APPLICATION OF COORDINATION
APPROACH TO CHANGE MANAGEMENT
IN MEDICAL INDUSTRY AGILE TRANSFORMATION PROJECTS

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The significance of this research lies in the imperative to facilitate Agile transformations in the renovation processes of Ukrainian medical institutions, particularly in addressing public health challenges during wartime and its aftermath. Undertaking such transformative projects necessitates the advancement of contemporary methodological and instrumental tools. This study aims to formulate guidelines for employing a coordinated approach to change management within Agile transformation endeavors in the healthcare sector. It delves into the adaptation of coordination profiles for the nuanced management of alterations and requirements. The study also explores Mintzberg's coordination mechanisms and examines the interplay among the components of change management processes within healthcare transformation initiatives. Furthermore, the research modeled the change management procedure and stakeholder engagement processes. The proposal advocates adopting Bi-Directional Requirement Traceability to ensure synchronized management of changes in transformational projects. The methodologies employed encompass system analysis, project and program management techniques, and foundational management theory.

Introduction

Currently, Ukraine is experiencing a pronounced demand for medical professionals. This demand can be attributed to regional resource allocation disparities, ongoing mobilization, and migration dynamics. To adeptly address the evolving operational contexts of medical establishments and their institutional resource requirements, it is imperative to devise and implement contemporary strategies for transforming human resource management processes.

Analysis of literature and the problem under study

In today's context, several pressing issues pertaining to the resource provisioning of medical institutions, including:

− Regional imbalances in healthcare resource allocation are exacerbated by migration patterns [1].

− Overlooking the diverse operational conditions of medical facilities across various Ukrainian regions.

– A pronounced personnel deficit in the eastern and southern regions hinders the delivery of high-quality medical services.

– The inability to utilize medical infrastructures is due to damages, repurposing, or outright destruction.

The National Fund for Strategic Research suggests that one avenue for resource provisioning involves recruiting foreign specialists. However, this approach remains limited in scale and often overlooks the unique challenges of delivering medical services within the Ukrainian context. Future endeavors in healthcare provisioning should prioritize infrastructural reconstruction and resource reallocation [1].

The World Health Organization (WHO) underscores that the absence of a centralized, real-time database of medical professionals complicates resource allocation. This necessitates the establishment of a digital registry for healthcare workers [2].

While a hierarchical management structure facilitates national-level oversight of the healthcare system, it often neglects the specific needs of regions demanding swift interventions and support. Decentralizing the management of medical institutions enhances adaptability, yet local communities struggle to meet the demands of healthcare facilities in conflict or potential conflict zones.

A decline in patient numbers often precipitates a more significant reduction in healthcare professionals in specific regions. The migration trends of 2022–2023 resulted in a severe dearth of specialized experts, undermining the efficacy of medical care delivery in active conflict zones and potential hotspots.

The Helsi information system's limitations, such as outdated information and booking challenges, further complicate patient access to specialists. The system's incompatibility with the Windows XP operating system restricts patient access, emphasizing the importance of centralized healthcare facilities offering comprehensive services without necessitating multiple referrals.

H. Mintzberg posits that the future trajectory of healthcare transformation hinges on differentiation, demarcation, and integration [3]. These elements bolster the healthcare system's adaptability and resilience, aligning with contemporary demands.

The current landscape necessitates adapting resource management strategies in healthcare, particularly during wartime and its aftermath. Given the urgency of most emerging challenges, reevaluating change management processes is imperative. A detailed comparison of change management models and their applicability can be found in references [4, 5].

According to Deloitte's 2022 research in Ukraine [6, 7], the most pressing human resource management challenges encompass:

– Effective workload distribution.
– Real-time employee support and assistance.
– Reassessment of organizational structures.
– Ensuring process continuity.

Reengineering HR processes in the healthcare sector, especially in volatile contexts, demands robust coordination and integration. This cannot be achieved without a comprehensive change management framework. Consequently, a pivotal objective is to formulate a coordinated approach to change management for healthcare transformation projects.

This research aims to devise guidelines for implementing a coordinated strategy for change management in Agile transformation initiatives within the healthcare domain.

Methodical research materials

Transformation initiatives designed to effectuate change possess a distinct life cycle influenced by the unique characteristics of the organization in question. Employing a hybrid life cycle ensures the manageability of the transformation project and integrates the advantages of agile management methodologies. It is imperative to refine change management processes to enhance efficiency, amalgamating Agile methodologies with elements of standardization [8, 9].

Change management and requirements management are intricately linked, with management being inherently iterative and necessitating coordination.

To maintain oversight of alterations within a complex multi-project healthcare setting, it is recommended to utilize coordination mechanisms as delineated by H. Mintzberg [10]:

– Mutual adjustment (M1);
– Direct supervision (M2);
– Work process standardization (M3);
– Service/output standardization (M4);
– Standardization of skills and competencies (M5).

Leveraging mutual adjustment mechanisms facilitates considering stakeholder needs and aligning requirements with overarching healthcare development strategies (M1). Direct supervision (M2) enhances the efficacy of project requirement

oversight. Incorporating standardization elements (M3–M5) alleviates decision-making burdens and fosters a more agile response to evolving requirements.

Executing an Agile transformation initiative necessitates a shift in the coordination profile, achievable through harmonizing change management systems, project prerequisites, and associated risks. At the onset of a transformation project within a multi-project healthcare context, a thorough evaluation of the existing change management framework and its interplay with requirements and risk management systems is essential. Based on the transformation trajectory, guidelines for tailoring the coordination profile to project demands are formulated. The triad of change management, requirements, and resource management constitutes the cornerstone of project transformation.

To adeptly navigate changes within the coordinated approach of an Agile transformation project, introducing a risk management framework in line with the ACMP Standard Change Management is proposed [11].

Strategies to mitigate the adverse impacts of change processes, especially those stemming from employee resistance, include:

– Dissemination of information and communication (I1);
– Training stakeholders for proficiency in novel systems (I2);
– Facilitating skill development (I3);
– Reassessment and modification of roles, responsibilities, incentives, organizational structure, service design, and more (I4).
– Employing User Stories to define functional requirements engages stakeholders in requirements and change management (I5).

The interrelationships among the components of change management processes within the healthcare transformation project are elucidated in Table 1.

Consolidating change management processes in line with the ACMP Standard Change Management necessitates the establishment of distinct process clusters:

– Evaluating the ramifications of changes and gauging organizational preparedness (F1);
– Crafting a strategic approach to change management (F2);
– Designing a comprehensive change management blueprint (F3);
– Executing the outlined change management strategy (F4);
– Concluding change management initiatives (F5).

Illustrations of change management models within Agile transformation projects can be found in Figures 1–2.

Table 1

**Interrelationship of elements of change management processes
in the transformation project in the medical environment**

Processes	Coordination mechanisms					Tools				
	M_1	M_2	M_3	M_4	M_5	I_1	I_2	I_3	I_4	I_5
Definition of content and impact	+	+	+			+	+	+		+
Communications	+	+			+	+	+		+	
Training and development	+	+			+	+	+	+		
Stakeholder management	+	+			+	+	+	+	+	+
Resource management	+	+	+	+	+	+	+	+	+	
Interaction with leaders and sponsors	+	+			+	+	+	+	+	
Evaluation and achievement of benefits	+	+	+	+	+	+			+	+
Risk management	+	+	+	+	+	+	+	+	+	+
Sustainable development/ stabilization	+	+	+	+	+	+	+	+	+	+

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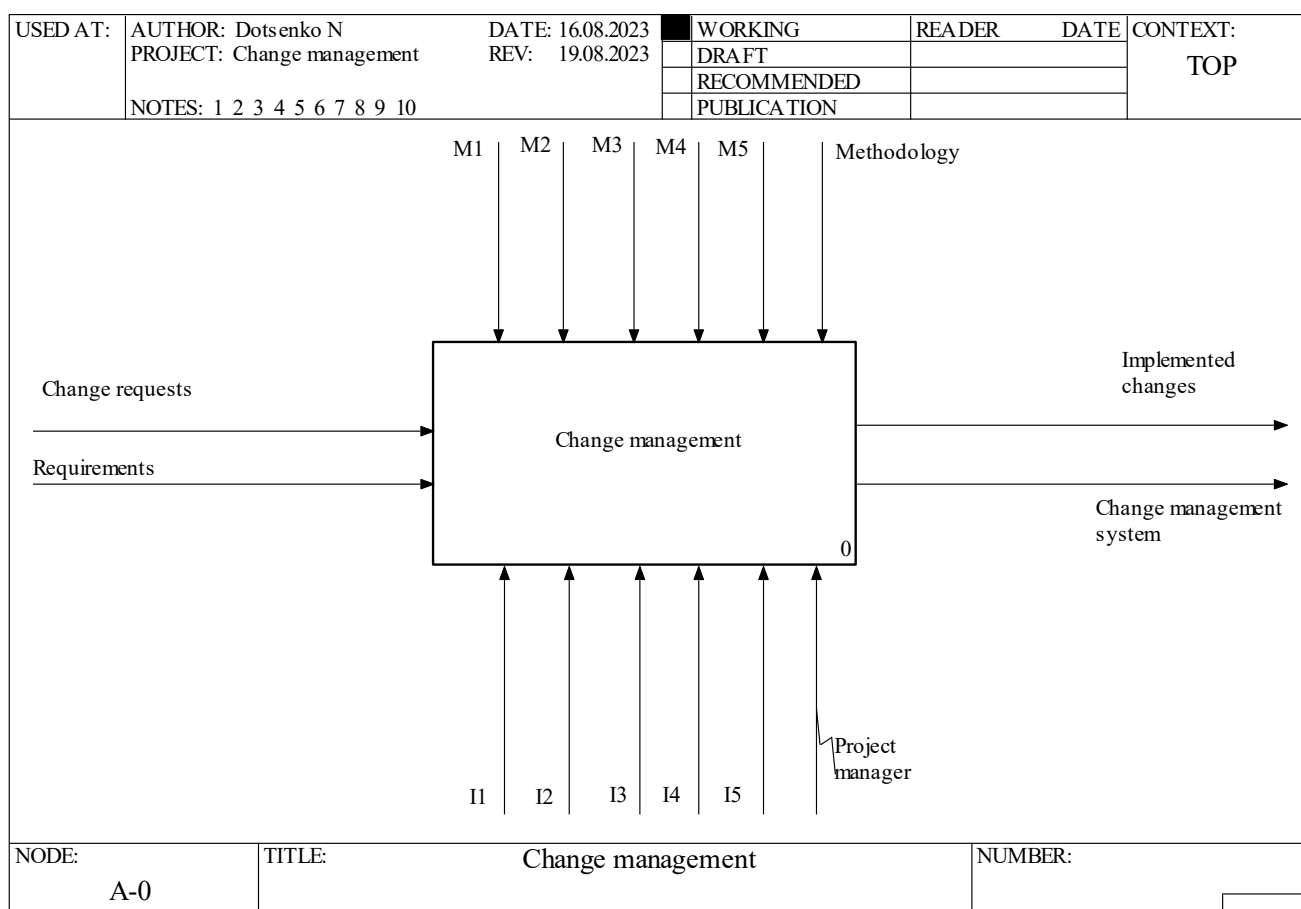
Fig. 1. Contextual model of the change management process

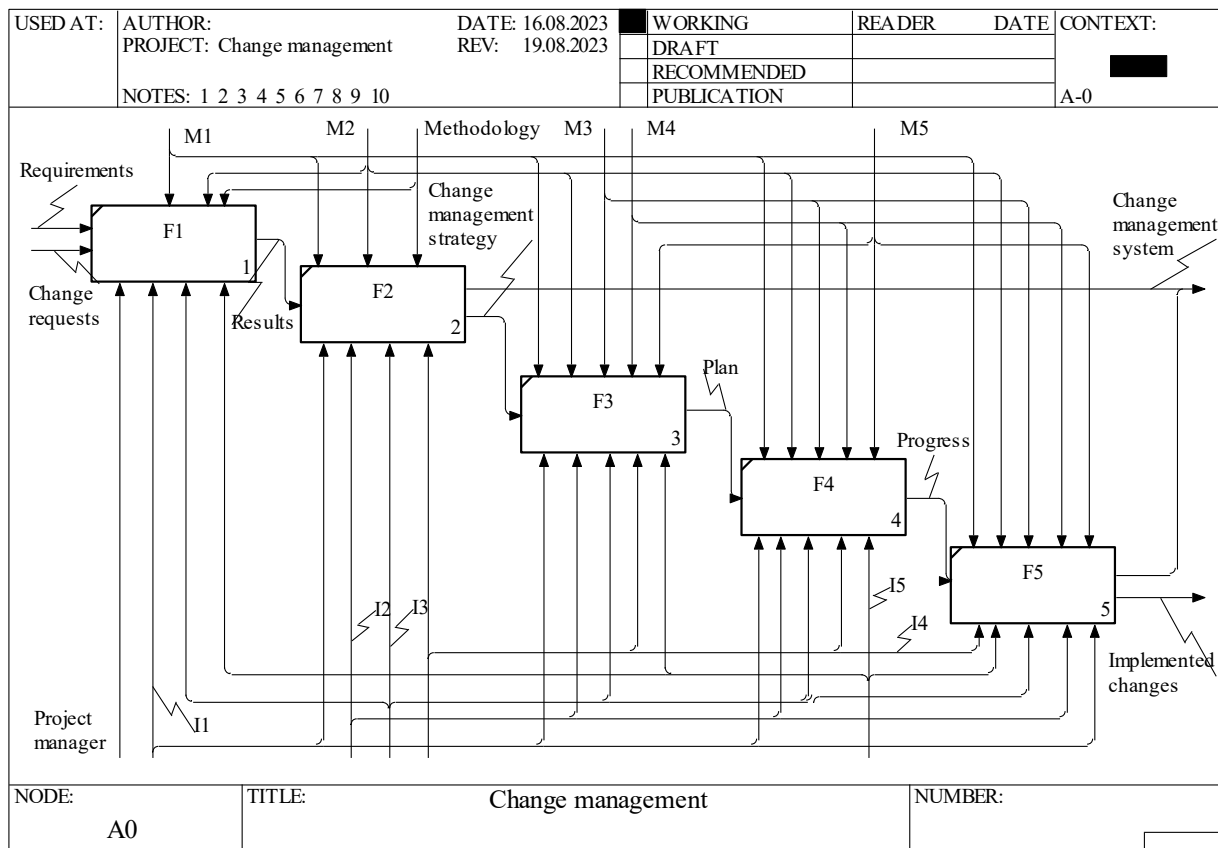| USED AT:	AUTHOR:		DATE: 16.08.2023	■ WORKING	READER	DATE	CONTEXT:
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Fig. 2. Decomposition model of the change management process

Evaluating an organization's readiness to embrace transformative changes is integral to a coordinated approach to change implementation. In gauging preparedness for such shifts, several factors warrant consideration:

– The unique characteristics of the medical institution;
– Its hierarchical alignment or affiliation;
– The maturity of its processes;
– The adequacy of its resources;
– Prevailing operational conditions.

Furthermore, discerning the boundaries of feasible changes is crucial. A breach of these boundaries arises when the magnitude of changes within the organization surpasses its capacity to manage the impacted areas effectively [11]. Overstepping these change limits can compromise the organization's operational reliability and diminish managerial efficacy.

Given that Agile transformation unfolds in a challenging milieu pinpointing and engaging stakeholders in the project becomes pertinent as a facet of information management [12].

The schematic representation of stakeholder engagement in change and requirement management can be observed in Figures 3–4.
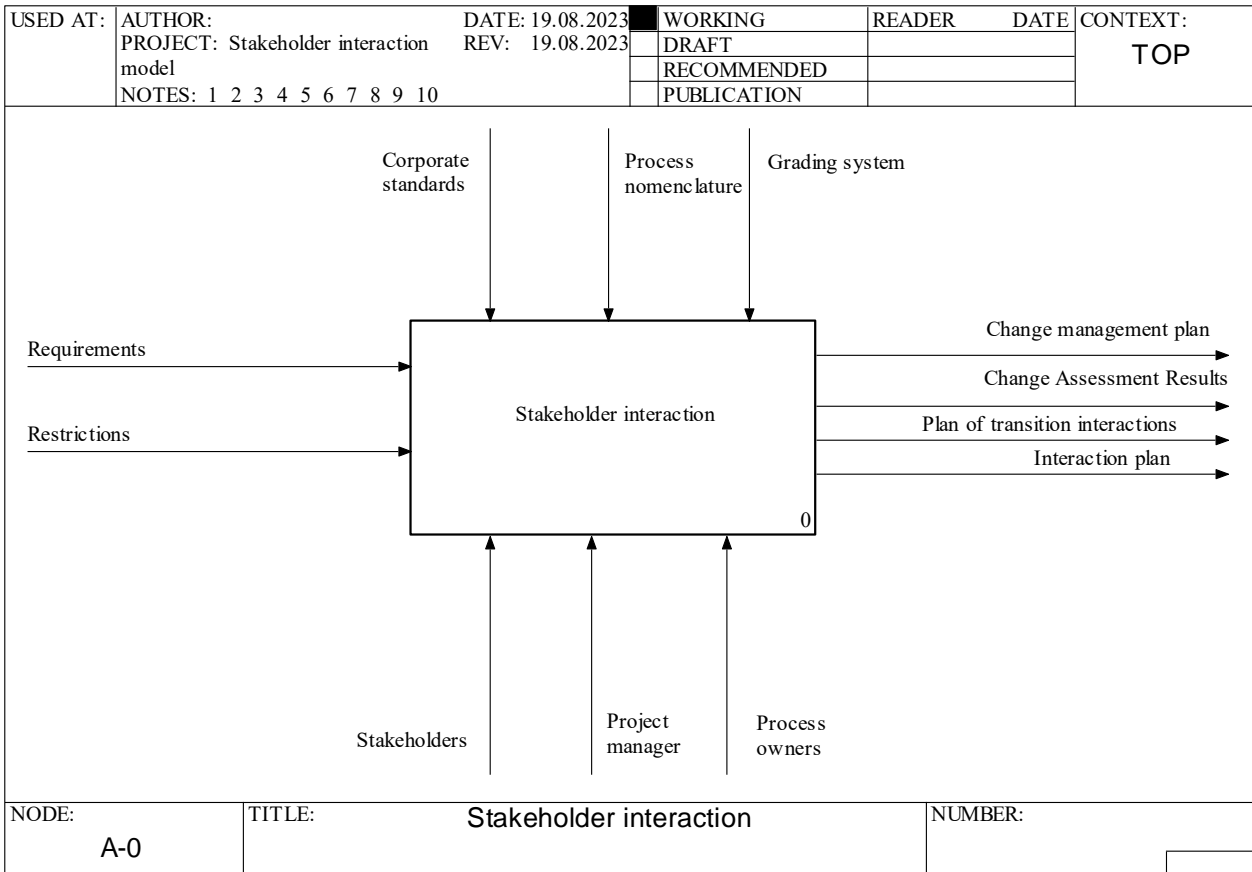
Corporate standards   Process nomenclature   Grading system

Requirements

Restrictions

Stakeholder interaction

Change management plan

Change Assessment Results

Plan of transition interactions

Interaction plan

0

Stakeholders   Project manager   Process owners

NODE: A-0	TITLE:	Stakeholder interaction	NUMBER:

Fig. 3. Contextual model of the process of interaction
of stakeholders in the management of changes and requirements

These proposed models systematize the process of stakeholder collaboration.

Involvement of process owners in change management allows you to determine the criticality of processes, the priority of changes being implemented, the availability of resources and organizational readiness.

For assessing the efficacy of Agile transformation, it is recommended to employ the Prosci Project Change Triangle model, which elucidates the interplay among project management, organizational leadership, and change management.

To facilitate effective change management, an enhanced Requirement Traceability Matrix is advocated. This matrix documents and delineates the connections between changes and requirements, offering a visual representation of their causal relationships.

Given the intricate nexus between changes and requirements in transformational endeavors, implementing Bi-Directional Requirement Traceability is prudent. This approach enables comprehensive oversight of both project requirements and ensuing changes.
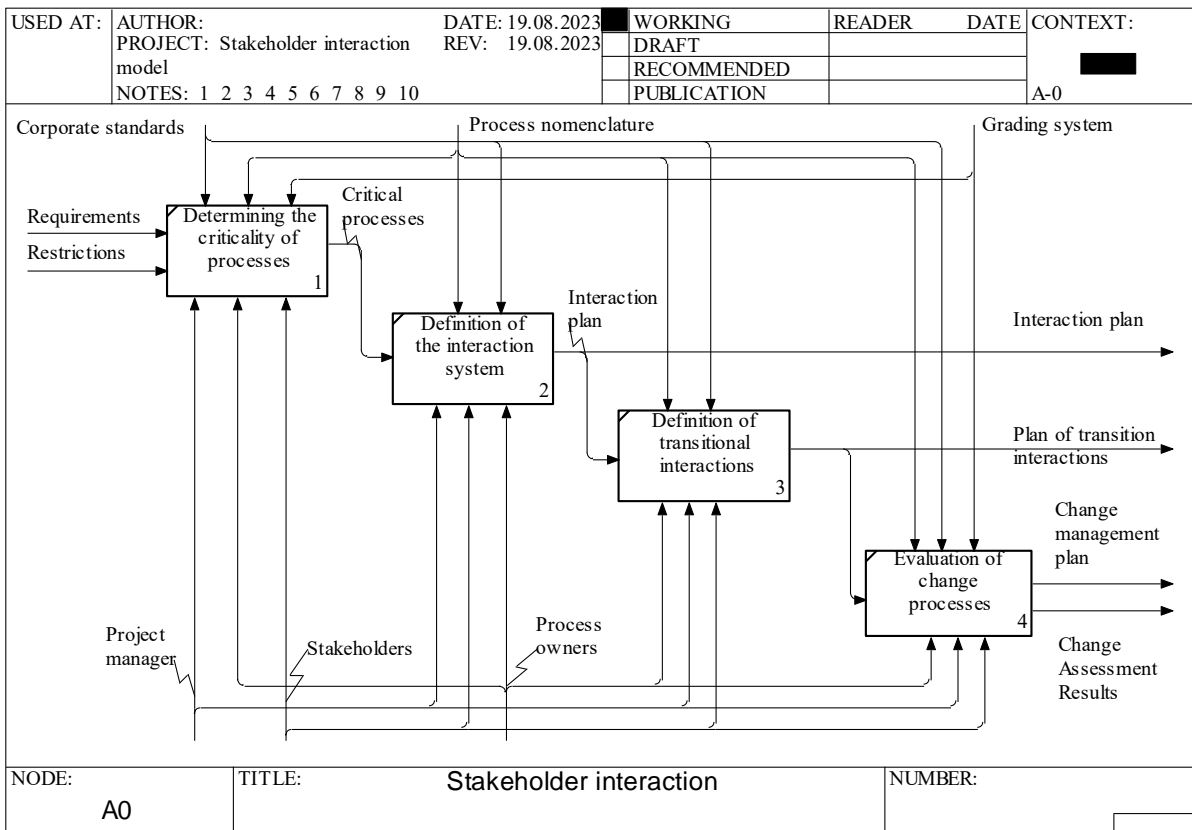
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Fig. 4. Decomposition model of the process of stakeholder interaction in the management of changes and requirements

Consequently, leveraging a coordinated strategy in managing alterations within healthcare transformation projects ensures prompt responsiveness to evolving requirements, courtesy of coordination mechanisms and robust stakeholder engagement.

Conclusions

The adaptation of the coordination profile is explored with a focus on facilitating the adaptive management of alterations and requirements.

Mintzberg's coordination mechanisms are examined, leading to the identification of key components within change management processes.

The intricate interplay among change management process components, especially within healthcare transformation projects, is scrutinized. The project transformation triangle is introduced as a potential framework.

Systematic modeling of the change management procedure and stakeholder engagement processes has been undertaken.

The advocacy for Bi-Directional Requirement Traceability emerges as a strategic approach to synchronize managing changes within transformation initiatives.

The furnished guidelines offer a blueprint for structuring the change management system in transformational endeavors. These guidelines are versatile, allowing for scalability based on project magnitude and the desired level of aggregation.

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