

HOW DO META-ORGANIZATIONS REACH COLLECTIVE ACTION? A COMPARATIVE STUDY OF DIGITAL TRANSFORMATION IN HEALTHCARE

Chien-Hung Chen¹, Chih-Yuan Wang^{*2}, Zhao-Hong Cheng¹, Kune-Ping Shieh²

1. Department of International Business, National Kaohsiung University of Science & Technology

2. Department of Business Administration, National Sun Yat-Sen University

Correspondence: chihyuan.wang@cm.nsysu.edu.tw

ABSTRACT

OBJECTIVE:

To investigate how meta-organizations and traditional hierarchical organizations differ in their approaches to facilitating collective action in digital transformation initiatives within healthcare settings.

DESIGN:

A comparative case study utilizing primary data collection for the meta-organization case and secondary data analysis for the traditional organization case.

SETTING:

Comparing Abc Dental Group (a meta-organization of 12 dental clinics in Taiwan) and Princess Alexandra Hospital (a traditional hierarchical public hospital in Australia).

Main outcome measures: Decision-making processes, implementation strategies, knowledge sharing mechanisms, and alignment approaches for digital transformation initiatives.

RESULTS:

Meta-organizations rely on collaborative decision-making, voluntary implementation, peer learning networks, and identity-based alignment. Traditional organizations employ centralized decision-making, structured implementation, formal training, and authority-based alignment.

CONCLUSIONS:

Organizational structure fundamentally shapes collective action approaches in digital transformation. Meta-organizational distributed approaches particularly suit contexts requiring clinical autonomy and adaptation to diverse environments, while traditional centralized approaches promote consistency in critical systems. These findings extend meta-organization theory by identifying specific mechanisms that overcome limited formal authority challenges.

KEYWORDS

meta-organizations, collective action, digital transformation, healthcare management

INTRODUCTION

In an increasingly interconnected and rapidly evolving world, meta-organizations have emerged as a significant organizational form shaping the practices, norms, and collective actions of their member organizations [1,2]. Comprising organizations rather than individuals, they play crucial roles in various domains like industry associations and business alliances [3]. However, meta-organizations face distinct challenges fostering collective action due to limited formal authority and member autonomy [4].

Despite their growing prevalence, research on how meta-organizations overcome these challenges and promote collective action, especially compared to traditional organizations, remains scarce. This gap is particularly relevant for digital transformation, a critical collective action for organizational adaptation and competitiveness [5]. This study addresses this gap by examining how meta-organizations and traditional organizations facilitate collective action in digital transformation and the factors influencing their effectiveness.

We chose the healthcare sector due to its rapid digital transformation, diverse structures, and the societal impact of successful collective action. By comparing ABC Dental Group (ADG), a meta-organization of 12 dental clinics located in Taiwan, with Princess Alexandra Hospital (PAH), a traditional hierarchical hospital, we aim to provide insights into collective action processes across different organizational forms.

This research contributes to theory and practice by extending meta-organization theory and collective action in digital transformation. It also offers practical insights for healthcare managers and policymakers on fostering effective collective action across diverse organizational structures.

LITERATURE BACKGROUND

META-ORGANIZATIONS: CONCEPT AND CHARACTERISTICS

Meta-organizations consist of other organizations as members, characterized by limited formal authority and voluntary cooperation [1,2]. They feature member autonomy, organizational heterogeneity, and unique legitimacy challenges [4,6].

COLLECTIVE ACTION IN META-ORGANIZATIONS AND TRADITIONAL ORGANIZATIONS

Collective action refers to pursuing a common goal by a group of actors [7]. In organizational contexts, it involves coordination and cooperation among multiple organizations for shared objectives [8]. Meta-organizations and traditional organizations differ in their approaches. Traditional organizations rely on formal authority structures and shared goals [9], while meta-organizations must use alternative mechanisms like trust-building, negotiation, and shared norms [4]. Member heterogeneity can also hinder collective action [3]. Despite challenges, meta-organizations can promote collective action through soft power, governance structures, and consensus-building [2,10].

DIGITAL TRANSFORMATION AS A CONTEXT FOR STUDYING COLLECTIVE ACTION

Digital transformation, integrating digital technologies into business and society [5], presents new challenges and opportunities for collective action. Rapid technological change demands novel adaptation and collaboration [11]. Meta-organizations, such as industry associations, facilitate digital transformation by setting standards, sharing knowledge, and pooling resources [1]. However, digital transformation also poses unique challenges for collective action in meta-organizations, including rapid technological pace, uncertainty, and the digital divide between members [4,5]. This divide often manifests as disparities in access to IT infrastructure, varying levels of staff digital literacy, or differing capacities for technology adoption among member entities.

GAPS IN THE LITERATURE AND RESEARCH QUESTIONS

Despite growing interest, several gaps remain. First, comparative studies on collective action differences between meta-organizations and traditional organizations in digital transformation are lacking [1,12]. This study fills this by investigating their approaches to technological change.

Second, existing research often focuses on single cases or organizational forms [8,13], limiting understanding of similarities and differences. By comparing ADG (meta-organization) and PAH (traditional organization), this study provides a more comprehensive analysis of how different organizational forms facilitate collective action.

To address these gaps, this study compares how meta-organizations and traditional organizations facilitate collective action in healthcare digital transformation. By examining ADG and PAH, we aim to answer:

1. How do meta-organizations and traditional organizations differ in their approaches to facilitating collective action in the context of digital transformation?
2. What are the key factors that influence the effectiveness of collective action in these different organizational forms?

This comparative analysis contributes to a nuanced understanding of collective action in diverse healthcare organizational structures, where complexity and critical digital transformation make collective action both challenging and crucial.

RESEARCH METHODOLOGY

This section outlines the research design, data collection, and data analysis methods employed to investigate how meta-organizations and traditional hierarchical organizations differently influence collective action in healthcare digital transformation, using a comparative case study approach with primary and secondary data.

RESEARCH DESIGN

This study employs a comparative case study approach [14] examining Abc Dental Group (ADG), a meta-organization of 12 dental clinics in Taiwan, and Princess Alexandra Hospital (PAH), a traditional public hospital within Queensland's Metro South Hospital and Health Service, which comprises five hospitals. This study focuses solely on PAH, leveraging secondary data from Eden et al. (2019, 2020, 2022), which specifically examines PAH's digital transformation initiatives. Cases were selected for representativeness, comparable digital transformation initiatives, data availability, and contrasting organizational structures within healthcare to ensure depth in analyzing collective action mechanisms within a single hierarchical entity while maintaining comparability with ADG's meta-organizational structure.

DATA COLLECTION AND ANALYSIS

Data for the ADG case was collected through semi-structured interviews with key informants (CEO, board members, clinic representatives), participant observation during meetings, and document analysis. For PAH, we utilized secondary data from published research [15–17]. The primary data for ADG enabled in-depth, context-specific insights into decision-making and knowledge-sharing processes, offering greater granularity through direct stakeholder perspectives. In contrast, PAH's secondary data, drawn from Eden et al. (2019, 2020, 2022), provided a robust but less granular view, constrained by the original studies' focus and reporting. These sources (Eden et al., 2019, 2020, 2022) were chosen for direct relevance to PAH's digital transformation, peer-reviewed publication, and authors' expertise, ensuring high credibility. Data analysis followed an iterative coding process [18], using both deductive and inductive approaches to identify key themes. To mitigate primary-secondary data asymmetry, systematic content analysis was applied to secondary sources, cross-referencing information for consistency and reliability. This rigor ensured robust triangulation of findings, enhancing comparative depth. Trustworthiness was ensured through data triangulation, member checking, and peer debriefing [19] (e.g., cross-referencing ADG interview data with meeting notes and clinic documents; validating ADG findings with clinic representatives; verifying consistency across multiple secondary sources for PAH [15–17]; and discussing coding with external researchers).

ETHICAL CONSIDERATIONS

This study, examining organizational collective action in digital transformation, was exempt from formal IRB review under Taiwan's Ministry of Health and Welfare "Human Research Act" (Article 5), as it involved semi-structured interviews and secondary organizational data without direct human intervention or sensitive personal information. The research proposal was approved by the Doctoral Dissertation Proposal Oral Examination Committee at National Sun Yat-Sen University, ensuring ethical and academic rigor. Participants were informed of the study's purpose, assured anonymity and confidentiality, and provided voluntary consent.

RESEARCH FINDINGS

CASE 1: ABC DENTAL GROUP (META-ORGANIZATION)

ABC Dental Group (ADG) represents a meta-organization comprising 12 member dental clinics located in Taiwan. Our analysis revealed several key characteristics of how this meta-organization approached collective action in digital transformation initiatives.

Decision-making process

ADG exhibited a collaborative, distributed decision-making process. The central organization facilitated rather than commanded. Digital transformation initiatives required consensus from member clinics, as one owner explained: "We have a voice in major decisions. The group presents options, and we discuss them during quarterly meetings before moving forward." This led to longer timelines but stronger clinic buy-in.

Implementation strategy

Digital technology implementation followed a gradual, voluntary approach. ADG introduced new systems as optional resources for clinics to adopt at their own pace, recognizing member autonomy and varying capabilities. The central organization provided support via shared resources, including technical assistance and training. As the CEO noted: "We can't force clinics to adopt new technologies. Instead, we demonstrate the benefits and provide support for those who choose to implement them."

Knowledge sharing mechanisms

Knowledge sharing was critical. The organization established formal and informal peer learning channels: quarterly meetings, online forums, and clinic visits. Early adopters served as champions, sharing experiences and best practices. This peer-to-peer exchange effectively diffused innovations. One clinic manager described: "Learning from other clinics that have already implemented the system was far more valuable than any formal training. We could see how it worked in practice and what challenges to expect."

Alignment mechanisms

ADG aligned member interests with digital transformation goals through financial incentives (group discounts, shared implementation costs) and emphasizing collective benefits (enhanced patient experiences, improved data sharing). ADG also fostered a shared identity as a "progressive dental network," motivating participation.

CASE 2: PRINCESS ALEXANDRA HOSPITAL (TRADITIONAL ORGANIZATION)

Princess Alexandra Hospital (PAH) represents a traditional hierarchical organization within the Australian public healthcare system. As a major public hospital within Queensland's Metro South Hospital and Health Service, which comprises five hospitals, PAH is the focus of this study. Our analysis of secondary data from [15–17] revealed distinct patterns in its approach to digital transformation.

Decision-making process

PAH demonstrated centralized decision-making for digital transformation. Authority resided with senior management, influenced by government policies. As Eden et al. (2022) noted, "Digital transformation decisions were made by the executive leadership team in alignment with state health department directives. [17]"

While staff consultation occurred, final decisions remained with leadership, resulting in rapid decisions but variable staff buy-in. This centralized approach, characteristic of traditional hierarchies, leverages formal authority for enforcement, aiming to reduce system variability and maintain control—a contrast to the emergent actions in meta-organizations. From a complex science perspective, this structure seeks order and predictability within a system.

As a public hospital, PAH operated within Queensland's state health department guidelines, reflecting institutional theory's normative, mimetic, and coercive pressures [20], particularly regarding data privacy and interoperability. In contrast, ADG faced establishing legitimacy without formal authority.

Implementation strategy

PAH's implementation strategy followed a structured, organization-wide approach. Digital transformation initiatives were implemented according to predetermined schedules and protocols, with limited departmental flexibility. Eden et al. (2020) observed that "*the hospital adopted a phased but mandatory implementation approach, with clear deadlines for each department to transition to the new digital systems.*[16]"

This ensured consistency but sometimes created resistance when departments were unprepared. This structured implementation reflects traditional strategies for large-scale change, relying on predefined processes and compliance for collective outcomes, differing from meta-organizations' voluntary adoption. It represents a more top-down, command-and-control approach to managing system complexity.

Knowledge sharing mechanisms

Knowledge sharing at PAH occurred primarily through formal channels and structured training programs. The organization invested significantly in professional development and training sessions to prepare staff. According to Eden et al. (2019), "*The hospital established a Digital Hospital Training Team that provided comprehensive training to all staff members prior to implementation.*[15]" While effective for basic skill development, these formal mechanisms were sometimes less responsive to emerging challenges and context-specific needs compared to ADG's peer learning.

Alignment mechanisms

PAH employed formal authority and organizational policies for alignment. Compliance was often mandatory, supported by performance metrics and accountability. Eden et al. (2022) noted that "*staff performance evaluations incorporated measures related to digital system adoption and proficiency.*[17]" The organization also emphasized digital transformation's alignment with the hospital's mission of providing high-quality patient care, creating a values-based rationale.

CROSS-CASE COMPARISON

Our comparative analysis revealed significant differences in how meta-organizations and traditional organizations approach collective action in digital transformation across four key dimensions:

Authority and autonomy

The meta-organization (ADG) operated with limited formal authority, necessitating consensus. The traditional organization (PAH) exercised formal authority. This fundamental difference influenced all aspects of collective action.

Implementation timeline and flexibility

ADG's approach resulted in variable implementation timelines, accommodating diverse capabilities but challenging network-wide integration. PAH's structured approach ensured consistent implementation but sometimes created stress when timelines misaligned with departmental readiness.

Knowledge diffusion patterns

Knowledge sharing in ADG occurred via distributed, peer-to-peer networks; PAH relied on centralized expertise and formal training. Both had strengths: ADG's peer learning fostered context-sensitive adaptation; PAH's structured training ensured comprehensive coverage.

Beyond immediate implementation, ADG's peer-to-peer model likely enhances long-term innovation capability and staff retention by fostering continuous, self-directed learning crucial for evolving digital healthcare. PAH's formal training, conversely, ensures foundational competency across a large workforce, vital for consistent system-wide operations, though potentially less agile in fostering emergent innovation.

From a complexity science perspective, ADG exemplifies complex adaptive systems with emergent collective action through local interactions [21], enabling adaptation to diverse conditions, while PAH employs structured approaches to manage complexity.

This distinction is supported by Richards-Green et al. (2024), who found that healthcare leaders in complex environments demonstrate agility and adaptability—a key component of their **'wholistic-developmental'** leadership model that parallels the flexibility seen in meta-organizational approaches [22]. In contrast, traditional structures like PAH align with what these researchers described as conventional leadership domains, emphasizing structured implementation and formal training to promote system integration and risk management.

Sustainability of change

While PAH achieved faster initial implementation, ADG's approach may have advantages for long-term sustainability. High member buy-in and ownership in the meta-organization created stronger foundations for continued engagement. These findings demonstrate that meta-organizations and traditional organizations employ fundamentally different mechanisms to achieve collective action in digital transformation, each with distinct advantages and challenges, as summarized in Table 1.

TABLE 1: KEY DIFFERENCES IN COLLECTIVE ACTION MECHANISMS: META-ORGANIZATION VS. TRADITIONAL ORGANIZATION

Dimension	Abc Dental Group (Meta-organization)	Princess Alexandra Hospital (Traditional organization)
Decision-Making Process	Collaborative and distributed; consensus required from member clinics	Centralized; decisions made by executive leadership team aligned with health department directives
Implementation Strategy	Gradual and voluntary; clinics adopt at own pace	Structured and organization-wide; phased but mandatory with clear deadlines
Knowledge Sharing	Peer-to-peer networks; early adopters as champions	Formal channels and structured training programs; Digital Hospital Training Team
Alignment Mechanisms	Financial incentives; shared identity as "progressive dental network"	Formal authority; performance metrics; alignment with hospital mission

Table 1 summarizes the key distinctions between the meta-organization (ADG) and the traditional organization (PAH) across four critical dimensions of collective action: decision-making process, implementation strategy, knowledge sharing,

and alignment mechanisms. These dimensions were selected as they represent the core operational aspects through which organizations facilitate digital transformation and highlight the fundamental structural differences between the two organizational forms.

DISCUSSION

This study's findings contribute to our understanding of how organizational structure influences collective action in digital transformation initiatives, particularly in healthcare settings. The comparative analysis of ADG (a meta-organization) and PAH (a traditional organization) reveals important theoretical and practical implications.

THEORETICAL IMPLICATIONS

Our findings extend Ahrne and Brunsson's (2008) meta-organization theory [2] by identifying specific mechanisms that overcome limited formal authority challenges: collaborative decision-making, voluntary implementation, and peer learning networks.

These mechanisms align with recent healthcare leadership research by Richards-Green et al. (2023, 2024), which emphasizes that leaders in complex environments require perspective-taking capacity beyond technical skills and benefit from '**wholistic-developmental**' approaches that balance personal growth with creating supportive environments [22,23].

In meta-organizations, this integration of individual development with collaborative processes provides alternatives to hierarchical control systems and facilitates collective action through shared goals rather than formal authority structures. However, a balanced perspective also highlights potential downsides of such distributed leadership and collaborative governance, including slower decision-making due to consensus requirements and potential ambiguity in accountability. Understanding these trade-offs deepens the nuanced comprehension of collective action in meta-organizations.

Furthermore, our study enriches collective action theory by demonstrating how different organizational structures shape the conditions for successful collective action. In meta-organizations, collective action emerges through distributed processes that emphasize member autonomy and peer influence. This contrasts with traditional organizations, where collective action is more directly shaped by formal authority and centralized coordination.

These findings suggest that collective action theory should more explicitly account for organizational structure as a key determinant of how collective action processes unfold. Additionally, our research advances understanding of digital transformation in healthcare by highlighting how organizational structure influences technology adoption and implementation.

The findings suggest that the success of digital transformation initiatives depends not only on the technologies themselves but also on the organizational structures through which they are implemented. Meta-organizations may be particularly well-suited for digital transformations that require adaptation to diverse local contexts, while traditional organizations may have advantages for transformations requiring rapid, consistent implementation.

PRACTICAL IMPLICATIONS

For healthcare policymakers, our findings suggest: (1) avoiding one-size-fits-all regulatory approaches by recognizing fundamental differences between organizational forms; (2) supporting hybrid models that combine meta-organizational flexibility with traditional organizational consistency; Such hybrid models might centralize critical infrastructure (e.g., EHR integration) while empowering member units for localized innovations (e.g., patient apps). Challenges include balancing top-down directives with grassroots initiatives and navigating tensions between standardization and local adaptation, and (3) developing differentiated evaluation metrics that acknowledge varying success factors across organizational forms.

LIMITATIONS

This study has several limitations that should be acknowledged. First, the comparison between a dental meta-organization and a public hospital introduces potential confounding factors beyond organizational structure, including differences in regulatory environments, professional cultures, and resource availability.

Crucially, this comparison now spans two distinct national healthcare systems (Taiwan for ADG, and Australia for PAH). This introduces significant contextual variations beyond just sectoral differences (dental vs. public hospital). While our primary focus remains on organizational form, these cross-national and sectoral differences profoundly shape collective action. For instance, ADG's operations within Taiwan's specific healthcare regulations and digital infrastructure context differs from PAH's Australian public hospital system. A public hospital's stricter regulatory compliance might mandate top-down digital adoption, while ADG's clinics, operating within a different national setting, may prioritize voluntary adoption driven by local competitive advantage and client service.

Acknowledging these broader contextual nuances provides a richer understanding of collective action in varied healthcare settings. The broader cross-national network of Abc Dental Group, including its Australian operations, presents a compelling avenue for future research. Future research could address this limitation by comparing meta-organizations and traditional organizations within more similar contexts.

Second, our reliance on secondary data for the PAH case may be influenced by original researchers' perspectives and lacks the depth of primary data, particularly regarding organizational culture and informal interactions. We mitigated these limitations through triangulation methods and focusing on aspects reliably extractable from secondary data.

Finally, the study's focus on two cases limits the generalizability of our findings. The patterns observed may not apply to all meta-organizations or traditional organizations, particularly those in different sectors or with different characteristics. Additional comparative studies across a wider range of organizations would strengthen the robustness of our conclusions. Moreover, while our analysis suggests potential advantages for long-term sustainability in meta-organizational approaches, direct longitudinal evidence is currently absent. This limitation creates a significant avenue for future research to empirically examine the sustained impact of these different collective action mechanisms.

CONCLUSION

This study has investigated how meta-organizations and traditional organizations differ in facilitating collective action in healthcare digital transformation. Through comparing Abc Dental Group (a meta-organization of 12 dental clinics in Taiwan) and Princess Alexandra Hospital, we found that meta-organizations rely on collaborative decision-making, voluntary implementation, peer learning, and identity-based alignment, while traditional organizations employ centralized decision-making, structured implementation, formal training, and authority-based alignment.

The distributed approaches of meta-organizations particularly suit respecting clinical autonomy and adapting to diverse healthcare environments, while centralized approaches promote consistency in critical healthcare systems.

These findings extend our understanding of meta-organization dynamics and collective action mechanisms in digital transformation. Future research should examine longitudinal outcomes, investigate hybrid organizational models, analyze regulatory influences on collective action capacity, and explore cross-national contexts. As healthcare continues its digital transformation, understanding how different organizational forms facilitate collective action remains critical for research and practice.

References

1. Berkowitz H, Bor S. Why Meta-Organizations Matter: A Response to Lawton et al. and Spillman. *J Manag Inq*. 2018 Apr;27(2):204–11.
2. Ahrne G, Brunsson N. *Meta-organizations*. Cheltenham: Edward Elgar Publishing; 2008. 201 p.
3. Rajwani T, Lawton T, Phillips N. The “Voice of Industry”: Why management researchers should pay more attention to trade associations. *Strateg Organ*. 2015 Aug;13(3):224–32.
4. Gulati R, Puranam P, Tushman M. Meta-organization design: Rethinking design in interorganizational and community contexts. *Strateg Manag J*. 2012;33(6):571–86.
5. Vial G. Understanding digital transformation: A review and a research agenda. *J Strateg Inf Syst*. 2019 Jun;28(2):118–44.
6. Kerwer D. International organizations as meta-organizations: The case of the European Union. *J Int Organ Stud*. 2013;4(2):40–53.
7. Olson M. *The logic of collective action: public goods and the theory of groups*. 21. printing. Cambridge, Mass.: Harvard Univ. Press; 2003. 186 p. (Harvard economic studies).
8. Berkowitz H, Souchaud A. (Self-)Regulation of Sharing Economy Platforms Through Partial Meta-organizing. *J Bus Ethics*. 2019 Nov;159(4):961–76.
9. Ouchi WG. Markets, Bureaucracies, and Clans. *Adm Sci Q*. 1980 Mar;25(1):129.
10. Bor S. *A Theory of Meta-Organisation: An Analysis of Steering Processes in European Commission-Funded R&D ‘Network of Excellence’ Consortia*. Helsinki: Svenska handelshögskolan; 2014.
11. Agarwal R, Gao G (Gordon), DesRoches C, Jha AK. Research Commentary—The Digital Transformation of Healthcare: Current Status and the Road Ahead. *Inf Syst Res*. 2010 Dec;21(4):796–809.
12. Valente M, Oliver C. Meta-Organization Formation and Sustainability in Sub-Saharan Africa. *Organ Sci*. 2018 Jul;29(4):678–701.
13. Ahrne G, Brunsson N. Organizations and meta-organizations. *Scand J Manag*. 2005 Dec 1;21(4):429–49.
14. Yin RK. *Case study research and applications: design and methods*. Sixth edition. Los Angeles: SAGE; 2018. 319 p.
15. Eden R, Burton-Jones A, Casey V, Draheim M. Digital Transformation Requires Workforce Transformation. *MIS Q Exec*. 2019 Mar;18(1):1–17.
16. Eden R, Burton-Jones A, Grant J, Collins R, Staib A, Sullivan C. Digitising an Australian university hospital: qualitative analysis of staff-reported impacts. *Aust Health Rev*. 2020;44(5):677.
17. Eden R, Burton-Jones A, Ballantine C, Donovan R, McKavanagh D, Staib A, et al. The Digital Transformation Journey of a Large Australian Hospital: A Teaching Case. *Commun Assoc Inf Syst*. 2022;51:842–65.
18. Miles MB, Huberman AM, Saldaña J. *Qualitative data analysis: a methods sourcebook*. Edition 3. Los Angeles London New Delhi Singapore Washington DC: Sage; 2014. 381 p.
19. Lincoln YS, Guba EG. *Naturalistic inquiry*. London: SAGE; 1985.
20. DiMaggio PJ, Powell WW, others. The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *Am Sociol Rev*. 1983;48(2):147–60.
21. Holland JH. *Hidden order: how adaptation builds complexity*. 10. print. Cambridge, Mass.: Perseus Books; 2003. 185 p. (Helix books).
22. Richards-Green S, Gough S, Sharon M. Being An Wholistic and Developmental Healthcare Leader: Insights from a grounded theory research study. *Asia Pac J Health Manag*. 2024;19(3).
23. Richards-Green S, Gough S, Mickan S. Leadership at the Intersection of Healthcare and Constructive Developmental Theory: A scoping review. *Asia Pac J Health Manag*. 2023.