPOs that identify and leverage these opportunities more effectively than others are more successful in securing financial resources. Non-profit organizations perceived as modern and effective, due to their swift adaptation to new digital technologies, may become more attractive to potential donors and sponsors. Greater attractiveness (and ease of fund transfer) can lead to increased funding, enabling a greater social impact. Technological advancement also expands an NPO's reach. For example, through crowdfunding, NPOs can use dedicated online platforms to collect donations from people worldwide. Distance, currency, and language are no longer barriers, allowing funds to be directed toward increasingly ambitious and impactful projects, thereby amplifying social impact.

Interestingly, the use of new digital technologies can build greater social trust in non-profit organizations. It can show that the organization is modern, effective, and responsible, which can contribute to greater social trust and community support. Adapting to new digital technologies faster than others can also make NPOs more competitive in the marketplace. Although the terms "market" or "competitiveness" may seem distant from the specific nature of NPO activities, they too are subject to market dynamics. The effective use of advanced technology tools can help an NPO

stand out within its field, leading to better results and greater social impact. The scope of resources (and goodwill) from society is limited, as numerous fundraisers seek funding and support (e.g. for treatment). Therefore, the ability to reach potential donors is extremely important. In a world of information overload, standing out from others is challenging yet valuable and can lead to better results.

In summary, NPOs can take advantage of the opportunities provided by emerging digital technologies for social good if they adapt to digital advancements faster than similar organizations. The higher the technological advancement of the solutions used in comparison to similar NPOs, the better the expected organizational performance. However, one key question remains: in the context of non-profit activities, where social goals are prioritized over profit, how should the organizational performance of NPOs be measured and evaluated? As NPOs represent many types of organization, including “universities, schools, hospitals, religious institutions, local, state, and federal governments, non-governmental organizations (NGOs), charitable institutions, trade unions, humanitarian aid agencies, foundations, cooperatives, civil rights organizations, political organizations, and parties, and others that include volunteers and the third sector” [Treinta et al., 2020: 2], finding a common, highly detailed set of metrics seems impossible. However, some performance evaluation frameworks can be adopted for NPOs. The most popular of these is the Balanced Scorecard, proposed by R. Kaplan and D. Norton [1996]. Originally created for for-profit organizations with four main perspectives: financial, customer, internal business processes, and innovation and learning, it can be easily redesigned to account for the specific needs of other types of organizations. There is no consensus on the criteria (perspectives) and measures applicable to NPOs. Performance measurement criteria are usually derived from government policy, stipulated by funding organizations or regulators, or developed by NPOs themselves [Moxham, 2009]. Treinta et al. [2020] suggest three main categories for NPO performance measurement: social factors, stakeholder-related factors, and managerial factors, derived from a content analysis of 240 articles related to the field. The latter is especially comprehensive, encompassing two original perspectives: internal processes and innovation and development. Taking the above considerations into account, the following hypothesis was formulated:

H4: *There is a positive relation between technological advancement of the non-profit organization and its organizational performance*

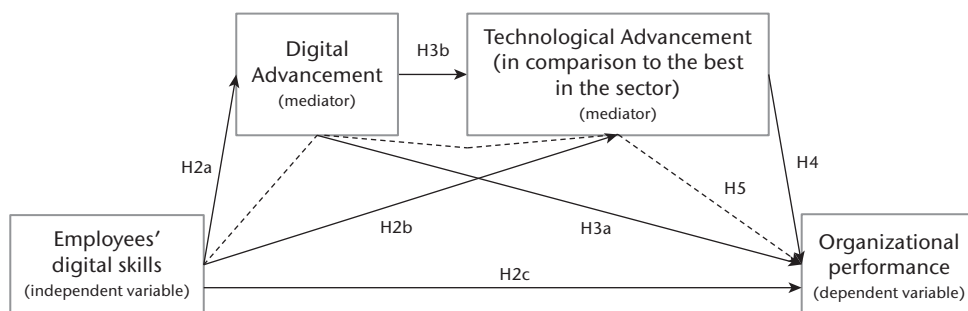
Finally, based on the arguments presented above, it may be stated that the possession of advanced digital solutions (*Digital Advancement*) by NPOs, along with the ability to use existing (and emerging) technological (including digital) solutions more effectively than similar organizations (*Technological advancement*), has the potential to mediate the influence of employees’ digital skills on organizational performance.

Therefore, within the context of the planned research scheme, the following research hypothesis was formulated:

H5: *Employees' digital skills influence organizational performance (indirect effect) through digital advancement and technological advancement*

The diagram illustrating the adopted research hypotheses is presented in Figure 1. Hypothesis 1 concerns the comparison of digital advancement levels between non-profit and for-profit organizations. It serves as a starting point for and the study and is not how in Figure1. Hypothesis 5 is marked with a dashed line.

Figure 1. Employees' digital skills influence on organizational performance through digital advancement and technological advancement



Source: own study.

2. Empirical research methodology and results

2.1. Sample description

The survey was conducted in the last quarter of 2023 using an online survey service: SurveyMonkey among organizations located in Poland. The research presented in this article is part of a larger study focused on identifying mechanisms to shape organizational resilience. The survey was conducted using the CAWI method and targeted the individuals with the broadest possible knowledge of organization functioning (C-level managers, senior or middle managers). Only one anonymous survey was conducted per organization. The research covered organizations of various types. This work focusses only on non-profit organizations, for which 59 valid responses were collected. Although the sample cannot be considered as representative, it is sufficiently diverse to serve as a basis for overall conclusions concerning the given topic. Detailed information on the NPOs surveyed is presented in Table 1.

Table 1. Research sample characteristics

Size of employment		0–9 employees [n]	10–49 employees [n]	Over 50 employees [n]	Sum	
					[n]	[%]
Main market	domestic	4	16	16	36	61.02
	international	2	7	14	23	38.98
Source of ownership	national	6	20	21	47	79.66
	foreign	0	3	9	12	20.34
NPOs Age	up to 5 years	1	6	5	12	20.34
	6–10 years	3	13	8	24	40.68
	11–20 years	1	3	14	18	30.50
	over 20 years	0	1	3	4	6.78

Source: own study.

2.2. Variables overview

The verification of the hypotheses was based on four key variables: *Employees Digital Skills*, *Digital Advancement*, *Technological Advancement* and *Organizational Performance*.

According to van Deursen and van Dijk [2019] and Haryanti et al. [2023], the technological dimension is the initial stage towards digital transformation, however, the people are the ones who initiate and use digital technologies. The variable *Employees Digital Skills* (EDS) describes digital competencies including their understanding of processes digitization, ability to analyze and synthesize data, and proficiency in using various digital tools within the context of the applied business model. This is a single-item variable. Respondents assessed whether staff supporting critical digital functions were best-in-class using a 7-point Likert scale (from ‘strongly disagree’ to ‘strongly agree’ with the midpoint ‘neither agree nor disagree’).

In this paper, the focus on technology use and its embeddedness within the organization’s strategic and operational processes (3 items), which was taken to assess *Digital Advancement* (DA) of non-profit organizations. A three-item scale was derived from A. Rossmann [2018]. Referring to specific statements, respondents evaluated the level of digital advancement within their organization using a 7-point Likert scale (from ‘strongly disagree’, including a low level of solution advancement, to ‘strongly agree’, which corresponded to a high level of solution advancement, with the midpoint ‘neither agree nor disagree’).

The variable *Technological Advancement* (TA) was based on three dimensions valuated in comparison to the best organizations in the sector concerning service provision technology (which, in the case of non-profit organizations, may include software used in project management and implementation), information and communication technologies, and purely digital technologies (such as mobile, analytical,

or cloud technologies). Respondents rated the level of technological advancement in each of these dimensions using a 7-point Likert scale (from ‘definitely lower’ to ‘definitely higher’, with midpoint ‘comparable’).

Organizational Performance (OP) was measured based on the Balanced Scorecard concept [Kaplan, Norton, 1996], adapted to the specificity of non-profit organizations. This framework allows for multiple measures across evaluator-defined dimensions. Typically, four dimensions are taken into account: financial performance, internal business processes, customer perspectives, and innovation and learning. However, in this study, given the mission-focused nature of the organizations studied rather than profit generation [Gee et al., 2023], the financial performance dimension was omitted and the stakeholders’ perspective was used instead of the customer’s perspective. Finally, six measures of organizational performance were indicated across three adopted perspectives. These measures were rated on a 7-point Likert scale compared to the performance of the best organization in a sector (from “definitely worse” to “definitely better” with the midpoint: “comparable”).

2.3. Descriptive statistics and reliability analysis of scales

As a first step in the analysis, exploratory factor analysis was performed for all tested variables using SPSS v. 29. For each variable, the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) was greater than 0.6, indicating that sampling was adequate and that factor analysis was appropriate for the data [Williams et al., 2010]. The Bartlett’s test of sphericity was used to assess the adequacy of the correlation matrix, with a significant value ($p < 0.05$) suggesting that factor analysis was worthwhile for this dataset [Williams et al., 2010]. Kaiser’s criterion was used to determine the number of initial unrotated factors to be extracted, and all factors with loading values below 0.5 were extracted. For each variable, the total variance explained by the retained factors was above 0.5. Next, the internal consistency of responses for all variables used in the research was assessed. For each tested variable, Cronbach’s α was over 0.7, which indicates a high internal reliability of the scales and measurements. The average variance extracted (AVE) value for DA, TA, and OP were 0.60, 0.64, and 0.59, which was above requested 0.5 [Shrestha, 2021], and confirms the convergent validity. The composite reliability (CR) values for DA, TA and OP, were 0.88, 0.84, and 0.85, which was above requested 0.5 [Shrestha, 2021], supporting the internal consistency in scale items. The results of the Cronbach’s alpha analysis, along with descriptive statistics, are presented in Table 2.

Table 2. Defined variables and results of the reliability analysis of scales

Variable	No. of items	Cronbach's Alpha	Total Var. Explained (%)	M	S.D.	KMO	Bartlett's Test of Sphericity
EDS	1	-	-	4.337	1,392	-	-
DA	3	0.722	64.34	4.289	1.167	0.679	$\chi^2=33.599$; $df=3$, $p < 0.001$
TA	3	0.710	63.54	4.191	1.224	0.644	$\chi^2=34.733$; $df=3$, $p < 0.001$
OP	6	0.840	56.15	4.503	1.188	0.792	$\chi^2=156.622$; $df=15$, $p < 0.001$

Source: own study.

2.4. Evaluation of the level of Digital Advancement of non-profit organizations in Poland

As was already mentioned, the research presented in this paper is part of a broader study. In addition to non-profit organizations, the original research sample also includes for-profit organizations ($N = 179$). These represent various types of organizations (manufacturing – 27.93%, trade – 36.31% and service – 35.76%), are of different sizes (micro – 12.92%, small – 28.65%, medium – 32.02%, and large – 26.40%), and operate in both domestic (59,22%) and international (40.78%) markets. They served as a reference point for examining the level of digital maturity of non-profit organizations. Due to large disproportions in sample size (non-profit vs. for-profit) and the violation of the normality for the distribution of the examined variable ($K-S(238) = 0.065$; $p = 0.016$; skewness = -0.436 , SE skewness = 0.158 ; kurtoses = 0.428 , SE kurt. = 0.314), the non-parametric Mann-Whitney U test was chosen to test differences between the independent groups of non-profit and for-profit organizations. Additionally, to assess the effect size, the Glass biserial rank correlation coefficient (r_g) was calculated. Their results are presented in Table 3.

Table 3. Correlation analysis results –Mann-Whitney U test and Glass biserial rank correlation coefficient

	Organization type	n	Mean rank	M	SD	Mann -Whitney U test	p-value	r_g
Digital Maturity	non – profit	59	96.42	4.301	1.11	$U(238) = 3918.5$	0.003	0.258
	for – profit	179	127.11	4.796	1.18			

Source: own study.

The results show that the level of digital maturity was lower in non-profit organizations. The Mann-Whitney U test showed that the differences between the groups were statistically significant ($U = 3918.5$; $p = 0.003$), though the size effect, according to Prajzner [2022], was weak ($r_g = 0.258$). Therefore, hypothesis H1 can be accepted.

2.5. Mediation analysis

Building the mediation model was the next step of the investigation. Baron and Kenny [1986] indicated three conditions that must be met to establish such a model: a significant relationship between independent variable and mediator (1), a significant relationship between dependent variable and the mediator (2), and a reduction in the strength of the relationship (indicating partial mediation) or disappearance of the statistically significant relationship (indicating full mediation) between the independent variable and the dependent variable when controlled by the mediator (3). The r-Pearson correlation analysis was performed to verify the first two conditions, and to test hypotheses H2a, H2b, H2c, H3a, H3b, and H4. Their results are presented in Table 4.

Table 4. Correlation analysis between analyzed variables

		Digital Advancement (DA)	Technological Advancement compared to the best in the sector (TA)	Organizational Performance (OP)
Employees digital skills (EDS)	r	0.557**	0.306*	0.495**
	Sig.	<0.001	0.019	<0.001
	N	59	59	59
Digital Advancement (DA)	r	1	0.568**	0.756**
	Sig.	-	<0.001	<0.001
	N	59	59	59
Technological Advancement compared to the best in the sector (TA)	r	0.568**	1	0.728**
	Sig.	<0.001	-	<0.001
	N	59	59	59

* correlation is significant at a level of 0.05 (two-sided)

** correlation is significant at a level of 0.01 (two-sided)

Source: own study.

The obtained results showed that there is a statistically significant, positive, and high correlation between all analyzed variables and the highest between *Digital advancement* and *Organizational Performance*. It allows for the acceptance of the hypotheses of H2a, H2b, H2c, H3a, H3b, and H4. This is a gateway to further steps in the research procedure and enables to verify the mediation model (built for *Employees Digital Skills* as independent variable, *Organizational Performance* as dependent variable, and the *Digital Advancement* and *Technological Advancement* as the mediators). To calculate it, Process macro for SPSS Version 4.2 of Andrew F. Hayes was used. The results of the analysis are presented in Table 5 and Figure 2.

Table 5. Digital Advancement and Technical Advancement as the mediators of the relation between Employees' Digital Skills and Organizational Performance in non-profit organizations

Model description	Delta R ²	Mediator Coeff.	Standard error	t Stat	P Value
EDS dependent v.: DA	0.3106	0.4672	0.0922	5.068	<0.001
EDS DA dependent v.: TA	0.3229	-0.0135 0.5898	0.1135 0.1354	-0.119 4.356	0.214 <0.001
EDS DA TA dependent v.: OP	0.7159	0.0923 0.4442 0.4260	0.0719 0.0992 0.0846	1.284 4.476 5.033	0.205 <0.001 <0.001
Mediation model	INDIRECT EFFECT VALUE		BOOT LLCI	BOOT ULCI	
EDS DA dependent v.: OP	0.2075		0.0771	0.3290	
EDS TA dependent v.: OP	statistically insignificant				
EDS DA TA dependent v.: OP	0.1174		0.0362	0.2495	

Source: own study.

The research results obtained show that the regression model built with mediators is valid and statistically significant ($F(3,55) = 46.195$; $R^2 = 0.716$; $p < 0.001$). Both digital advancement and technical advancement are statistically significant mediators within the model. In the presence of these mediators, the direct relationship between *Employees' Digital Skills* and *Organizational Performance* disappears; however, *Digital Advancement* as the more impactful mediating variable. Summarizing, hypothesis H5 is supported by the overall results.

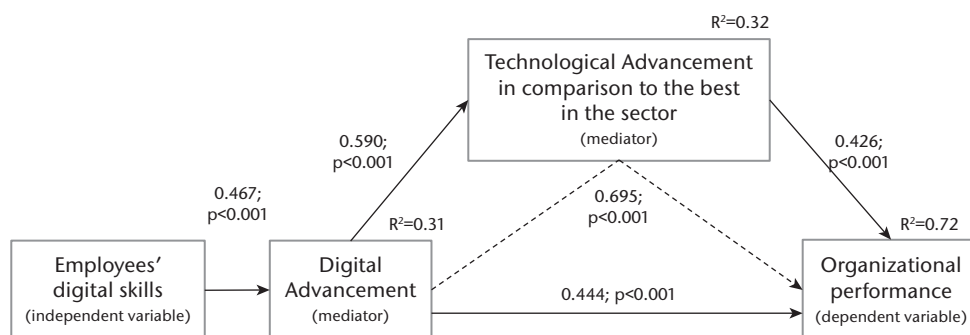
3. Discussion

The main purpose of this study was to answer to two main research questions:

- whether the digital advancement of non-profit organizations is lower than in for-profit organizations, and
- whether the employee's digital skills can influence the performance of non-profit organizations, especially through digital advancement and technological advancement.

The research results provided positive answer to both research questions. As was supposed, the digital advancement of non-profit organizations is lower than that of for-profit organizations; however, it significantly affects organizational performance of non-profit organizations. Additionally, it serves as a mediating variable that removes the direct relationship between *Employees Digital Skills* and *Organizational Performance*, indicating full mediation in this part of the model (Figure 2 – only statistically significant relationships are presented here).

Figure 2. Influence of employees digital skills on the organizational performance through digital advancement and technical advancement –research results in non-profit organizations.



Source: own study.

The obtained results showed that the level of digital advancement is lower in non-profit organizations, however, the size effect is weak. To achieve their statutory goals, NPOs obtain funds for the implementation of particular projects. Capital donors, especially when public funds are involved, expect that the funds will be spent in accordance with the project objectives. According to O'Grady and Roberts [2019], they want charities to be transparent, maximize the proportion of donated funds spent on service delivery, and minimize administrative costs, including technology expenditure. Hence, the funding model is not conducive to long-term investments in technology infrastructure modernization. Another problem is the lack of specialists with appropriate digital competences, as well as the varying level of acceptance of new technologies and the ability to use them among both the organization's management and a wide range of volunteers. The research of O'Grady and Roberts [2019] showed that there is a strategic imperative for the sector to modernize. Therefore this difference may be expected to diminish in the near future. A great opportunity here can be seen in the diffusion of knowledge, facilitated by employees and collaborators, as well as the 'competence volunteering' typical of NPOs. The research showed that digitally skilled employees (and volunteers) are key drivers of digital solution advancement. This aligns with Nahrkhalaji's et al. [2018: 1248] observation that "in addition

to technological resources that are required to ensure a digital transformation, there is also a significant need for people with skills with different digital technologies”. Thus, developing or sourcing employees, collaborators, or volunteers with new digital capabilities and skills is of great importance.

The impact of the pandemic, which accelerated the need to implement digital solutions, is also worth noting. This shift forced many non-profit organizations to modify their operations, with an increased introduction and use of different communication platforms and applications to support projects or fundraising. These tools have made it possible to reach both those in need and supporters [Fundacja TechSoup, 2022], and they were well received. Additionally, Nahrkhalaji et al. [2018] confirm that beneficiaries, donors, volunteers, and NPO members show significant willingness to use digital solutions. Of all types of organizations, non-profits have felt the strongest need for – and benefit from – introducing these technologies. NPOs can gain not only from using digital technologies, but also from doing so more effectively than others. Research shows that digital maturity can influence non-profit performance through technological advancement, through the effect here is weaker than expected. Digital transformation brings new patterns of competition and collaboration, and the ability to navigate the complexities and uncertainties that arise from these changes is essential. However, the availability of digital (technological) resources remains crucial.

The rate of digital uptake is currently very high. This may soon result in the equalization of digital solutions between NPOs and the business sector. One reason for this could be collaboration between NPOs and IT companies that can support the former in areas such as fundraising processes or establishing sustainable relationships with stakeholders. Such collaborations can help achieve statutory goals by streamlining processes and providing tools that support project implementation or overall activities of the NPO [O’Grady, Roberts, 2019; Nahrkhalaji et al., 2018]. Aspects of artificial intelligence (AI) are also worth noting. Due to ever-changing societal challenges and expectations for innovation and flexibility in addressing them, non-profit organizations are likely embrace AI solutions. These tools can help identify new areas of activity, support needs analysis, automate certain processes, and improve communication. For this to succeed, it is important to recognize the value of AI in NPOs’ social activities and to accept that digitization will only partially replace human engagement. However, this requires a skillful combination of understanding the social needs and technological competence [4NGOs, 2023]. So-called competence volunteering can serve this purpose. In this form of cooperation, IT professionals offer their specialist skills and knowledge, helping NPOs implement and use modern digital solutions or solve specific problems related to their professional experience or field of study. This collaboration provides an opportunity to increase the use of digital tools in NPOs. In addition, working with IT specialists can help develop processes and increase efficiency [National Employee Volunteering Survey, 2019].

Conclusion

The aim of this article was to expose issues related to the use of digital solutions in non-profit organizations. The research results indicate that these organizations, influenced by their environment, are leveraging digital solutions in their work. Digital technologies facilitate communication with their environment, promote specific values and support fundraising, thereby positively impacting organizational performance. Although non-profits use these technologies to a lesser extent than businesses, there are signs that this disparity will narrow. There is a noticeable imperative to modernize the third sector, and these disparities may decrease as knowledge about available solutions diffuses and the skills necessary to apply them spread. The potential opportunities for applying digital solutions are very high in non-profit organizations. However, an important constraint remains the lack of required funding. Increasing technology donations could help address this issue to some extent, as could establishing partnerships with the IT sector. Sharing knowledge and expertise, and providing specific tools can help NPOs to achieve their social goals and streamline many processes. This type of partnership can transform how NPOs operate and deliver value to their stakeholders. The above considerations contribute to the discussion on the importance of digital transformation in non-profit organizations. However, they have some limitations, which mainly relate to the size of the research sample and the approaches adopted to measure the sophistication of digital solutions and organizational performance.

This research area is worth pursuing further by expanding the research sample and focusing on the problems and the challenges NPOs face in adopting digital solutions. The importance of leadership in the digital transformation process as well as the need for strategy and cultural change, is also worth exploring. The research findings can be further developed and may provide helpful guidance for those responsible for managing non-profit organizations.

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NON-PROFIT ORGANIZATIONS IN THE CONTEXT OF DIGITAL TRANSFORMATION: RESEARCH RESULTS FROM POLAND

Abstract

The article discusses the issue of digital transformation of non-profit organizations (NPOs). Despite increasing interest in digital transformation within the non-profit sector, few organizations actively pursue initiatives in this area. The purpose of this article is to examine 1) the level of digital advancement of non-profit organizations compared to for-profit

organizations in Poland, and 2) the mediating role of digital and technical advancement in the relation between digital skills of employees and organizational performance in a non-profit organization. To achieve this objective, quantitative research was carried out in the last quarter of 2023 among non-profit organizations in Poland. The CAWI method was used, and NPOs were selected using purposive sampling. The calculations were made using the PS Imago Pro 9.0 and Process macro for SPSS ver. 4.2. The results showed that the level of digital maturity remains lower in non-profit organizations, the effect size is weak, suggesting that this difference may disappear in the future. Moreover, it was found that employees' digital skills positively affect the organizational performance of non-profit organizations, with digital and technical advancement mediating this relationship. Of the two mediators, digital advancement plays a more significant role.

KEYWORDS: NON-PROFIT ORGANIZATIONS, DIGITAL TRANSFORMATION, EMPLOYEES' DIGITAL SKILLS, DIGITAL ADVANCEMENT, ORGANIZATIONAL PERFORMANCE

JEL CLASSIFICATION CODES: L31, L86, M15

ORGANIZACJE NON-PROFIT W KONTEKŚCIE TRANSFORMACJI CYFROWEJ: WYNIKI BADAŃ Z POLSKI

Streszczenie

Artykuł porusza problematykę transformacji cyfrowej organizacji non-profit (NPO). Mimo zwiększonego zainteresowania transformacją cyfrową ze strony organizacji non-profit, wskazuje się, że niewiele z nich podejmuje jakiekolwiek działania w tym obszarze. W tym kontekście celem artykułu jest: 1) zbadanie poziomu zaawansowania cyfrowego organizacji non-profit w Polsce w porównaniu do organizacji nastawionych na zysk oraz 2) weryfikacja, czy zaawansowanie cyfrowe i techniczne (na tle konkurencji) są mediatorami relacji między umiejętnościami pracowników w zakresie posługiwania się technologiami cyfrowymi i rezultatami osiąganymi przez organizacje non-profit. Dla osiągnięcia celu pracy przeprowadzono badania ilościowe w organizacjach non-profit zlokalizowanych na terenie Polski. Badania przeprowadzono w drugim kwartale 2023 r., wykorzystując metodę CAWI. Obliczenia wykonano przy użyciu programu PS Imago Pro 9.0 oraz makra Process dla SPSS ver. 4.2. Uzyskane wyniki pokazały, że poziom dojrzałości cyfrowej w organizacjach non-profit jest w dalszym ciągu niższy w porównaniu do organizacji nastawionych na zysk, jednak różnica jest niewielka i można oczekiwać, że w przyszłości zaniknie. Co więcej, udowodniono, że

umiejętności cyfrowe pracowników wpływają na rezultaty uzyskiwane przez organizacje non-profit, a zaawansowanie cyfrowe i techniczne organizacji (na tle konkurencji) pośredniczą w tej relacji. Spośród dwóch mediatorów ważniejsze jest zaawansowanie cyfrowe organizacji.

SŁOWA KLUCZOWE: ORGANIZACJE NON-PROFIT, TRANSFORMACJA CYFROWA, UMIEJĘTNOŚCI CYFROWE PRACOWNIKÓW, ZAAWANSOWANIE CYFROWE, EFEKTYWNOŚĆ ORGANIZACJI

KODY KLASYFIKACJI JEL: L31, L86, M15

