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Which Digital Transformation Strategy for Non-profit Organisations

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WHICH DIGITAL TRANSFORMATION STRATEGY FOR NON-PROFIT ORGANISATIONS?

Research Paper

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Abstract

Scholars largely debate digital transformation (DT) initiatives in several organisational contexts and consider multiple aspects. Some scholars develop DT strategies providing frameworks to support researchers, practitioners, policymakers, and IT specialists in governing DT initiatives. However, from the industries perspective, only a few studies discuss DT focusing specifically on non-profit organisations (NPOs). The interest in investigating DT in NPOs derives from the way how NPOs strive to reach their objectives, which often differ significantly from those of public and for-profit firms. Then, our aim is twofold: (i) developing a meta-synthesis of the literature discussing DT initiatives in NPOs identifying characteristics and strategy traits and (ii) proposing a taxonomy framework focused on DT in NPOs comparing it with the DT strategies framework unfocused on any particular industry. This research contributes to explore the discourse of DT in NPOs, stressing industries-based aspects and proposing a further lens of analysis of DT phenomena.

Keywords: Digital Transformation Strategy, Non-profit Organisations, Meta-synthesis, Taxonomy-based Framework.

1 Introduction

In the last decades, Digital Transformation (DT) in organisations represents a topic broadly debated in the literature, analysing multiple aspects, such as motivation, implication or policy (Legner et al., 2017; Muehlburger et al., 2019; OECD, 2019), and considering different organisational sizes as well as business sectors (Depaoli et al., 2020; Westerman et al., 2011). Among other factors, the strategy leading DT initiatives represents a key issue for successfully implementing the resulting organisational change (Chong and Duan, 2020; Hanelt et al., 2021). Some scholars argue that every organisation could develop a digitalisation strategy that fits with its strategy and resources (Kamm et al., 2021).

In this perspective, DT strategies represent a central concept unfolding an integration and consolidation of different strategical levels, essential for the organisational design of DT processes (Matt et al., 2015). DT strategies enable firms to coordinate, prioritise and implement DT initiatives (Chanias and Hess, 2016). Specifically, such initiatives are often recognised as technology-related phenomena (Wessel et al., 2021) aimed at fostering organisational change (Clohessy et al., 2017; Heilig et al., 2017) or further developing business opportunities (Desmet et al., 2015; Ferraris et al., 2019; Nwankpa and Roumani, 2016).

Moreover, the broad interest in DT strategies is evidenced by much research (Markus and Rowe, 2021) adopting different perspectives (Bharadwaj et al., 2013; Hausberg et al., 2019; Teubner, 2013), exploring industry-related implications (Chanias et al., 2019; Wiesböck et al., 2017), also developing theoretical frameworks and maturity models (Matt et al., 2015; Thordsen and Bick, 2020; Wessel et al., 2021). In particular, Matt et al. (2015) argue certain common elements, regardless of industries or

specific organisational forms, which seem relevant for assessing every DT strategy. These elements originate a DT framework by representing four dimensions of DT strategies: use of technologies, changes in value creation, structural changes, and financial aspects (Matt et al., 2015).

However, while public and private organisations are largely considered in exploring DT initiatives and relative strategies (Dang and Vartiainen, 2019; Liere-Netheler et al., 2018), the non-profit organisations (NPOs) seem still under-investigated (Westerman et al., 2011). The empirical evidence based on NPOs, in fact, rarely emerges between the several studies discussing how to strategically design, manage and govern DT initiatives (Tekic and Koroteev, 2019; Warner and Wäger, 2019). Whereas some scholars focus on SMEs (Trenkle, 2020), large scales companies (Hess et al., 2016), or governmental institutions (Hofmann et al., 2019), NPOs seems to be ignored. Thus, one reason could be identified in the many theoretical and methodological difficulties related to the unique nature of NPOs, which typically limit the development of research in this specific organisational form (Herman, 1990). Also, a difficulty is to have a clear classification of the forms and activities of the non-profit sector (NPS) worldwide due to the different set of ideological and cultural connotations we may have in each country, depending on their historical and political roots (Corry, 2010; Evers and Laville, 2004). Moreover, the way how NPOs seek to reach their objectives often differ significantly from those of public and for-profit firms (Bekkers and Wiepking, 2011; Hansmann, 1981). Although NPOs might operate like any other organisation, it seems that too little attention is given to their *raison d'être*. That is, NPOs usually reinvest their profits to pursue social utility aims (Bois et al., 2003), and they offer collective goods and services for mutual benefit or charitable purposes (Steinberg and Powell, 2006). Accordingly, NPOs might have unique business aims, leadership, organisational culture, target stakeholders, funding and resources operability. Then, considering that the “non-distributional constraint” is the root of theorising why NPOs exist (Taylor, 2010), we guess that NPOs usually operate on different basis respect other organisational forms, and belief this peculiarity could further represents some stimuli and effects of DT initiatives.

Nowadays, NPOs should develop DT initiatives to serve society, considering the broad-scale changes enabled by the pervasiveness of digital technology, also covering new roles requiring the exploitation of digital capabilities (McNutt et al., 2018). As DT strategies could support NPOs for facilitating their innovation, providing organisational flexibility (Nicholson et al., 2021), and generating additional social and economic value (Madon and Schoemaker, 2021), we question: can it be possible to develop NPOs' DT strategies adopting the insights resulting from other organisational forms? For this reason, the purpose of this paper is to contribute to the debate concerning DT in the context of NPOs. Our aim is twofold: i) to develop a meta-synthesis, proposing a taxonomy, of the literature strictly discussing DT initiatives in NPOs recognising characteristics and strategy traits and ii) to compare our proposed taxonomy framework with the DT strategies framework (industry-independent) by Matt et al. (2015).

In performing a meta-synthesis (Leary and Walker, 2018) we develop a taxonomy identifying a proper set of dimensions and related values by adopting a conceptual and empirical analysis as suggested by Nickerson et al. (2013). We classify our dataset composed of selected articles discussing DT initiatives in NPOs, assigning one single value to each paper for every dimension. Afterwards, considering our research question, we propose a comparison between our taxonomy-based framework and the DT framework suggested by Matt et al. (2015) concerning strategies, recognising prospective connections and differences between two frameworks. Finally, we introduce a novel lens of analysis identifying some stimuli and effects on the basis of two levels, the organisational and the technological one.

Ultimately, this study seeks to integrate the taxonomy development process (Nickerson et al., 2013) into the concept of meta-synthesis (Hoon, 2013). So, this work would contribute to both practical and scientific utility, in the words of Corley and Gioia (2011). From a theoretical perspective, our taxonomy provides mutually exclusive values, which could be useful in classifying the characteristics of the DT debate in NPOs. From a practical point of view, the sets of values of the taxonomy could be useful for NPOs' managers, decision-makers and IT specialists in supporting the development of a DT initiative. Considering that multiple values could be combined for analysing DT initiatives concerning a specific NPO, more than one value of each dimension might be relevant in assessing and designing a tailored DT strategy.

The next section reviews the relevant theoretical underpinnings. In the methodology section, we summarise the approach adopted to develop the taxonomy. Afterwards, we provide the proposed taxonomy-based framework describing each dimension and related set of values. The last section offers the comparison between the two frameworks, highlighting the main traits concerning DT strategies for NPOs. Discussion and conclusions close the paper.

2 Theoretical Framework

Among other definitions of DT, Vial (2019) presents DT as a process which purpose is to improve an entity, such as a process or a business unit, or other organisational elements. According to Vial, such process usually triggers significant change to the properties of the involved entity by combining information, computing, communication and connectivity technology (Vial, 2019). Other scholars generally recognise DT as an IT-driven phenomenon (Chanias, 2017; Legner et al., 2017; Liere-Netheler et al., 2018), which often implies the adoption of digital technologies (Clohessy et al., 2017; Heilig et al., 2017). Accordingly, every organisation intending to foster a DT initiative must carefully assess its digitalisation process, especially considering the consequences that it might produce to the organisational system itself (Wessel et al., 2021). In some cases, it might involve organisational resources, business processes, people and their interactions (Carillo et al., 2017; Hess et al., 2016; Kane et al., 2017; Li et al., 2017; Piccinini et al., 2015), sometimes it might lead to reshaping the organisational structure (Berman, 2012; Demirkan et al., 2016; Resca et al., 2013; Wiesböck and Hess, 2020). For this reason, the strategy driving DT initiatives represents a key issue for successfully implementing the resulting organisational change (Chong and Duan, 2020; Hanelt et al., 2021) as well as for supporting a company in governing such transformation (Hess et al., 2016; Kamm et al., 2021).

Focusing on this stream of research, it appears that scholars investigate DT strategies by using different and, in some cases, ambiguous terms for referring to similar concepts (Dang and Vartiainen, 2019). Some of them adopt a technology-centric approach (Teubner, 2013) or a business-centric perspective (Matt et al., 2015). Moreover, some researchers suggest a paradigm of business-IT alignment as a “digital business strategy” (Bharadwaj et al., 2013), while some others debate DT strategies focusing on how to implement DT initiatives in practice (Chong and Duan, 2020). Also, Muehlburger et al. (2019) argue that the purpose of the “digital business strategy” is to recognise IT as a prerequisite for innovation and competitiveness. El-Telbany et al. (2020) define “digital strategy” as a construct that aims to set a clear objective, vision and strategy necessary in pursuing DT initiatives. In contrast, Ross et al. (2016) state that a “digital strategy” aims to produce unique and integrated business capabilities, that is, a business strategy tailored to accessible and powerful technologies.

In this roadmap for DT strategies development, other scholars attempt to promote guidance on certain strategic and procedural aspects (Chanias and Hess, 2016; Hess et al., 2016; Wiesböck et al., 2017). One useful contribution is represented by Matt et al. (2015), who introduce a novel concept inspired to coordinate, prioritise, and implement firms’ DT initiatives by looking at integration and consolidation of different strategical levels. Matt et al. (2015) debate certain common elements, regardless of industries or specific organisational forms, which seem relevant for assessing every DT strategy. These elements originate a DT framework by representing four dimensions of DT strategies: use of technologies, changes in value creation, structural changes, and financial aspects (Matt et al., 2015). Moreover, those dimensions seem significantly useful since several scholars adopt or adapt the DT framework by Matt et al. (2015) for analysing DT strategies in different industry or organisational forms. For example, some of them focus on SMEs (Trenkle, 2020), large scales companies such as the automotive industry (Chanias and Hess, 2016; Jöhnk et al., 2020), the insurance industry (Wiesböck et al., 2017), media companies (Hess et al., 2016), or financial services provider (Chanias et al., 2019).

However, focusing on industries and organisational forms, although public and private sectors are largely considered by the scholars in exploring DT initiatives (Hofmann et al., 2019; Muehlburger et al., 2019; Selander and Jarvenpaa, 2016), the non-profit organisations (NPOs) seems still under-investigated (Westerman et al., 2011). This is particularly true since the means through which NPOs strive to reach their objectives often differ significantly from those of public and for-profit firms

(Bekkers and Wiepking, 2011; Hansmann, 1981). Furthermore, to focus specifically on NPOs, it is noteworthy to firstly claim that scholars define the non-profit sector (NPS) using distinct ideological, cultural, and political connotations in different countries (Herman, 1990; Maier et al., 2016; Mirabella et al., 2007). In particular, the proliferation of blurring concepts and puzzling entities involved in the non-profit activity makes unclear the boundaries among its supposed constituent and stakeholders (Corry, 2010; Defourny and Pestoff, 2014; Salamon and Anheier, 1997; Taylor, 2010). Although NPOs represent the “common core” of the NPS, it should be noticed that not the whole of involved entities are institutionally constituted as an NPO (Knutsen, 2016; Salamon and Sokolowski, 2016).

Salamon and Sokolowski (2016) re-conceptualise the NPS taking into account different organisations such as NPOs, mutual and cooperatives, social enterprises, and human actions (as volunteering or unpaid participation in demonstrations and social movements). According to Salamon and Sokolowski (2016), an NPO is recognised as an (a) Institution (or organisation that could be either formally or legally formed or not), (b) Private (institutionally separated and not controlled by the government), (c) Self-governing (able to control its activities without the operational control by any other entity, private, or governmental), (d) Non-profit-distributing (a legal prohibition is placed on any organisation’s constituents or other stakeholders from receiving any quota of the surplus generated by the organisation’s activities), and (e) Without compulsion, in which any participation with the organisation have to be voluntary as a matter of free choice (Salamon and Sokolowski, 2016). Therefore, this definition of NPO (adopted for this study) only applies to those organisations whose organisational features fulfil such five characteristics (Knutsen, 2016).

Then, the many theoretical and methodological difficulties related to the unique nature of NPOs could perhaps limit the development of DT research in this specific organisational form (Herman, 1990), as well as the still debatable classification of the forms and activities of the NPS worldwide (Salamon and Sokolowski, 2016). Moreover, this lack seems also to be confirmed by several studies that provide empirical evidence concerning how to strategically design, manage and govern DT initiatives, ignoring NPOs (Tekic and Koroteev, 2019; Warner and Wäger, 2019). However, there could be several reasons requesting the investigation of DT initiatives in NPOs. That is, NPOs usually differ from other organisational forms since they must reinvest their profits to pursue social utility aims (Bois et al., 2003), and they must offer collective goods and services for mutual benefit or charitable purposes (Steinberg and Powell, 2006). Then, NPOs are worthing in their role to build civil society, in strengthening common well-being, social capital, and economic development (Nahrkhalaji et al., 2019). Also, NPOs seem significantly relevant for many communities due to their social and economic impact in addition to providing helpful services (ibid). Considering such a *raison d’être*, NPOs might foster DT initiatives for facilitating their innovation, providing organisational flexibility (Nicholson et al., 2021), and generating additional social and economic value (Madon and Schoemaker, 2021). In particular, DT initiatives might serve NPOs especially when they need to operate under unexpected events such as the COVID-19 pandemic. As several organisations usually involved through these challenges are effectively NPOs (Barhate et al., 2021; Hu et al., 2020), they might conveniently employ digital technology to collect and manage relevant information regarding the unexpected event in a timely and appropriate manner.

Moreover, although the shortage of funds, expertise or time prevent NPOs from taking full advantage of digital technologies, NPOs adopt different ICT tools for organisational, managerial and control functions (McNutt et al., 2018). Some NPOs exploit digital-based communication using digital platforms and social media to interact with their stakeholders (Guo and Saxton, 2014; Nah and Saxton, 2013). Some others serve susceptible social categories by publicly funded social services through public/non-profit service networks (Van Puyvelde and Raeymaeckers, 2020). Thus, NPOs might strategically develop DT initiatives to serve society, considering the broad-scale changes enabled by the pervasiveness of digital technology, also covering new roles requiring the exploitation of digital capabilities (McNutt et al., 2018). Therefore, NPOs operating in our digital era seem to be required to innovate their processes, roles, services, structures or dynamics in response to current customer demands and lifestyles, reinforcing their relationship with individuals and society.

The following section describes the specific research protocol we developed for this contribution.

3 Research Method

To perform a meta-synthesis, this study seeks to develop a taxonomy to identify key variables and relationships that synthesise how DT initiatives in the NPOs are debated in the literature (Hoon, 2013). Scholars often develop taxonomies to analyse and theorise complex domains by structuring and classifying real-world objects of interest (Greve et al., 2020; Knote et al., 2021; Kutzner et al., 2018; Scharfe and Wiener, 2020; Werner et al., 2020). Thus, we attempt to describe and categorise a subject of interest as a basic theory (McKelvey, 1982; Miles and Huberman, 1994) by summarising the commonalities found among discrete observations (Fawcett and Downs, 1986), analysing the content of a set of selected papers. So, we use these categories and commonalities to develop a taxonomy that we revised until it begins to be exhaustive (Gregor, 2006). Specifically, we designed a tailored three-stage research protocol by adopting a mixed methodology (Kundisch et al., 2021), see Figure 1.

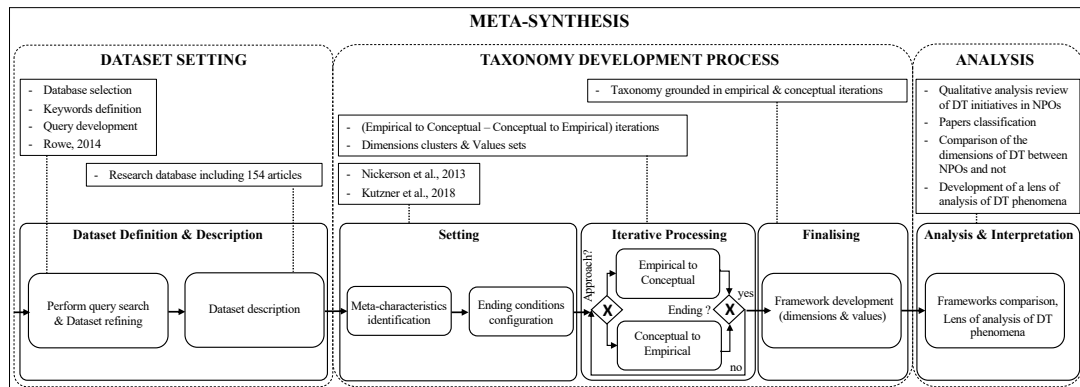


Figure 1. Research protocol.

In the first stage of the research protocol, we review the literature adopting the first two steps of Mayring's "ideal type" review process as described by Rowe (2014), which are (i) collecting material, and (ii) descriptively analysing the dataset gathered (Rowe, 2014). In the second stage, we develop a taxonomy following the iterative taxonomy development process as suggested by Nickerson et al. (2013). Afterwards, we employ this taxonomy in the third stage to classify the selected papers in our dataset. Finally, we compare our taxonomy-based framework (focused on NPOs) with that of Matt et al. (2015) concerning DT strategies, which is unrelated on any specific industry.

In particular, the iterative taxonomy development process represents the core of this study, which consists of iterating two approaches of analysis of the papers in our dataset, the *empirical-to-conceptual* approach and the *conceptual-to-empirical* approach (Nickerson et al., 2013). To adopt this process, we first have to define the meta-characteristics (objects of interest for the taxonomy) and define the ending condition of the iterative process (to determine when to terminate). We define the research keywords DT and NPOs as the meta-characteristics, and we chose to adopt the objective and subjective ending conditions proposed by Nickerson et al. (2013). Then, we develop the iterative process by performing different iterations of analysis. We reshaped dimensions and values until we reached the ending conditions by testing dimensions and values through a compatibility check with the papers under investigation. This process is aimed at obtaining mutual and collective exhaustiveness (objective ending condition). Moreover, it ensures that each contribution is assigned one value for every dimension. Therefore, no contribution could acquire two different values for the same dimension. Finally, the characteristics of the dimensions and their values are also in agreement with the subjective ending condition by Nickerson et al. (2013): the dimensions and values are concise, robust, comprehensive, extendible and explanatory. Every dimension contributes to investigate the nature and scope of each paper while keeping track of the specific issue debated. In other words, the ending condition requires the definition of exhaustive dimensions and their respective values, which is achieved when the values are used aptly to classify a sample of articles (Nickerson et al., 2013).

Regarding the dataset, among relevant outlets, we used the Scopus database to collect appropriate contributions as it is widely employed by academics and practitioners in the field of social studies (Donthu et al., 2020). We select only this database since we retrieve 50% more contributions on Scopus than on WoS by performing the same query, with a high level of overlapping. We searched for the terms *digitalisation* and *non-profit organisation* in the keywords, title and abstract papers fields, using wildcards to include plurals as well as grammatical and spelling variations. Our initial dataset comprised 261 contributions. To develop a more reliable taxonomy, we restricted the dataset by selecting only articles from scientific journals. Moreover, noting different languages used for some contributions (i.e., Spanish (4), Russian (3), Hungarian (1)), we considered a second exclusion by setting the language parameter as “English”. As a result, the refined dataset includes 154 contributions, last updated in late April 2021. We summarise the main information concerning the entire dataset in Table 1. Subsequently, we briefly describe the trend of publications and compare the trend of the initial dataset with the one composed of selected articles (see Figure 2). Finally, we report the most productive journals.

Description	Result	Description	Result
Documents	261	Article	162
Sources (Journals, Books, etc.)	217	Book	10
Author's Keywords	720	Book Chapter	21
Period	1983 – 2021	Conference Paper	40
Average citations per documents	7.506	Conference Review	8
Authors	666	Note	2
Single-authored documents	104	Review	17
Documents per Author	0.392	Short Survey	1
Authors per Document	2.55		

Table 1. Dataset main information.

Exploring the dataset, we have observed that the publication year of the collected papers starts from the 1980s, as shown in Figure 2. However, a significant number of scientific contributions was published mainly in the last decade (with nearly 60% of the results), showing a growing interest in DT phenomena in the context of NPOs. Considering the publication trend, it is also possible to recognise three clusters in line with the last three decades. The first cluster includes contributions published between 1991 and 2001; the second includes papers published between 2003 and 2013, while the third includes articles published between 2014 and 2021 (most productive period).

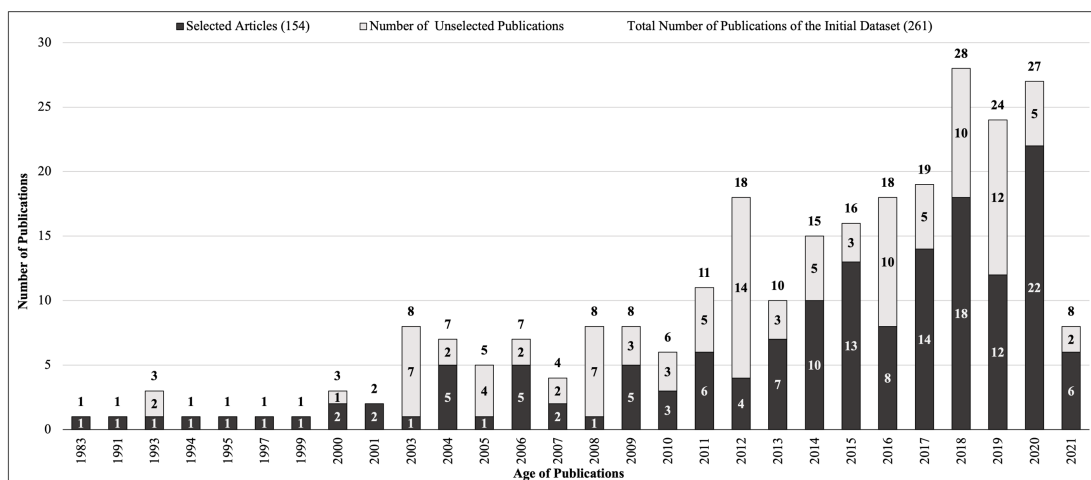


Figure 2. Number of publications per year relating to DT & NPOs since 1983.

To analyse the source of publications, we used the recently published AJG2021 –Academic Journal Guide– (Walker and Wood, 2021). The Chartered Association of Business Schools (CABS) releases this guide assessing the quality of journals, determines the excellence of business research, and the relative status of different business specialisation. This guide ranks journals in one of five categories (e.g. 4*, 4, 3, 2, 1 where 4* is the top-level) distributed into twenty-two different fields of study (Rahal and Zainuba, 2019). As a result, we identified 126 different journals in our dataset, where only 24 belonged to the AJG list. The most productive journal is *Non-profit and Voluntary Sector Quarterly*, with 6 out of 154 articles (3,89%), followed by *Voluntas: International Journal of Voluntary and Non-Profit Organisation* (5 papers; 3,24%), *Non-profit Management and Leadership* (3 papers; 1,94%), belonging to the field of *Sector*. Considering the journals having only two publications, *Computers in Human Behaviour* (1,29%) and *Information Technology for Development* (1,29%) belonging to the field of *Information Management*. The remaining journals are distributed in other AJG fields, mainly in *Information Management* and *Marketing* fields, followed by *Organisation Studies*, *Social Sciences*, *Strategy*, *Accounting*, *Psychology*, *Public Sector and Health Care*, highlighting the multidisciplinary aspect characterising the debate in the corpus. Moreover, regarding the “basket” of eight top IS journals, only one article belongs to the *Information Systems Research* journal. The following subsection thoroughly describes the process we run in creating the taxonomy.

3.1 The Taxonomy Development Process

By following Nickerson et al. (2013), we develop the iterative process performing different iterations as a loop until the placement of phenomena into categories appears clear (Gregor, 2006; Miles and Huberman, 1994). We conducted five iterations overall, choosing one among two main approaches of analysis per iteration to meet the ending conditions. The *empirical-to-conceptual (inductive)* approach (Nickerson et al., 2013), generally consists of getting back and forth through selected contributions to determine a subset of objects that need to be classified (dimensions). As our understanding increased over the iterations, we defined the common characteristics of these objects (values). The *conceptual-to-empirical (deductive)* approach is reliant on the conceptualisation of the taxonomy dimensions without the examination of the current objects (Nickerson et al., 2013). This approach is aimed to support researchers to carefully recognise the sets of objects and characteristics by taking into account prior theoretical contributions (that need to be analysed in respect of the specific dataset under investigation). For this aim, we attempted to consider prior theoretical, methodological, or conceptual studies, as well as existing taxonomies that would inform the taxonomy building (Kundisch et al., 2021). Thus, by combining the two approaches, we sought to systematically code the gathered contributions (McKelvey, 1982; Za et al., 2018). To summarise, the identification of the dimensions and their possible values was based on previous IS studies (Bailey, 1994; McKinney Jr. and Yoos, 2010) or defined and refined recursively analysing the paper in the dataset.

For the 1st iteration, we adopted the *empirical-to-conceptual* approach. We ran this iteration to develop a primary comprehension of the subjects in line with the closest understanding of our dataset. Noticing that some contributions investigate only one of the two core topics of the present research, we further refined the dataset to calibrate the taxonomy in the specific domain better. For example, a paper including a research keyword and did not examine DT and NPOs together was classified off-topic contribution. As a result, we identified 30 off-topic papers, while the other 124 contributions provided appropriate debates that we considered for the next steps. Moreover, by analysing the contents of the papers, we identified two preliminary dimensions (see Figure 3).

For the 2nd iteration, we adopted the *conceptual-to-empirical* approach. We analysed some existing taxonomies (e.g., Knote et al., 2021; Kutzner et al., 2018; Werner et al., 2020) and theoretical contribution (e.g., Bharadwaj et al., 2013; Lee, 2010; Leonardi, 2013) to advance the first comprehension of some characteristics of the initiatives under investigation discussed in our dataset (Bailey, 1994). We recognised three further dimensions with their values.

For the 3rd iteration, we again followed an *empirical-to-conceptual* approach. We performed a second review of the papers and a first classification of the contributions, refining the dimensions and values

that originated in the previous iterations. Aimed to rigorously support the analysis of DT initiatives in NPOs, we purposely defined a new set of dimensions and new sets of values.

For the 4th iteration, we again followed the *conceptual-to-empirical* approach. We further reviewed the literature to evaluate the new set of dimensions and their sets of values. We investigated some characteristics of DT phenomena (Liere-Netheler et al., 2018; Osmundsen et al., 2018) to support the analysis specifically focused on the NPO context. We obtained significant insights from the digital business strategy theory (Bharadwaj et al., 2013) and the nature of digital technology theory (Vial, 2019). We introduced a new dimension as an extra focus to distinguish a digital aim from a business aim, and redefined some of the dimensions since we pursued a theoretical consolidation.

For the 5th iteration, we adopted the *empirical-to-conceptual* approach. In this iteration, we secured to exhaustively refine the labels of each dimension and value. We closely interacted to check the set of values assigned to every dimension (for example, assuring that each value had an objective meaning, avoiding the overlapping of their definitions). Thus, we completed the taxonomy development process since we achieved both objective and subjective ending conditions. Figure 3 summarises these five iterations, also highlighting the design of the dimensions. Next, we present the resulting taxonomy.

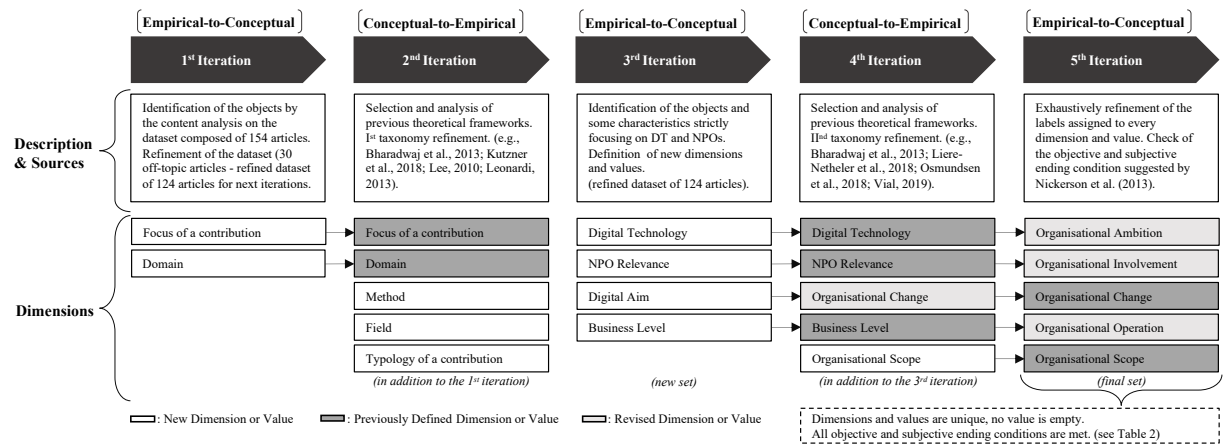


Figure 3. Summary of Taxonomy Development process.

4 The Taxonomy-based Framework

This section refers to the main result of this research, a taxonomy based on five dimensions with related sets of values, namely: *Organisational Ambition*, *Organisational Scope*, *Organisational Involvement*, *Organisational Change* and *Organisational Operation*. The *Organisational Ambition* aims to foster an understanding of the technology involved in a DT initiative. The *Organisational Scope* aims to promote comprehension about the main aim of the NPO in pursuing a DT initiative. The *Organisational Involvement* intends to foster an understanding about the position of the NPO in its business environment. The *Organisational Change* aims to foster a comprehension about the business element involved in a DT initiative. Finally, the *Organisational Operation* intends to promote an understanding about the operational business level involved in a DT initiative. Each dimension with their corresponding value sets is described and arranged as a framework in Table 2 below.

The *Organisational Ambition* dimension is adapted from the contribution of Vial (2019). According to Vial (2019) digital technologies refer to an overarching sequence of relationships among two or more technologies. In this perspective, it is meaningful to pursue the technology(s) employed in a DT initiative, which is the aim of such a dimension. We first selected the values from Vial's (2019) contribution providing a reliable set of values. Afterwards, we refined them by analysing the contributions in our dataset. As a result, the set of values is as follows: "Social media", "Mobile", and "Analytics" (based on Vial's (2019) contribution); "Software Application", "Digital Device", and "Platform & Ecosystem" (based on our analysis). The latter value includes technologies such as cloud,

website or global infrastructure. Conversely, we did not consider the Internet of Things (IoT) since we did not find this technology in performing our analysis.

The *Organisational Scope* dimension is used to explore the business aim of an NPO pursued or supported by a DT initiative discussed in the dataset. As a result, each value classifies a specific business aim which should be self-explanatory. These values are: “Crowdfunding”, “Crowdsourcing”, “Knowledge Sharing”, “Education”, “Community Development”, “Co-production”, “Knowledge Management”, “Social Value Creation”, and “Organisational Development”.

The *Organisational Involvement* dimension aims to understand how and to what extent NPOs are involved in a debate concerning a DT initiative. Since we observed that the literature refers to NPOs in a DT debate to varying degrees (sometimes with regard to more than one organisation), this dimension seeks to acknowledge all the possible relationships between an NPO and other organisations involved in a DT initiative (in line with our analysis). For example, some contributions discussed a “multi-layered” DT initiative involving public administration, for-profit enterprises and NPOs. For this reason, we defined a set of values for each possible relationship, also considering their direction. The first value, “Non-profit Organisation Centred”, is the only one that does not represent any relationship, since it is assigned to papers where the NPO is the unique organisational form considered. It recognises the central involvement of an NPO discussed in a specific set of contributions. The remainder of the contributions discuss a DT initiative in NPOs involving more than one organisation. The following values identify five relationships that were recognised when analysing the contributions in our dataset: 1. The relationships between a “Public Administration and an NPO”, 2. the twofold relationship/collaboration between “Business (as for-profit enterprise) & NPO versus Public Administration & NPO and vice versa”, 3. partnership (the intended relationship is between an NPO and any other organisation), 4. the relationship between the collaboration of a “Public Administration and an NPO versus Business to Customers”, and 5. a multi-layered relationship existing as a “Hybrid Organisation”, representing certain non-profit ventures that incorporate different logics (Beaton et al., 2020). These values support the analysis of the relationships existing between different businesses involved in addition to the NPOs, which are always included anyway.

The *Organisational Change* dimension is adapted from the theory of Bharadwaj et al. (2013). Since the digital aim stems from the increasing interconnection among products, processes and services, as a fusion between IT strategy and business strategy; digital technologies could affect business strategies, business processes, firm capabilities, products and services, and key interfirm relationships in extended business networks. Consistently to Bharadwaj et al. (2013), this dimension aims to identify the business element in an NPO affected by a DT initiative. We developed a suitable set of values based on our analysis, which therefore pointed to excluding “firm capabilities” elements due to a lack of evidence in our dataset. So, the value “Digital Organisational Change” includes the involvement of all business elements. The value “Digital Process” identifies the involvement of a business process(es). The value “Digital Resource” identifies the involvement of products and services. Lastly, we defined the value “Digital Interaction” which refers to the involvement of key relationships.

Finally, the *Organisational Operation* dimension aims to examine the operational business level involved in a DT initiative. We identified four operational business levels by analysing the contribution collected, and we used them as values. The values are: “Individual”, “Business Unit”, “Whole Business”, and “Amongst Inter-Organisational Business”. We did not consider extra levels since these values strictly represent the empirical evidence accordingly with our dataset. Table 2 shows the resulting taxonomy-based framework, arranging the dimensions and values, providing a short description for each of them.

Dimensions	Values	Value Description
Organisational Ambition	Social Media	Social Media employed or developed through a DT initiative
	Platform & Ecosystem	Platform & Ecosystem e employed or developed through a DT initiative
	Software Application	Software Application employed or developed through a DT initiative

	Mobile	Mobile employed or developed through a DT initiative
	Digital Device	Digital Device (hardware and software) employed or developed through a DT initiative
	Analytics	Analytics employed or developed through a DT initiative
Organisational Scope	Crowdfunding	Crowdfunding aim pursued or supported through a DT initiative
	Crowdsourcing	Crowdsourcing aim pursued or supported through a DT initiative
	Knowledge Sharing	Knowledge Sharing aim pursued or supported through a DT initiative
	Education	Education aim pursued or supported through a DT initiative
	Community Development	Community Development aim pursued or supported through a DT initiative
	Co-production	Co-production aim pursued or supported through a DT initiative
	Knowledge Management	Knowledge Management aim pursued or supported through a DT initiative
	Social Value Creation	Social Value Creation aim pursued or supported through a DT initiative
	Organisational Development	Organisational Development aim pursued or supported through a DT initiative
	Organisational Involvement	Non-profit Organisation Centered
Public Administration → Non-profit Organisation		Relationship between a public administration and an NPO involved in a DT initiative
Business & Non-profit Organisation ↔ Public Administration & Non-profit Organisation		Twofold relationship and collaboration between different businesses involved together in a DT initiative
Non-profit Organisation → Partnership		Relationship between an NPO and any other organisation involved in a DT initiative
Public Administration & Non-profit Organisation → B2C		Relationship between the collaboration of a public administration and an NPO versus Business to Customers involved together in a DT initiative
Hybrid Organisation		“Multi-layered” relationship as a Hybrid Organisation involved in a DT initiative
Organisational Change	Digital Resource	Involvement of products and / or services in a DT initiative
	Digital Process	Involvement of business process(es) in a DT initiative
	Digital Interaction	Involvement of key interfirm relationships in a DT initiative
	Digital Organisational Change	Involvement of all the business assets in a DT initiative
Organisational Operation	Individual	Individual operational level involvement in a DT initiative
	Business Unit	Business Unit operational level involvement in a DT initiative
	Whole Business	Whole Business operational level involvement in a DT initiative
	Amongst Inter-Organisational Business	Inter-Organisational operational level involvement in a DT initiative

Table 2. Taxonomy-based Framework of dimensions and corresponding values.

5 Discussion and Contributions

This research seeks to deepen the discussion on DT initiatives by strictly focusing on the context of NPOs. We develop a taxonomy in performing a meta-synthesis that integrates an understanding of multiple interrelated contributions (Hoon, 2013; Leary and Walker, 2018). Then, we implemented the taxonomy by classifying the papers in our dataset using the defined dimensions and values. At the link https://bit.ly/DTS_NPOs_Classification, you can download the resulting classification of the analysed contributions, where each article (represented by its specific ID) has one and only one value for every dimension. Also, you can find the information concerning the authors, title, journal and year of

publication for each paper. By combining two or more dimensions, notably, it is possible to analyse the relationships between different characteristics concerning the DT discourse in NPOs. As a further step, it might be interesting to conduct a cluster analysis considering all dimensions to discover any possible correlations between their values. Thus, the proposed taxonomy-based framework represents a theoretical contribution, in the words of Corley and Gioia (2011). First, the five dimensions of the taxonomy serve to classify the current state of the art, identify some aspects and recommend others that need to be analysed. Second, the sets of values in each category, as qualitative characteristics, could be useful to define clusters of DT initiatives in NPOs. Finally, the proposed framework may represent a starting point for designing and developing further research focused on the same phenomenon (e.g., as a tool, it could be used to analyse the development of DT initiatives in NPOs).

Founded on this result and to answer our research question, we propose a further theoretical contribution by comparing our taxonomy-based framework (focused on NPOs) with the industry-independent one defined by Matt et al. (2015). So that, we use the latter framework as a lens of analysis in describing the distinctive strategy traits in NPOs (see Table 3). In particular, we recognise a connection between the five dimensions of our framework with only three dimensions of DT strategies of Matt et al. (2015), excluding the financial aspects dimension, since no financial discussions have been covered through our dataset. While we recognised a clear connection between the “Use of technology” dimension with our “Organisational Ambition” dimension, for the other cases, we associated two of our dimensions with one of the Matt et al.' (2015) framework. Specifically, the “Changes in value creation” was associated with our “Organisational Scope” and “Organisational Involvement” dimensions, and the “Structural changes” dimension was associated with our “Organisational Change” and “Organisational Operation” dimensions.

By taking into account the “Use of technologies” and the “Organisational Ambition” dimension, we first noticed that the identification of an NPO’s ambition toward a specific technology would determine the organisational approach and capability to be put into practice by the advent of digital technologies. A second connection regards the “Changes in value creation” with the “Organisational Scope” and the “Organisational Involvement” dimensions. We observed that the identification of an NPO’s scope and alteration from its core aim would determine the impact produced by new digital activities on value creation. Consequently, the organisational scope underpins the degree to which an NPO means to diversify its business into the digital world (such as an improvement, rather than enable a different one). Also, different businesses could be involved in supporting NPOs value creation towards digital technologies (in line with our analysis). The relationship between an NPO and any other organisation involved in changing an NPO’s value creation could determine an alteration in the NPO’s business model. Ergo, this aspect could represent two sides of the same coin from a strategical perspective, as facilitator or inhibitor of a DT initiative. The last connection concerns the “Structural changes” with the “Organisational Change” and the “Organisational Operation” dimensions. We noticed that the identification of an NPO’s change towards new digital activities would bring out the structures which are supposed to be affected and the relative placement of such digital activities. The organisational change determines the degree to which an NPO means introducing digital technology in its own organisational setup. Then, the new digital activities could require specific operations in one or more business levels of an NPO. The identification of such a business level would determine which specialised know-how or new competencies should be acquired (if not already exist). We summarise this comparison in Table 3, providing the definitions of each dimension for both frameworks.

Digital Transformation Strategies Framework	(Our) Taxonomy-based Framework
<p data-bbox="422 1778 606 1809">Use of technology</p> <p data-bbox="240 1816 775 1951"><i>“The use of technologies addresses a company’s attitude towards new technologies as well as its ability to exploit these technologies. It therefore contains the strategic role of IT for a company and its future technological ambition.”</i></p> <p data-bbox="240 1957 416 1989">(Matt et al., 2015)</p>	<p data-bbox="991 1778 1254 1809">Organisational Ambition</p> <ul data-bbox="807 1816 1428 1980" style="list-style-type: none"> <li data-bbox="807 1816 1428 1980">• The <i>Organisational Ambition</i> dimension aims to foster an understanding about the technology to be employed or developed through a DT initiative. This dimension seeks to support NPOs management to realise the extent of the strategy towards innovation and new information technology.

Changes in value creation	Organisational Scope
<p>“From a business perspective, the use of new technologies often implies changes in value creation. These concern the impact of digital transformation strategies on firms’ value chains. Further deviations offer opportunities to expand and enrich the current products and services portfolio, but they are often accompanied by a stronger need for different technological and product-related competencies.” (Matt et al., 2015)</p>	<ul style="list-style-type: none"> The <i>Organisational Scope</i> dimension intends to propose a comprehension about an NPO’s scope to be pursued or supported through a DT initiative. This dimension seeks to support NPOs management to realise the way in which digital technologies alter an NPO’s business model.
Structural changes	Organisational Involvement
<p>“Structural changes refer to variations in a firm’s organisational setup, especially concerning the placement of the new digital activities within the corporate structures. For this assessment it is further important, whether it is mainly products, processes, or skills that are affected most by these changes. If the extent of the changes is fairly limited, it might be more reasonable to integrate the new operations into existing corporate structures, while for more substantial changes it might be better to create a separate subsidiary within the firm.” (Matt et al., 2015)</p>	<ul style="list-style-type: none"> The <i>Organisational Involvement</i> dimension aims to promote a comprehension about the position of the NPO in its business environment. This dimension seeks to support NPOs management to create a set of strategic decisions to achieve an NPO’s future business scope.
	Organisational Change
	<ul style="list-style-type: none"> The <i>Organisational Change</i> aims to foster an understanding about the organisational element involved in a DT initiative. This dimension seeks to support NPOs management to realise the extent of the operational changes in relation to the related structures.
	Organisational Operation
	<ul style="list-style-type: none"> The <i>Organisational Operation</i> dimension intends to promote a comprehension about the operational business level involved in a DT initiative and in charge of the transformation endeavour. This dimension seeks to support NPOs management to recognise if these new operations could be integrated into the existing corporate structure rather than developed in collaboration with other businesses.

Table 3. Comparison between the two different frameworks.

To summarise, what emerges from this comparison is that the proposed taxonomy-based framework enrich that one suggested by Matt et al. (2015). It introduces more specific dimensions to analyse the discussion on DT initiatives focusing on NPOs, beyond the usual dimensions characterising the DT strategy debate in general. Therefore, it might be useful for guiding the analyses on such an IS context that appears under-investigated (Carroll, 2020; Rowe, 2018). Moreover, although one of our dimensions (Organisational Involvement) is strictly dependent and strongly affected by the NPS, our taxonomy-based framework could be considered further as a more general contribution in the DT debate. Considering that the two frameworks present different levels of detail, our framework seems to define a more detailed and revised set of general dimensions (except for the Organisational Involvement) in relation to that of Matt et al. (2015). That is, our taxonomy-based framework could provide a lens of analysis identifying some DT stimuli and effects on the basis of two levels, the organisational and the technological one (see Figure 4).

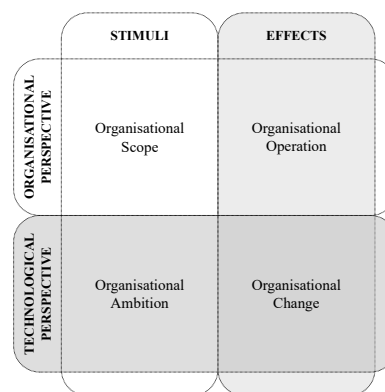


Figure 4. Conceptual framework for analysing DT initiatives in organisations.

Excluding the Organisational Involvement dimension (which identifies the NPO business environment by recognising the relations of an NPO and other actors in its ecosystem), one can group our dimensions considering the perspective adopted for analysing the specific characteristics of the DT phenomenon. Organisational Ambition and the Organisational Change dimensions are considered adopting a technological perspective while Organisational Scope and the Organisational Operation dimensions adopt an organisational one. Thus, each dimension of our taxonomy framework could be seen as describing more a stimulus or alternatively an effect of the DT initiative. For this reason, we are able to group the dimensions also on the basis of those two values, particularly: Organisational Ambition and Organisational Scope could be seen as stimuli while Organisational Operation and Organisational Change could be seen as effects. In short, we can say that, concerning a DT initiative, we could recognise organisational and technological stimuli as well as organisational and technological effects. For example, the availability of a specific digital platform (Organisational Ambition) for knowledge sharing (Organisational Scope) could represent a stimulus for implementing a DT initiative affecting processes (Organisational Change) concerning a specific business unit (Organisational Operation), representing the effect.

Nevertheless, this work presents some limitations. One restriction is represented by the number of dimensions of our taxonomy, which could be enriched by adopting focus group discussion. Also, we could perform an inter-group cross-check to limit any potential bias on the outcomes of this research, considering that the authors' interpretation may eventually differ from other scholars. Moreover, as a future research step, it would be interesting to adopt the proposed framework for a case study to explore DT initiatives in one or more NPOs. This could also represent an opportunity to test and revise our framework based on empirical evidence. In addition, regarding the generalisability of the research results, the taxonomy-based framework cannot be used to explain the behaviour of other kinds of organisations since it includes a specific dimension concerning NPOs. However, some of the dimensions of this framework could be used for developing a further taxonomy concerning alternative organisational forms, in which the financial dimension should be developed. Specifically, considering the proposed lens of analysis based on organisational and technological perspectives, our dimensions would allow to recognise the stimuli and effects of DT initiatives from a systemic standpoint.

Finally, this research has both theoretical and practical implications. First, this study integrates the taxonomy development process (Nickerson et al., 2013) into the concept of meta-synthesis (Hoon, 2013). Then, from a theoretical perspective, our taxonomy provides mutually exclusive values, which seems useful in classifying the characteristics of the DT debate in NPOs. Also, by discussing DT strategy traits in NPOs, this study would complement previous research analysing other industries and organisational forms adopting the Matt et al.' (2015) DT framework. From a practical point of view, the sets of values of the taxonomy seems useful for NPOs' managers, decision-makers and IT specialists in supporting the development of a DT initiative. Considering that multiple values could be combined for analysing DT initiatives concerning a specific NPO, more than one value of each dimension might be relevant in assessing and designing a tailored DT strategy (especially by leveraging the conceptual framework in Figure 4).

References

- Bailey, K. D. (1994). *Typologies and Taxonomies: An introduction to classification techniques* (Michael S. Lewis-Beck (ed.)). SAGE Publications, Inc.
- Barhate, B., Hirudayaraj, M., Gunasekara, N., Ibrahim, G., Alizadeh, A., and Abadi, M. (2021). Crisis within a crisis: Migrant workers' predicament during COVID-19 lockdown and the role of non-profit organizations in India. *Indian Journal of Human Development*, 15(1), 151–164.
- Beaton, E., MacIndoe, H., and Wang, T. (2020). Combining nonprofit service and advocacy: organizational structures and hybridity. *Nonprofit and Voluntary Sector Quarterly*, 089976402095947.

- Bekkers, R., and Wiepking, P. (2011). A literature review of empirical studies of philanthropy: Eight mechanisms that drive charitable giving. *Nonprofit and Voluntary Sector Quarterly*, 40(5), 924–973.
- Berman, S. J. (2012). Digital transformation: opportunities to create new business models. *Strategy & Leadership*, 40(2), 16–24.
- Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., and Venkatraman, N. (2013). Digital Business Strategy: Toward a Next Generation of Insights. *MIS Quarterly*, 37(2), 471–482.
- Bois, C. Du, Jegers, M., Schepers, C., and Pepermans, R. (2003). Objectives of non-profit organisations: A literature review. *4th Workshop on the Challenges of Managing the Third Sector*, May.
- Carillo, K., Scornavacca, E., and Za, S. (2017). The role of media dependency in predicting continuance intention to use ubiquitous media systems. *Information and Management*, 54(3), 317–335.
- Carroll, N. (2020). Theorizing on the normalization of digital transformations. *28th European Conference on Information Systems (ECIS) - A Virtual AIS Conference*.
- Chanias, S. (2017). Mastering digital transformation: The path of a financial services provider towards a digital transformation strategy. *25th European Conference on Information Systems (ECIS)*.
- Chanias, S., and Hess, T. (2016). Understanding digital transformation strategy formation: Insights from Europe's automotive industry. *20th Pacific Asia Conference on Information Systems*.
- Chanias, S., Myers, M. D., and Hess, T. (2019). Digital transformation strategy making in pre-digital organizations: The case of a financial services provider. *The Journal of Strategic Information Systems*, 28(1), 17–33.
- Chong, J., and Duan, S. (2020). Understanding digital strategy for digital transformation: a review of literature. *23rd Pacific Asia Conference on Information Systems: Information Systems, PACIS 2020*.
- Clohessy, T., Acton, T., and Morgan, L. (2017). The impact of cloud-based digital transformation on ICT service providers' strategies. *30th Bled EConference: Digital Transformation - From Connecting Things to Transforming Our Lives, BLED 2017*, 111–126.
- Corley, K. G., and Gioia, D. A. (2011). Building Theory about Theory Building: What Constitutes a Theoretical Contribution? *Academy of Management Review*, 36(1), 12–32.
- Corry, O. (2010). Defining and Theorizing the Third Sector. In *Third Sector Research* (pp. 11–20). Springer New York.
- Dang, D., and Vartiainen, T. (2019). Digital strategy patterns in information systems research. *23rd Pacific Asia Conference on Information Systems: Secure ICT Platform for the 4th Industrial Revolution, PACIS 2019*.
- Defourny, J., and Pestoff, V. (2014). Towards a European conceptualization of the third sector. In *Advances in Public Interest Accounting* (pp. 25–87).
- Demirkan, H., Spohrer, J. C., and Welser, J. J. (2016). Digital innovation and strategic transformation. *IT Professional*, 18(10–11), 14–18.
- Depaoli, P., Za, S., and Scornavacca, E. (2020). A model for digital development of SMEs: an interaction-based approach. *Journal of Small Business and Enterprise Development*, 27(7), 1049–1068.
- Desmet, D., Duncan, E., Scanlan, J., and Singer, M. (2015). Six building blocks for creating a high-performing digital enterprise. *McKinsey & Company, Organisation, September*.
- Donthu, N., Kumar, S., and Pattnaik, D. (2020). Forty-five years of Journal of Business Research: A bibliometric analysis. *Journal of Business Research*, 109, 1–14.
- El-Telbany, O., Abdelghaffar, H., and Amin, H. (2020). Exploring the digital transformation gap: Evidence from organizations in emerging economies. *24th Pacific Asia Conference on Information Systems*.
- Evers, A., and Laville, J.-L. (2004). The Third Sector in Europe. In *GLOBALIZATION AND WELFARE*. Edward Elgar Publishing.
- Fawcett, J., and Downs, F. S. (1986). *The relationship of theory and research*. Appleton Century Crofts.

- Ferraris, A., Mazzoleni, A., Devalle, A., and Couturier, J. (2019). Big data analytics capabilities and knowledge management: impact on firm performance. *Management Decision*, 57(8), 1923–1936.
- Gregor, S. (2006). The nature of theory in Information Systems. *MIS Quarterly: Management Information Systems*, 30(3), 611–642.
- Greve, M., Diederich, S., Lembcke, T. B., Brendel, A. B., and Kolbe, L. M. (2020). Healthy by app - Towards a taxonomy of mobile health applications. *23rd Pacific Asia Conference on Information Systems, PACIS 2020*.
- Guo, C., and Saxton, G. D. (2014). Tweeting Social Change. *Nonprofit and Voluntary Sector Quarterly*, 43(1), 57–79.
- Hanelt, A., Bohnsack, R., Marz, D., and Antunes Marante, C. (2021). A Systematic Review of the Literature on Digital Transformation: Insights and Implications for Strategy and Organizational Change. *Journal of Management Studies*, 58(5), 1159–1197.
- Hansmann, H. B. (1981). *Reforming nonprofit corporation law* (H. B. Hansmann (ed.); Vol. 129, Issue 3). HeinOnline.
- Hausberg, J. P., Liere-Netheler, K., Packmohr, S., Pakura, S., and Vogelsang, K. (2019). Research streams on digital transformation from a holistic business perspective: a systematic literature review and citation network analysis. *Journal of Business Economics*, 89(8–9), 931–963.
- Heilig, L., Schwarze, S., and Voss, S. (2017). An analysis of digital transformation in the history and future of modern ports. *50th Hawaii International Conference on System Sciences*, 1341–1350.
- Herman, R. D. (1990). Methodological issues in studying the effectiveness of nongovernmental and nonprofit organizations. *Nonprofit and Voluntary Sector Quarterly*, 19(3), 293–306.
- Hess, T., Matt, C., Benlian, A., and Wiesböck, F. (2016). Options for formulating a digital transformation strategy. *MIS Quarterly Executive*, 15(2), 123–139.
- Hofmann, S., Sæbø, Ø., Braccini, A. M., and Za, S. (2019). The public sector's roles in the sharing economy and the implications for public values. *Government Information Quarterly*, 36(4), 101399.
- Hoon, C. (2013). Meta-synthesis of qualitative case studies: An approach to theory building. *Organizational Research Methods*, 16(4), 522–556.
- Hu, Q., Zhang, H., Kapucu, N., and Chen, W. (2020). Hybrid Coordination for Coping with the Medical Surge from the COVID-19 Pandemic: Paired-Assistance Programs in China. *Public Administration Review*, 1–7.
- Jöhnk, J., Ollig, P., Oesterle, S., and Riedel, L.-N. (2020). The Complexity of Digital Transformation-Conceptualizing Multiple Concurrent Initiatives. *Wirtschaftsinformatik (Zentrale Tracks)*, 1051–1066.
- Kamm, M. R., Wehking, C., Kaiser, L. F., Otto, M., and Brocke, J. vom. (2021). *Approaching Digitalization at an SME Manufacturing Service Provider* (N. Urbach, M. Röglinger, K. Kautz, R. A. Alias, C. Saunders, and M. Wiener (eds.); Issue October, pp. 271–287). Springer International Publishing.
- Kane, G. C., Palmer, D., Phillips, A. N., Kiron, D., and Buckley, N. (2017). Achieving digital maturity. *MIT Sloan Management Review, Summer*, 32. <http://sloanreview.mit.edu/digital2017>
- Knote, R., Janson, A., Söllner, M., and Leimeister, J. M. (2021). Value co-creation in smart services: A functional affordances perspective on smart personal assistants. *Journal of the Association for Information Systems*, 22(2), 418–458.
- Knutsen, W. (2016). The non-profit sector is dead, long live the non-profit sector! *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 27(4), 1562–1584.
- Kundisch, D., Muntermann, J., Oberländer, A. M., Rau, D., Röglinger, M., Schoormann, T., and Szopinski, D. (2021). An Update for Taxonomy Designers. *Business & Information Systems Engineering*.
- Kutzner, K., Thorsten, S., and Knackstedt, R. (2018). Digital transformation in information systems research: A taxonomy-based approach to structure the field. *26th European Conference on Information Systems (ECIS)*.
- Leary, H., and Walker, A. (2018). Meta-Analysis and Meta-Synthesis Methodologies: Rigorously Piecing Together Research. *TechTrends*, 62(5), 525–534.

- Lee, A. S. (2010). Retrospect and prospect: Information systems research in the last and next 25 years. *Journal of Information Technology*, 25(4), 336–348.
- Legner, C., Eymann, T., Hess, T., Matt, C., Bo, T., Urbach, N., Drews, P., Ma, A., and Ahlemann, F. (2017). Digitalisation: Opportunity and challenge for the business and information systems engineering community. *Business and Information Systems Engineering*, 59(4), 301–308.
- Leonardi, P. M. (2013). Theoretical foundations for the study of sociomateriality. *Information and Organization*, 23(2), 59–76.
- Li, L., Su, F., Zhang, W., and Mao, J. Y. (2017). Digital transformation by SME entrepreneurs: A capability perspective. *Information Systems Journal*, 28(6), 1129–1157.
- Liere-Netheler, K., Packmohr, S., and Vogelsang, K. (2018). Drivers of Digital Transformation in Manufacturing. *Proceedings of the 51st Hawaii International Conference on System Sciences*, 3926–3935.
- Madon, S., and Schoemaker, E. (2021). Digital identity as a platform for improving refugee management. *Information Systems Journal*, 31(6), 929–953.
- Maier, F., Meyer, M., and Steinbereithner, M. (2016). Nonprofit organizations becoming business-like: A systematic review. *Nonprofit and Voluntary Sector Quarterly*, 45(1), 64–86.
- Markus, M. L., and Rowe, F. (2021). Guest editorial: Theories of digital transformation: A progress report. *Journal of the Association for Information Systems*, 22(2), 273–280.
- Matt, C., Hess, T., and Benlian, A. (2015). Digital transformation strategies. *Business and Information Systems Engineering*, 57(5), 339–343.
- McKelvey, B. (1982). *Organizational systematics: Taxonomy, evolution, classification*. University of California Press.
- Mckinney Jr., E. H., and Yoos, C. J. (2010). Information about information: a taxonomy of views. *MIS Quarterly*, 34(2), 329–344.
- McNutt, J., Guo, C., Goldkind, L., and An, S. (2018). Technology in Nonprofit Organizations and Voluntary Action. *Voluntaristics Review*, 3(1), 1–63.
- Miles, M. B., and Huberman, A. M. (1994). *Qualitative Data Analysis* (Second). SAGE Publications, Ltd.
- Mirabella, R. M., Gemelli, G., Malcolm, M.-J., and Berger, G. (2007). Nonprofit and philanthropic studies: International overview of the field in Africa, Canada, Latin America, Asia, the Pacific, and Europe. *Nonprofit and Voluntary Sector Quarterly*, 36(4_suppl), 110S-135S.
- Muehlburger, M., Rueckel, D., and Koch, S. (2019). A framework of factors enabling digital transformation. *25th Americas Conference on Information Systems*.
- Nah, S., and Saxton, G. D. (2013). Modeling the adoption and use of social media by nonprofit organizations. *New Media & Society*, 15(2), 294–313.
- Nahrkhalaji, S. S., Shafiee, S., Shafiee, M., and Hvam, L. (2019). Challenges of Digital Transformation: The Case of the Non-profit Sector. In *Proceedings of 2018 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM), 2019*, 1245–1249.
- Nicholson, B., Nielsen, P., and Saebo, J. (2021). Special issue: Digital platforms for development. *Information Systems Journal*, 31(6), 863–868.
- Nickerson, R. C., Varshney, U., Muntermann, J., and Varshney, Upkar Muntermann, J. (2013). A method for taxonomy development and its application in information systems. *European Journal of Information Systems*, 22(3), 336–359.
- Nwankpa, J. K., and Roumani, Y. (2016). IT capability and digital transformation: A firm performance perspective. *37th International Conference on Information Systems*, 1–16.
- OECD. (2019). Vectors of Digital Transformation. *OECD Digital Economy Papers*, 273, 1–38.
- Osmundsen, K., Iden, J., and Bygstad, B. (2018). Digital transformation: Drivers, success factors, and implications. *37th Mediterranean Conference on Information Systems*.
- Piccinini, E., Gregory, R. W., and Kolbe, L. M. (2015). Changes in the producer – consumer relationship towards digital transformation. *12th International Conference on Wirtschaftsinformatik*, 1634–1648.
- Rahal, A., and Zainuba, M. (2019). The rating dilemma of academic management journals : Attuning the perceptions of peer rating. *Advances in Business Research*, 9, 26–45.

- Resca, A., Za, S., and Spagnoletti, P. (2013). Digital platforms as sources for organizational and strategic transformation: A case study of the midblue project. *Journal of Theoretical and Applied Electronic Commerce Research*, 8(2).
- Ross, J. W., Sebastian, I. M., Beath, C., Mocker, M., Moloney, K. G., and Fonstad, N. O. (2016). Designing and executing digital strategies. *37th International Conference on Information Systems, ICIS 2016*, 1–17.
- Rowe, F. (2014). What literature review is not: Diversity, boundaries and recommendations. *European Journal of Information Systems*, 23(3), 241–255.
- Rowe, F. (2018). Being critical is good, but better with philosophy! From digital transformation and values to the future of IS research. *European Journal of Information Systems*, 27(3), 380–393.
- Salamon, L. M., and Anheier, H. K. (1997). *Defining the nonprofit sector A cross-national analysis* (Johns Hopkins nonprofit sector series (ed.); 4th ed.). Manchester University Press.
- Salamon, L. M., and Sokolowski, S. W. (2016). Beyond nonprofits: Re-conceptualizing the third sector. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 27(4), 1515–1545.
- Scharfe, P., and Wiener, M. (2020). A taxonomy of smart machines in the mechanical engineering industry: Toward structuring the design solution space. *Forty-First International Conference on Information Systems, India 2020*, 0–17.
- Selander, L., and Jarvenpaa, S. L. (2016). Digital action repertoires and transforming a social movement organization. *MIS Quarterly*, 40(2), 331–352.
- Steinberg, R., and Powell, W. (2006). *The nonprofit sector, a research handbook* (Walter W. Powell and Richard Steinberg (ed.); 2nd ed.). Yale University Press.
- Taylor, R. (2010). Moving Beyond Empirical Theory. In *Third Sector Research* (pp. 1–9). Springer New York.
- Tekic, Z., and Koroteev, D. (2019). From disruptively digital to proudly analog : A holistic typology of digital transformation strategies. *Business Horizons*, 62(6), 683–693.
- Teubner, R. A. (2013). Information systems strategy: Theory, practice, and challenges for future research. *Business and Information Systems Engineering*, 5(4), 243–257.
- Thordsen, T., and Bick, M. (2020). Towards a holistic digital maturity model. *International Conference on Information Systems, ICIS 2020*.
- Trenkle, J. (2020). Survival in the digital age – a framework for formulating a Digital Transformation Strategy in SME. In *Digital Transformation in Small and Medium-Sized Enterprises* (Vols. 2019–Decem, pp. 48–78). Nomos Verlagsgesellschaft mbH & Co. KG.
- Van Puyvelde, S., and Raeymaeckers, P. (2020). The governance of public–nonprofit service networks: Four propositions. *Nonprofit and Voluntary Sector Quarterly*, 49(5), 931–950.
- Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *Journal of Strategic Information Systems*, 28(2), 118–144.
- Walker, J., and Wood, G. (2021). *Methodology. Academic journal guide 2021*.
- Warner, K. S. R., and Wäger, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. *Long Range Planning*, 52(3), 326–349.
- Werner, J., Frost, S., and Zarnekow, R. (2020). Towards a Taxonomy for Governance Mechanisms of Blockchain-Based Platforms. *Twenty-Eighth European Conference on Information Systems, (ECIS) - A Virtual AIS Conference*.
- Wessel, L., Baiyere, A., Ologeanu-Taddei, R., Cha, J., and Blegind Jensen, T. (2021). Unpacking the Difference Between Digital Transformation and IT-Enabled Organizational Transformation. *Journal of the Association for Information Systems*, 22(1), 102–129.
- Westerman, G., Calmédjane, C., Bonnet, D., Ferraris, P., and McAfee, A. (2011). Digital transformation: A roadmap for billion-dollar organizations. *MIT Center for Digital Business and Capgemini Consulting*, 1–68.
- Wiesböck, F., and Hess, T. (2020). Digital innovations embedding in organizations. *Electronic Markets*, 30, 75–86.
- Wiesböck, F., Li, L., Matt, C., Hess, T., and Richter, A. (2017). *How Management in the German Insurance Industry Can Handle Digital Transformation. February*.

Za, S., Spagnoletti, P., Winter, R., and Mettler, T. (2018). Exploring Foundations for Using Simulations in IS Research. *Communications of the Association for Information Systems*, 42(1), 268–300.