A comparison of soft factors in the implementation and adoption of digitalization projects: a systematic literature review

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Abstract:

This study expounds existing literature on digitalization projects taking a one-dimensional view on people at organizational, project and individual levels. Through a systematic literature review, we highlight and contrast the impact of soft factors on the implementation and adoption of digitalization projects. Four core enablers were identified and contrasted at different organizational levels in an integrated framework for successful implementation and adoption of digitalization projects. Findings indicate that both adoption and implementation of digitalization projects have similar core enablers at organizational level, significantly different actions that need to be taken at project level and slightly different characteristics at individual level. Moreover, eight critical soft factors were identified for successful implementation and adoption of digitalization projects. The findings provide valuable insights to practitioners and enable controlling the highest value factors to increase the success rate of digitalization projects and to identify the core elements that need attention at various organizational levels. To the best of our knowledge, this is the first systematic literature review that expounds the extent of knowledge available on success factors within the context of digitalization projects taking the single dimensional focus on people at different organizational levels.

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1. Introduction

Nearly 70% of the organizations studied by the Project Management Institute indicated their involvement in digital transformation (DT) initiatives in 2020 [1]. The number suggests a growing trend to initiate digitalization projects in the current business environment [2], facilitated by technology advancement [3]. Subsequently, researchers have made significant efforts to define digitalization projects. Sanchez-Segura et al. [4] define such projects as those developed in the DT process; Henriette et al. [5] define them as those involving the implementation of digital capabilities to support business model transformations whereas Grahn et al. [6] define them as projects involving introductions of digital tools. Although there is no an universal definition, there is consensus that digitalization projects involve the introduction or use of digital tools [6-8] and are undertaken to spearhead DT in organizations [4, 5, 9]. We define a digitalization project as one that introduces a digital tool that is implemented as part of the organization's DT.

Digitalization has attracted researchers' attention leading to research development on the topic. Such research include, for instance, barriers [10, 11], success factors [12, 13], impact and benefits [14], complexity [15], competences [16], soft skills [17, 18] and soft factors [19-21]. Existing research has focused on several dimensions of DT (i.e., people, technology, and processes), leading to generalization of factors making it challenging to understand and address explicitly the factors in the people dimension.

For successful digitalization projects, the people dimension needs attention [22]. Both technical and soft capabilities are required [23-26], but because soft factors are "hidden", likewise are easily neglected [27]. Hence, there is a need to create a deeper understanding of the influence of people dimension in the success of digitalization projects. We acknowledge the influence played by the "technology" and "process" dimensions on overall DT outcomes, but this study explicitly focuses on the "people" dimension by illuminating the significance of various soft factors for the success of digitalization projects.

The success rate of digitalization initiatives in 2012-2018 was between 16–20% [4], which is very low. Although researchers have attempted to expand the knowledge on digitalization projects, the topic has yet to gain attention within project management (PM) research. This is evident from the low number of scientific papers published in PM journals exclusively focusing on digitalization projects. In January 2023, we performed a search in Scopus for the terms "digital transformation project" and "digitalization project"/"digitalisation project" which resulted in a maximum of three hits for nine PM journals listed on Scimago Journal & Country Rank (SJR). The term "digital transformation" dominated returning 96 hits for all nine journals together, each of which had at least one hit. These journals are; (i) the Baltic Journal of Management, (ii) Procedia Computer Science, (iii) Journal of Modern Project Management, (iv) International Journal of Project Organisation and Management, (v) International Journal of Information Systems and Project Management, (vi) Built Environment Project and Asset Management, (vii) Project Management Journal, (viii) International Journal of Project Management and (ix) International Journal of Managing Projects in Business. On the contrary, the topic is discussed vastly in several conferences. A search conducted at the same period and database for conferences resulted in 5,907 hits for the term "digital transformation," 76 for "digital transformation project," and 75 for "digitalization projects," indicating an overall increase in interest in different research areas.

Digitalization projects are new, complex, and increasingly numerous and specific [28], hence making them different from traditional information technology (IT) projects [29-32]. Digital era has led to development of new organizations, systems, processes, leadership, ways of managing, and social aspirations requiring digitalization projects its own PM method [28]. Digitalization projects redefine a company's value proposition, aim to change an organization's identity, and drive a new business strategy, which differs from a traditional IT project that aims to support and enable the existing strategy and identity [32]. Project managers managing digitalization projects need proper means to unite the key factors of success of digitalization projects: flexibility, speed, creativity, transversely, globalist and business skills [28]. This study is an attempt to contribute to research dedicated on digitalization projects.

Successful outcomes of digitalization require focusing on adoption as much as implementation [33]. Nevertheless, existing studies have contributed to the topic through focusing on either adoption [10, 34, 35], implementation [12, 21, 36], or both [37, 38]. Furthermore, the factors affecting adoption of technological innovations and those affecting

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implementation have been found to be entirely different [38]. During adoption it becomes more critical to ensure that the organization's culture and ways of working are in support of the overall DT [29]. There is a need to develop more insights on what exactly are similar and what are different in implementation and adoption, which this study aims to address. We refer to implementation as the undertaking of the project by the organization (i.e., translating the digital strategy into plans and actions). We use the word "implementation" in a broad and comprehensive manner to cover a set of capabilities, resources, and actions [31]. By contrast, we refer to adoption as the integration of digital technologies into the day-to-day operations by the end users.

This paper is organized as follows. The next section presents the theoretical background. The third section discusses the review process including the screening and appraising the relevant papers. The fourth section presents the results from the frequency and content analyses. The fifth section discusses the results through an integrated framework. The last section presents the conclusion where the contributions, suggestions for future studies and limitations of the study are highlighted.

2. Background

2.1 Project success factors

Project success factors constitute a set of circumstances, facts, or influences that contribute to the project outcomes (i.e., success or failure of a project), but the factors do not form the basis of the judgement [39]. Project success research has evolved over the years. Jugdev and Müller [40] classify the evolution of the understanding of project success into four periods. Period 1 between 1960s-1980s included the use of simple metrics to rate project success, minimal customer involvement and emphasized hard skills than soft skills. Period 2 between 1980s-1990s emphasized the development of critical success factor (CSF) lists and focusing on stakeholder satisfaction as an indicator of success. Period 3 between 1990s-2000s is when integrated frameworks for project success emerged. Period 4 which is the 21st century, included benefits to the organization and preparation for the future as a success dimension.

Since the development of CSF lists in the 1980s [40], several CSF lists have been created in varying contexts, for example, for Information and Communications Technology (ICT) projects [41, 42], petroleum projects [43], and for the influence of several CSFs on project success [44]. Hence, there is no only one list of factors that influence project success [45]. Vast research on project success factors exist but are usually listed in very general terms [46]. Success factors can be either technical or people-related, in most cases, the factors have been found to be people-related [47-49] - also referred to as soft factors. We use, the terms people-related factors and soft factors interchangeably.

2.2 Soft factors facilitating the success of digitalization projects

Strong leadership is crucial in the success of digitalization projects [23, 44, 45] because ongoing changes make it difficult to understand where change is coming from and whether it is unfolding within or across organizational boundaries [50]. Digital leaders require soft skills such as negotiation, influence, and change management [46]. Also, the ability to motivate, drive change, take risks, inspire, and to drive a shared ambition [51]. Nevertheless, both managers and employees at all levels should update their skills in order to tackle digitalization challenges [52].

Furthermore, the support and commitment of top management is crucial in facilitating successful digitalization projects [12, 23]. Top management sets strategies and engages employees [53], allocates resources, addresses employees' concerns, and communicates the project vision. Other soft factors identified as facilitating the success of digitalization projects include the provision of rewards and incentives [27, 54], employees' acceptance of new changes [55, 56], a dedicated and committed team [18, 57], trust and cooperation [27], collaboration [58], employee and manager and learning [59].

Some studies have investigated the relationship between various soft factors in facilitating digitalization projects' success. Hsieh et al. [60] investigate the importance of understanding cultural differences when communicating and collaborating. Larjovuori et al. [23] discuss the role of leadership and employees' well-being in organizations' digitalization processes. Ngereja et al. [20] show the interrelations between various soft factors. Existing literature

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investigates either the role of specific soft factors or the relationship between several soft factors in the context of digitalization projects, such as the role of a digital leader [61], leadership and employee well-being [23], and culture [55], on digitalization projects' outcome. However, none provides an overview of the significance of soft factors in digitalization projects, and therefore this study will address this. We focus on the "people-view" because people drive DT [62, 63], hence a deeper understanding of the factors that influence people and vice versa will provide meaningful contribution. Thus, this review addresses two objectives:

1. To explore and contrast the impact of soft factors on the success of digitalization projects;
2. To identify the most critical soft factors in digitalization projects.

3. Methodology

This review follows the guidelines for conducting a systematic review by Tranfield et al. [64] and Levy and Ellis [65].

Two main search terms were included in the literature search: "soft factors" and "digitalization projects." A main string was created with four alternative search strings by interchanging the main search terms and searching in three databases which are Web of science, ScienceDirect and Scopus. As there were very few hits from the higher-ranking PM journals, the search was widened to include other journals specializing in business, management, and organization. Only peer-reviewed journals were included as they tend to have high impacts in the field and follow a rigorous review process to ensure quality. Conferences were excluded because although they may be peer-reviewed, they do not have metrics like journals, such as impact factor (IF). Inclusion criteria were applied followed by a thorough screening process. First, only titles and abstracts were screened for relevance then a second screening was done by scanning through the whole paper to check if the topic was related to success within the context of DT. The papers that were classified as relevant at the second screening were downloaded and read through thoroughly which resulted in 39 papers that were addressing the research objectives. The review process is shown in table. 1.

Table 1. The review process

Search strings	(Soft factors OR human factors OR people factors) AND (digitalization projects OR digitization OR digital transformation)
	("digitalization project success") OR ("digitization project success") OR ("digital transformation success")
	("IT project success") OR ("IS project success") OR ("information systems project success") OR ("information technology project success")
	(("Soft factors") AND ("digitalization projects")) OR (("soft factors") AND ("digitization projects")) OR (("soft factors") AND ("digital transformation"))
	(("soft factors") AND ("IT projects")) OR (("soft factors") AND ("Information systems projects")) OR (("soft factor") AND ("IS projects)) OR (("soft factors") AND ("information technology"))
	**Search strings were repeated with "human factor" and "people factor" instead of "soft factor" and modified according to the database
Databases	Web of Science	ScienceDirect	Scopus
Inclusion criteria applied	1. Language: English 2. Document type: journals 3. Content type: must be conducted in the context of digitalization projects or be relevant in the context of digital transformation and include content on success factors of a soft nature (i.e., human/people-related factors)	Does the paper match the set criteria?	Papers included: Web of Science (n =153) Scopus (n =366) ScienceDirect (n =384) **Total = 903 papers**

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First screening	Endnote files were downloaded and imported into the referencing software EndNote.
	• Duplicate records removed (n =3)
	• Conferences, books, book chapters, posters, reports, and predatory journals (n =278)
	• The titles and abstracts of the remaining publications were screened and excluded if they lacked the following criteria:
	- No mention of digitalization projects, digital transformation, or success factors (n=375)
	- Papers included in the next step of the review (full paper reading) = **247 papers**
Second screening	The papers were downloaded, and a second screening was done where further exclusion was done if there was:
	• No relevance to success of digitalization projects, digital transformation projects or digital transformation (n=162)
	- Papers included in the next step of the review (full paper reading for data extraction) = **85 papers**
Full paper reading	Green, red, and yellow color coding was used to classify the papers based on their relevance to address the research objectives.
	Green = very relevant (n=39); Yellow = relevance unclear (n=36); Red =irrelevant (n=10)
	- Papers included in the next step (Green) = **39 papers**
Quality assessment	Journal quality criteria (must meet any two criteria) 1. ABDC ≥ B 2. IF ≥1 3. SJR ≥ Q2 4. Harzing's Journal Quality List ≥ B	Is the journal of high quality?	4 papers excluded from final analysis; papers included in the analysis (co-occurrence, frequency, and content analyses) = **35 papers**

Four journal ranking frameworks were applied: (1) journal IF, (2) SJR score, (3) Harzing's Journal Quality List (JOURQUAL), and (4) ABDC Journal Quality List. These established frameworks provide indicators of the quality and status of journals. We included journals with IF ≥ 1 reported in 2021. The Scimago Journal & Country Rank (SJR) score ranks journals from Q1 to Q4, where Q1 represents the top 25% journals and Q4 represents the 25% lowest ranked journals. Using the SJR 2021 score, we included Q1 and Q2 journals. The JOURQUAL includes five ranks ranging from A+ to D. We included journals ranked A+, A, B, and C, indicating *"world leading,"* *"leading,"* *"important and respected,"* and *"recognized"* respectively. The ABDC ranks journals in four categories, A*, A, B, and C, indicating *"leading,"* *"highly regarded,"* *"well regarded,"* and *"recognized."* We included journals ranked A*, A, or B in 2019. Only journals listed in at least two of the four ranking frameworks were included, reducing the total number of papers to 35.

4. Data synthesis and findings

4.1 Data trends in selected paper

The selected papers were published between 2005–2021. A steady increase in publications was observed in the period 2016–2021, with majority of the papers (81%) published in that period suggesting a recent recognition of research on soft factors within the context of digitalization projects. Qualitative methods dominated (66%), followed by quantitative methods (28%), and a mix of both methods (6%). Interviews appeared to be the dominant method of data collection (40%), followed by questionnaires (31%), secondary methods (e.g., reviews, secondary sources, observations, meetings, workshops) (26%), and mixed approach method (3%). Inclusion of perspectives cross-cutting organizational levels enables to gaining of deeper insights [66]. Selected studies had respondents from top management positions (28%), management-level positions i.e., senior, and junior project managers (31%), employees/team members (17%) and members of the organization regardless of position (22%) and undisclosed (2%). The study participants in selected papers included international respondents dispersed across countries and continents. Of all papers, 31.2% had unspecified location while 20.3% comprised participants from a mix of countries. Those with specified location (48.5%), the majority report studies were conducted in Europe (28.6%), Asia (11.4%), US (5.7%) and Canada (2.8%).

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Several digital technologies are discussed in the selected papers; Internet of Things (IoT) (31.4%), big data (14.3%), cloud computing (11.4%), artificial intelligence (AI) (8.6%) and automation (2.9%). However, majority of papers (31.4%) only discuss digitalization projects in general.

4.2 Addressing study objectives

Objective 1: For data extraction and analysis, VOSViewer software and content analysis were applied. VOSViewer was used to check author keyword co-occurrence. The keywords with the greatest total link strength with other keywords were identified, followed by content analysis. Since digitalization projects are conducted as part of the overall DT, this review focuses on both implementation and adoption to gain a holistic understanding of both. Three clusters were observed relevant to our study: (1) challenges, (2) barriers, and (3) success factors of digitalization project implementation and adoption. Each of the papers discusses either one or more of these aspects.

Clusters 1&2: Challenges and barriers (inhibitors)

34% of papers discuss challenges and 26% discuss barriers. Clusters 1 and 2 were merged, since they both presented factors that inhibit (i.e., barriers and challenges) digitalization project success. From Table 1, both implementation and adoption share challenges rooted in organizational culture, communication, and learning, but differ regarding the 'know-how' and 'why'. Implementation challenges are related to bureaucracy and lack of preparedness while adoption challenges are related to lacking a unified goal and inability to rethink and restructure new work.

Cluster 3: Success factors

Cluster 3 contains papers that discuss people-related success factors of digitalization projects implementation and adoption (79%). From Table 2, the success of digitalization projects is rooted in four main factors: (1) leadership, (2) culture, (3) capabilities development, and (4) top management support. During implementation, the digitalization leader is needed to push agendas that focus on achieving buy-in, while in adoption the focus is sustaining the buy-in. In building a like-minded culture, the focus in implementation is on individual mindsets, while in adoption the focus is on creating a collective mindset. For top management commitment, the focus in implementation is on managing bureaucracy and organizational politics, as this is where most challenges arise, while in adoption the focus is on investing in human resources to ensure that people have the tools needed to continuously integrate new changes. In developing capabilities, the focus in implementation is on knowledge exploration, while in adoption the focus is establishing proper mechanisms that support knowledge exploitation.

Table 2. Inhibitors and success factors of digitalization projects

	Inhibitors of digitalization projects	References	Success factors of digitalization projects	References
Project implementation	*Bureaucracy and organizational politics:* • Inability to react on a timely manner. • Lack of a sense of urgency. • Remain reluctant to adapt to changing nature of business.	[67]; [68]; [69]	*A highly skilled leader:* • Setting a clear vision. • Identifying and engaging with relevant stakeholders 'end-user involvement'. • Effective communication throughout the organization. • Building strong collaboration strategies. • Willingness to take risks in an uncertain environment. • Resistance management.	[70]; [71]; [72]; [73]; [74]
	Development of human resources: • Identification of new skills and training requirements. • Management of the changes in employee positions, tasks, and responsibilities. • Difficulty in retaining young employees. • Identification of required expertise.	[75]; [68]; [76]; [69]; [77]; [78]	*Top management support and commitment:* • Rewarding digital initiatives. • Provision of resources. • Investment in human resource development strategies.	[79]; [68]; [21]

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	Inhibitors of digitalization projects	References	Success factors of digitalization projects	References
	Lack of preparedness to tackle digitalization: • Low level of understanding of what digitalization entails. • Unclear or lack of vision. • Inability to define complex processes early. • Unclear definition of roles and how they will change. • Inability to clearly define the "why".	[70]; [67]; [76]; [69]; [77]	*A like-minded culture:* • A culture in which people support each other. • A culture supportive of change. • Having self-motivation and a sense of ownership. • Taking the initiative to learn. • Building trust between leaders, managers, and employees.	[72]; [73]; [59]; [80]
	Having a rigid culture: • Units working independently in silos. • Weak internal and external collaborations. • Failing to prepare people for the change. • Technology oriented culture. • Lack of initiatives/taking charge. • A culture of complacency (no sense of urgency). • Lack of a flexible and adaptable mindset.	[70]; [67]; [77]; [72]; [59]	*Building employee capabilities:* • Provision of training for both social and technical expertise. • Giving room for experimentation. • Managing the learning process.	[71]; [81]; [74]; [21]
	Lack of proper knowledge-sharing mechanisms: • Training without defining the knowledge gap. • Knowledge not readily and widely available. • Lack of mechanisms to utilize acquired knowledge. • Improper knowledge-sharing mechanisms 'people do not know what others know'.	[4]		
	Communication-related issues: • Increase in heterogenous ways to communicate (increases complexity and frustration). • Decreased sense/perception of information security. • Inability to clearly communicate new regulations.	[59]		
Project adoption	*Lack of a unified communication protocol:* • Lack of clarity on how to integrate and share information. • Dispersed information posing safety and security concerns. • Increase in heterogenous ways of communicating (increases complexity and frustration). • Decreased sense/perception of information security. • Inability to communicate new regulations clearly.	[10]; [11]; [34]	*Skilled leader to lead the transformation:* • End user involvement. • Effective communication of the new circumstances. • Building a culture with strong connectedness of employees.	[74]; [82]
	Development of human resources/capabilities: • The need for continuous learning. • Lack of appropriate expertise. • Shortage of skills and a qualified workforce.	[83]; [10]; [11]	*Top management support and commitment:* • Rewarding digital initiatives. • Provision of resources • Investing in human resource development strategies.	[82]; [68]; [79]
	Unable to build a change culture: • Lack of a common mindset • Unable to build a strong collaborative culture	[10]; [11]	*A supportive environment/culture:* • Organization has the capacity to change. • Presence of collaborative culture. • Environment that supports new ways of working.	[79]; [72]

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Inhibitors of digitalization projects	References	Success factors of digitalization projects	References
Unclear vision of transformation: • Having contradicting interests between units. • Not having a clear and unified goal throughout the organization (i.e., each unit has a different goal). • Facing resistance from people in the organization.	[11]; [71]	*Building employee capabilities:* • Access to skilled/ experienced employees. • Managing the learning process. • Having knowledge seeking employees.	[82]; [68]; [81]
Unable to rethink and restructure new work, including: • Conflict management. • Leading in the new digital context. • Shaping the culture in the digital context. • Inability to evaluate, prepare, and accept new. requirements, regulations, and standards.	[59]; [75]		

Objective 2: Frequency analysis was conducted to address this objective as it enables identification of number of occurrence of a factor thus indicates emphasis and the recognition among researchers. To rank the factors, a normalized value method was calculated for each factor using the formula;

Normalized value (NV)= (mean – minimum mean) / (maximum mean – minimum mean).

Soft factors identified from the review are listed in Table 3, from highest to lowest frequency of occurrence. Eight critical soft factors with (n ≥ 5) were identified as having gained most recognition among researchers. These are learning, organizational support, collaboration, organizational leadership, end user involvement, organizational culture, provision of training, and soft skills of project manager.

Table 3. Soft factors identified as important for successful digitalization projects.

Soft factors	Reference	frequency	normalized value
Learning	[29]; [84]; [85]; [19]; [12]; [86]; [81]; [59]; [21]	9	1.000
Organizational support	[70]; [79]; [29]; [67]; [12]; [68]; [87]; [54]	8	0.875
Collaboration	[85]; [73]; [80]; [56]; [81]; [59]; [58]; [82]	8	0.875
Organizational culture	[84]; [19]; [68]; [73]; [56] [58]	6	0.625
End-user involvement	[70]; [79]; [29]; [71]; [21]	5	0.500
Organizational leadership	[68]; [54]; [56]; [81]; [82]	5	0.500
Provision of trainings	[71]; [19]; [68]; [54]; [74]	5	0.500
Soft skills of project manager	[71]; [19]; [18]; [80]; [81]	5	0.500
Sense of ownership	[56]; [82]; [21]	3	0.250
Communication	[71]; [19]; [54];	3	0.250
Soft skills of team members	[71]; [54]; [80]	3	0.250
Innovation-based mindset	[80]; [56]; [21]	3	0.250
Rewards and recognition	[84]; [54]; [81]	3	0.250
Human resource management	[85]; [68]	2	0.125
Dedicated team	[71]; [85]	2	0.125
Motivation	[80]; [56]	2	0.150
Supportive environment	[79]	1	0

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5. Discussion

Our findings show that both implementation and adoption of digitalization projects require multilevel readiness, at organizational, project, and individual level. Patanakul and Shenhar [88] acknowledge the importance of aligning project implementation with higher level organizational strategies and involving people from all organizational levels to execute their roles to achieve the intended business results.

Four core enablers were identified at the organizational level, which we term as organizational leadership, organizational culture, organizational support, and organizational learning, and we consider these as core elements in the governance of digitalization projects. No differences were observed between the core enablers during implementation and adoption at organizational level, therefore, they form the four core enablers in the integrated framework. However, there were significant differences between the actions taken during implementation and adoption at project level. Moreover, the characteristics that team members should possess during implementation and adoption at individual level are relatively similar and in both cases the crucial characteristic is that individuals have the willingness to be a part of the change. These similarities and contrasts are presented and elaborated in the integrated framework (Table 4) below.

Table 4. An integrated framework for the successful implementation and adoption of digitalization projects

Successful implementation	Individual characteristics of team members	Specific actions taken at project level	Core enablers at organizational level	Specific actions taken at project level	Individual characteristics of team members	Successful adoption
	• Open to new ways of working (e.g., collaborating with external parties)	• Identifying and engaging with relevant stakeholders • Ensuring adequate project governance	**Organizational leadership**	• Ensuring effective end user involvement • Establishing proper communication channels (i.e., digital, and traditional)	• Being open to flexible working conditions (e.g., hybrid working and integrating several communication channels)	
	• Willingness to take risks in an uncertain and dynamic environment	• Creating a trustworthy project environment	**Organizational culture**	• Identifying and addressing emanating concerns from team members	• Willingness to share own opinions	
	• Personal motivation for personal development/growth • Open to new roles and tasks	• Affording team members accessibility to different projects and different teams • Allocating suitable mentors to team members	**Organizational support**	• Ensuring manager accessibility for meetings with team members • Evaluating performance to identify areas for improvement	• Having proactive individuals who seek feedback, clarification, and evaluation regarding their performance	
	• Having a knowledge-seeking attitude • Willingness to take the initiative to experiment with new ideas	• Allowing room for experimentation • Providing training as and when needed	**Organizational learning**	• Establishing proper knowledge sharing mechanisms • Frequent sharing of new requirements, regulations, and standards	• Willingness to share with and learn from others	

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During implementation, the focus at project level is on stakeholder management and creating opportunities for external collaborations. As digitalization projects are especially focused on experimentation and adaptation [74], engaging with third parties is a commonly used strategy to increase the organizational pool of information and expertise [29]. By contrast, during implementation, the focus is on gaining end users' acceptance and ensuring communication channels are properly integrated into daily tasks.

The focus at the organizational level is on building a like-minded culture. Additionally, the contrast between the actions to be taken at project level is significant for organizational culture. During implementation, building trust is important to facilitate risk-taking by creating a safe environment. During project adoption, the focus is on addressing team members' concerns, such as how the change might affect their work, and the new opportunities or threats that might arise from the change.

At the organizational level, a strong organizational support is crucial. However, at project level, this support appears differently during implementation and adoption. In implementation, the focus is on exposing project team members to several project opportunities so that they can identify where they can contribute best. At individual level, it is important that the team members are open to new tasks and are personally motivated to develop their knowledge. By contrast, during adoption, support is provided through the project manager's accessibility to the team members, which in turn requires team members' proactiveness to seek feedback and clarification.

For implementation of organizational learning, the focus on project level is mainly on experimentation for new knowledge creation. Project managers should support experimentation and identify relevant training sessions for their team members. At individual level, team members should be proactive in sharing their training needs. By contrast, the focus during adoption is establishing appropriate learning mechanisms to facilitate continuous learning. Thus, at individual level, willingness to learn is crucial.

The proposed framework shows the multi-faceted nature of successful digitalization projects, requiring multilevel enablers that span organizational, project, and individual levels. This interconnected perspective underlines the importance of an integrated, comprehensive understanding of the factors that leads to successful DT. This multilevel perspective offers a holistic understanding of DT, recognizing the integral role played by each level in managing digital initiatives. The framework also functions as a strategic guide, illuminating the soft factors organizations should prioritize for more effective implementation and adoption processes. By highlighting the necessity for multiple enablers at various levels, the framework enables organizations to strategically distribute their efforts, achieving a balanced approach to resource allocation. The framework also serves as a risk management tool, aiding in identifying potential risks across various levels within the organization.

Adopting this integrated multilevel approach can significantly enhance the success rate of DT projects, improving organizational efficiency and fostering an innovation culture. Moreover, the framework highlights several actions that should be implemented on the project level, including engaging end users for valuable insights, fostering effective communication, addressing team concerns promptly, ensuring managerial accessibility, regularly evaluating performance for continuous improvement, and promoting knowledge sharing. Also vital are keeping abreast with new requirements or regulations, engaging relevant stakeholders, ensuring robust project governance, fostering a trust-based environment, offering team members diverse experiences, providing proper mentorship, allowing space for experimentation, and delivering necessary training.

Each component contributes to creating an environment conducive to project success, enhancing team efficiency, morale, and fostering innovation. The findings underscore the significant role of individual team members in digitalization project success. Skills and knowledge, attitudes, motivation, and capacity for collaboration all influence the project's outcome. It highlights that understanding and leveraging these individual characteristics and providing necessary training can optimize team performance. The findings stress the importance of a human-centered approach, suggesting that technology alone is insufficient for successful DT; rather, the individuals implementing and using this technology play a vital role in driving these projects forward.

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Furthermore, our findings relating to our two study objectives concur in the sense that the four core enablers that form the basis of the integrated framework are among the eight critical soft factors identified. We found learning to be the most critical factor. Although this finding is consistent with the findings of researchers who identify the building of know-how as an asset in the successful implementation of digitalization projects [12], we believe this is also attributed to other factors. One such factor could be that digitalization projects are not undertaken as a one-off initiative, unlike other projects, but as a part of or as one of the projects in the whole DT process [4]. For this reason, digitalization projects have greater potential to trigger organizational change while simultaneously requiring change [29]. Such changes require rethinking the entire workplace, including the development of new tasks, structures, skills, and capabilities, and therefore employees and managers should be encouraged to realize and seek to improve their capabilities and skills to be able to deliver the expected value in delivering the projects. These new requirements would influence the development of knowledge at all levels of the organization and further emphasize the need for continuous training of the people involved in projects.

6. Conclusion

This literature review has provided an in-depth exploration of factors that influence the implementation and adoption of digitalization projects, with a specific focus on the people dimension. To the best of our knowledge, this is the first systematic literature review that expounds the extent of available knowledge of success factors in the digitalization context and contrasts them at different organizational levels. The findings contribute to both research and practice through unveiling learning as the top critical success factor in DT context. In addition, a proposed framework is presented that highlights the multi-faceted nature of successful digitalization projects, requiring multilevel enablers that span organizational, project, and individual levels. The framework also highlight some difference and similarities between the two on project and individual levels that are worth noting.

On project level, the similarities are that both implementation and adoption require effective engagement with stakeholders, both emphasize proper communication channels and accessibility, and both value knowledge sharing and capacity building. For adoption case, this includes establishing knowledge sharing mechanisms while for implementation involves assigning appropriate mentors and providing training as needed. Differences at project level include; in implementation, the need for adequate project governance is emphasized. Furthermore, implementation projects place emphasis on creating a trustworthy project environment which involves building a space where team members feel safe, secure, and able to trust their colleagues. This is not specifically mentioned in the actions for successful adoption of digitalization projects. While experimentation is mentioned as an important action for successful implementation of projects, it is not specifically highlighted in the actions for successful adoption of digitalization projects. Whereas a clear emphasis is put on evaluating performance to identify areas for improvement in adoption, it is not explicitly mentioned for implementation projects although it is likely important as well.

On individual level, there are also some similarities and differences that are worth noting. Similarities include that both implementation and adoption demand a level of openness from the team members, highlight the importance of taking the initiative and underline the importance of a learning attitude and willingness to share knowledge or opinions. Differences are that for implementation, team members are required to be willing to take risks in an uncertain and dynamic environment. This might be due to the project's nature which could be more innovative or explorative, needing more tolerance for risks and uncertainty, team members in implementation projects are expected to have a personal motivation for growth and development. This might be significant in projects that necessitate continual learning and adaptation to new roles and tasks. In adoption, having proactive individuals who seek feedback and performance evaluations is important.

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6.1 Future studies

Building from our review, we present areas for further studies:

- How do organizations ensure project manager readiness in the management of digitalization projects?
- How organizations strike a balance between knowledge exploitation and exploration in the DT context?
- What are competencies needed for DT at different organizational levels?

6.2 Limitations

This study is subject to some potential limitations. First, the different use of terminologies (i.e., digitalization projects, digital transformation projects, digitization projects) might have caused overlooking relevant publications. Second, we limited our searches to three databases which may have led to overlook publications in other databases. Third, given that the term "digitalization projects" has yet to gain much attention in the project management field, the identification of relevant publications might have been limited.

Conflict of interest

There is no potential conflict of interest with respect to this research.

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