Advancing change agility in healthcare
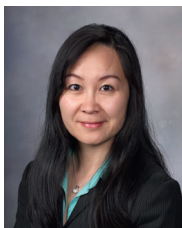
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Abstract   Agility has been adopted in the software development industry for decades and has been used in the business world for the past 10 years. In healthcare, however, agility has not been widely adopted or studied but is emerging as imperative for competitive advantage in a rapidly changing environment. Human-centred agility and change in the wake of the COVID-19 pandemic has become especially important. Change agility is composed of two aspects. While the first aspect is a mindset that embraces change, resiliency, flexibility and responsiveness to consumer needs, the second is an approach using collaborative efforts through self-organising teams. Healthcare organisations must adopt both aspects to leverage the collective value of change agility. To help staff embrace and develop a change agility mindset, healthcare organisations need to offer relevant educational courses and coaching; teach change agility principles and values by using case studies and real-life applications; and promote the right culture by building flexible systems, providing a safe learning environment and encouraging risk-taking. To grow and sustain change agility, healthcare organisations can benefit by using a continuous seven-step quest: examining the current state, defining the future state, assessing the gaps, developing strategies, executing the strategies, measuring progress and maintaining success. This paper addresses the strategy and iterative interventions developed by the Department of Management Engineering and Consulting (renamed the Strategy Department) at Mayo Clinic to prepare its professional staff to drive a business-focused, change agility mindset through benchmarking, education and experiential learning. The early experiences and lessons learned at Mayo Clinic in change agility are likely broadly transferable to other healthcare organisations.

KEYWORDS: agility, change, diverse, healthcare, iterative, mindset

INTRODUCTION

'Today the only thing that is permanent is change.'

Charles H. Mayo, MD

Mayo Clinic co-founder, Charles H. Mayo, MD, had the foresight to emphasise that change is a constant in every aspect of our personal and professional lives, as have other healthcare and industry leaders over the years. Today, the rate and complexity of change seem to increase even more rapidly than decades ago. The COVID-19 pandemic is a stark example of the change and uncertainty that could affect us with little to no foreshadowing. Change management and agility are important strategies that have been adopted successfully across industries, especially in implementing technology-driven strategic and operational imperatives. In view of the global events over the past few years, however, healthcare organisations and other businesses must adopt more of a *change agility* approach, which integrates change management and agility. Yet, to the authors' knowledge, few, if any, publications exist about change agility in healthcare.

The goal of this paper is to fill this knowledge gap by describing change agility in healthcare and presenting a case study of applying change agility at Mayo Clinic. By developing a culture of continuous innovation and disciplined execution that allows for experimentation, change agility, learning from failure and embracing flexibility, it is hoped that Mayo Clinic is prepared to adapt successfully to future changes and better meet the dynamic business demands with continued consumer centricity. The lessons learned may be transferable to other healthcare organisations.

Background: Agile, agile, business agility, change agility and change management

Agile has two forms. Lowercase *agile* refers to a person's or organisation's attributes or traits that are vigilant, responsive, attuned, flexible, durable, prepared and resilient. In contrast, uppercase *Agile* is an approach or model that uses self-organising teams and iterations to transition from the current state to the future state. Practised by teams, groups or organisations, the Agile approach (Figure 1)[1]

addresses consumers' changing requirements, uncertain system dynamics and outcomes related to technical and system complexity. The Agile approach was first introduced in the information technology field in 2000, when 17 software developers met to discuss how to speed up software development. A year later, when the same 17 developers met again, they produced the 'Manifesto for Agile Software Development', describing their principles and values (Figure 2).[2,3]

Business (or organisational) agility is the 'rapid, continuous, and systematic evolutionary adaptation and entrepreneurial innovation directed at gaining and/or maintaining competitive advantage'.[4] With business agility, an organisation can adapt quickly to consumer, environmental and market changes in effective, efficient and cost-effective ways, thus maintaining its marketability and favourable business position.

Change agility is a person's or an organisation's ability to respond quickly to internal or external changes and to adjust existing practices, systems and processes with timely implementation and business integration to transition to a new state. This
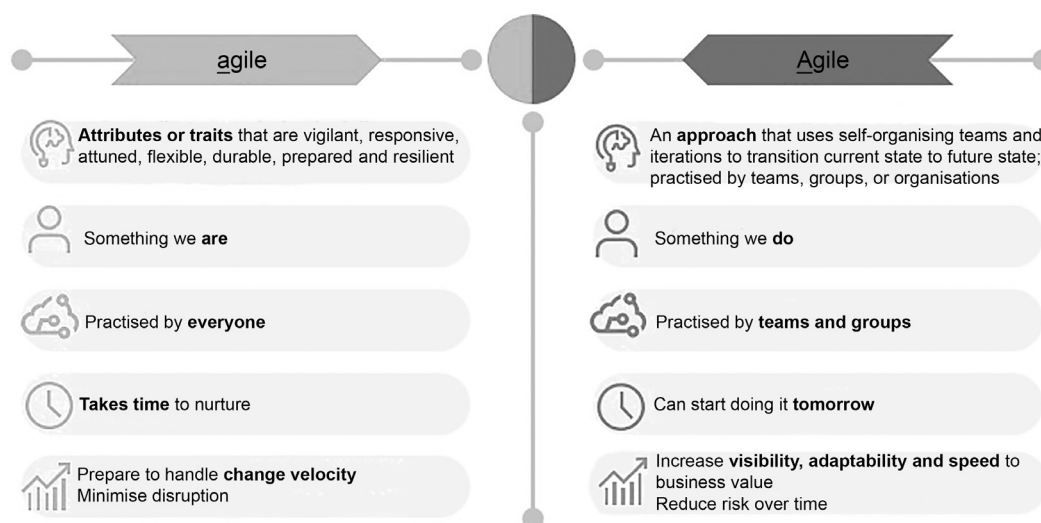

Figure 1   The agile (lowercase) versus Agile (uppercase)
Source: Modified from Prosci Inc., (n.d.), 'Stop confusing agile with Agile', available at: https://www.prosci.com/resources/articles/stop-confusing-agile-with-agile (accessed 6th April, 2022); used with permission.
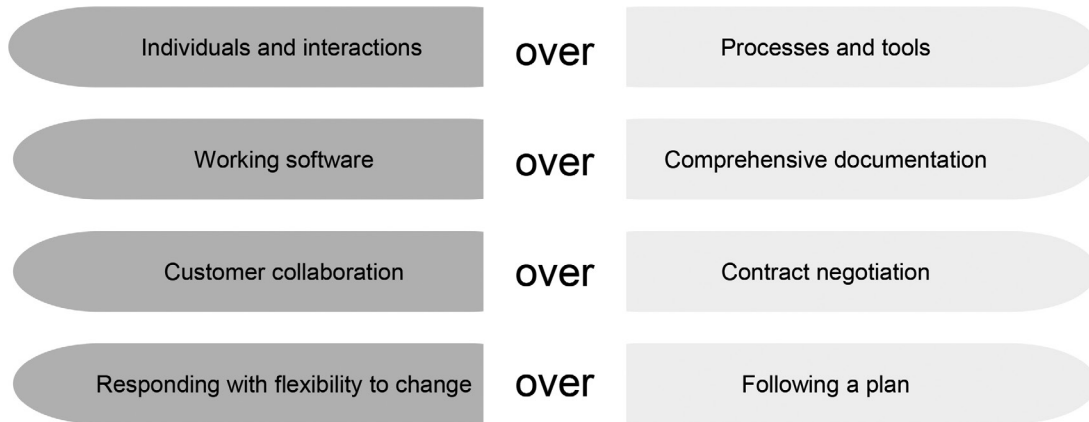
Figure 2   The four values of the Agile Manifesto
Source: Data from agilemanifesto.org

A

Change Management
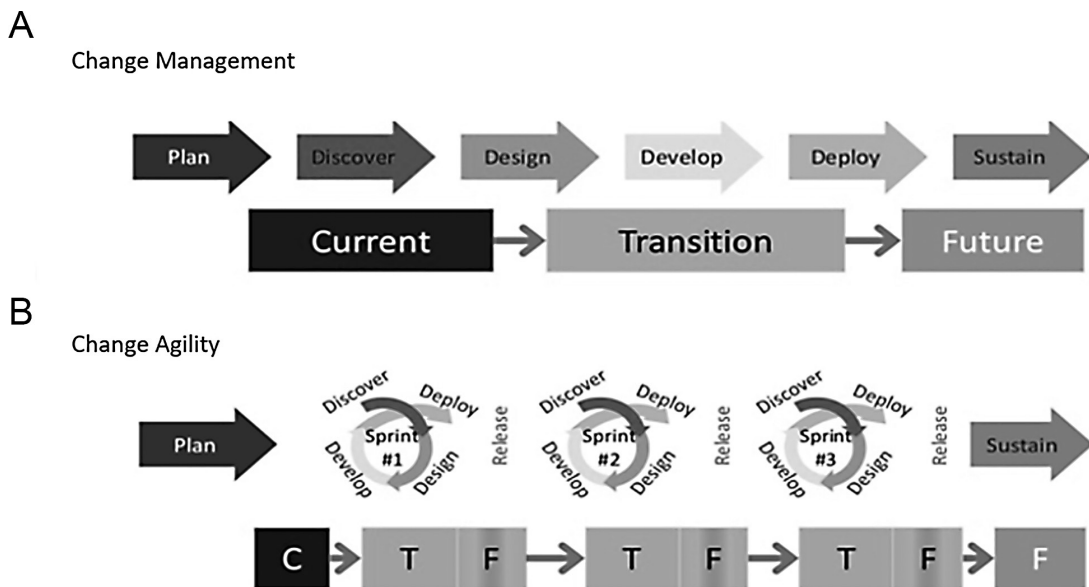

B

Change Agility

Figure 3   Change management (A) versus change agility (B). C indicates current; F, future; T, transition
Source: Modified from Prosci Inc., (n.d.), 'Stop confusing agile with Agile', available at: https://www.prosci.com/resources/articles/stop-confusing-agile-with-agile (accessed 6th April, 2022); used with permission.

type of agility is essential to surviving and thriving in a fast–paced and dynamic global market.

Change management is about managing the people side of change. The American Society for Quality defines change management as 'the methods and manners in which a company describes and implements change within both its internal and external processes. This includes preparing and supporting employees, establishing the necessary steps for change and monitoring pre- and post-change activities to ensure successful implementation'.[5]

Compared with the change management approach, *change agility* breaks down the future states into small 'sprints' through the discover, design, develop and deploy model (Figure 3).[6]

The evolving journey towards change agility

Change occurs rapidly — whether from accelerating digital growth, changing consumer expectations and preferences or from unprecedented events such as the COVID-19 pandemic. Therefore, organisations must adapt quickly and effectively to planned and unexpected changes.

The authors' review of the literature showed that before 2001, agility-related publications were found mostly in the science and physical therapy fields. After 2001, when the Agile Manifesto was introduced, software development agility was examined, studied and eventually adopted by software companies' staff and leaders, and relevant research and practice outcomes gradually were published.

A total of 269 Agile publications were found from January 2000 through July 2021, with 78 (29 per cent) being published in 2020 and 2021. When the search was narrowed to healthcare, the authors found only limited business agility publications related to healthcare and no peer-reviewed publications regarding change agility in healthcare. The authors hope to fill this gap in knowledge by describing the early experiences and learnings of Mayo Clinic's Department of Management Engineering and Consulting (ME&C) with implementing change agility in healthcare.

ORGANISATIONAL BACKGROUND

Mayo Clinic is a large, non-profit multispecialty, integrated medical group practice and hospital system providing highly specialised, complex care, with several locations in the USA: Rochester, Minnesota; Jacksonville, Florida; and Scottsdale and Phoenix, Arizona. Mayo Clinic also has a large network of community-based care facilities across southern Minnesota and western Wisconsin, collectively named the Mayo Clinic Health System. Furthermore, Mayo Clinic has a global presence through physical offices, various products and services, and affiliations with other healthcare institutions.

The long history of systems engineering at Mayo Clinic was described previously.[7–10] Historically, Mayo Clinic leaders have understood the importance of integrated, patient-centric systems and processes for delivering trusted care. Mayo Clinic's first formal management engineering section was created in Minnesota in 1947 to develop a patient registration process, manage forms to support clinical workflows and create clinical procedure guides.

As the needs of healthcare and the strategic services provided by the section evolved, the section name was changed to Systems and Procedures and later to ME&C, before becoming the Strategy Department. With the continuous growth and diversification of Mayo Clinic, ME&C likewise experienced considerable growth. The department employs up to 225 professional and administrative staff, including management engineers (hereafter termed *engineers*) and project managers with expertise in business consulting, management engineering, operations research, advanced analytics and modelling, digital systems enablement and project management. ME&C partnered with Mayo staff and external colleagues to facilitate the strategic and operating priorities of Mayo Clinic.[11]

APPLYING CHANGE AGILITY

As Mayo Clinic's business consulting team, ME&C was tasked with helping to build a culture that embraced moving more quickly from discovery and innovation to execution of important organisational priorities. Engineers and project managers partnered with senior leaders and stakeholders to accelerate this transformation to agility. Through benchmarking and reviewing the literature, leaders in ME&C recognised the limited experience available internally

and externally on change agility. Therefore, the leaders in the department decided to experiment with change agility methods, then leverage its experiential learning, and thereby iteratively increase the body of knowledge related to integrating agility and change management effectively. Throughout this process, ME&C sought to learn from continued literature reviews, internal initiatives, educational interventions and other organisations' change agility experiences. The department's journey towards change agility started with a focus on helping staff and leaders learn new skills in change agility.

Upskilling in change agility

For most of its upskilling efforts, ME&C used the 70–20–10 model for learning and development. According to this model, 70 per cent of knowledge is gained from job-related experiences, 20 per cent from discussions and interactions with others, and 10 per cent from formal education.[12–16] A multimodality approach was adopted, beginning with a series of presentations and discussions facilitated by department staff who had studied the various facets of change agility. Soon after this in-service education, experiential learning began. As the department received project requests, the leadership team identified opportunities to experiment with change agility. The leaders also looked for ways to partner with other departments in the organisation that were trying to adopt the change agility approach. ME&C's Section of Clinical Practice (which has approximately 50 staff) conducted Agile and agile learning sessions that synthesised the lessons learned by staff members in the section. During these learning sessions, staff members shared real-life project experiences and outcomes and discussed the challenges to infusing change agility into clinical practice-related initiatives and the factors that predict success.

Case study

One of ME&C's projects involved working with a multidisciplinary team to design, develop and implement a web-based system supporting a new healthy lifestyle programme at Mayo Clinic. The system was to be used by the healthy lifestyle programme staff to document the customer experience, and it needed to be integrated with multiple existing systems within the organisation for workflow efficiency. The challenge was that the web-based system needed to be built in less than 10 months, while the healthy lifestyle programme and its offerings (ie the business and system requirements) were dynamic and still under development.

Needing to be flexible, adaptive and customer-centric, the team decided to adopt an Agile approach to embracing changing requirements and priorities. The initial focus was on uppercase Agile, using the scrum framework, which relies on incremental development. The work for this complex programme was broken down by working through the backlog and setting priorities, with incremental value being delivered by the team every two weeks ('a sprint'). At the end of each sprint, the team demonstrated the work to the stakeholders and obtained their feedback to ensure expectations were met. The team members then used this feedback to adjust the work for the next sprint, especially if requirements changed. Additionally, the entire project team conducted sessions called retrospectives to discuss lessons learned in the sprints, aiming to continuously improve.

Because this approach was a new way of working for the proponents, stakeholders and team members, the Agile development team encountered challenges. They had limited Agile training or experience, and the project had competing priorities. Team members became overwhelmed and frustrated. Fortunately, one team member had relevant experience and acted as an

informal coach to guide and sustain the team through the project. In hindsight, the team needed more than an Agile methodology; the agile mindset was critical as well. A blended approach incorporating change agility from the start would have proved much more effective.

In the end, the team was able to deliver the web-based system on time (<10 months) and on budget, and the proponents and end users were very satisfied with the system. Many team members described using Agile and agile in their work as one of their best team experiences. In a follow-up meeting, a few members noted that the system development team evolved into one of the most high-performing teams on which they had served.

While examining the factors that led to the success of the project, the team realised it was not merely the use of scrum. Although Agile (the way the group worked) came first, the team also became agile (acquired the mindset) in dealing with the constant changes. With every two-week sprint, the whole project team demonstrated increasingly greater change agility by using the aforementioned discover, design, develop and deploy model. By being both Agile and agile, the team became high performing because of the active engagement of all leaders, stakeholders, end users and development team members. The team lived the principles and values outlined in the Agile Manifesto while ultimately cultivating the agile mindset, leveraging a change agility approach.

Other factors that underlay the success of this complex and rapidly moving initiative were psychological safety, customer centricity and continuous improvement. These three factors are described in what follows.

Psychological safety

The Agile system development team was engaged with proponents and stakeholders and was transparent with the work planned and accomplished in two-week sprints. The agile mindset, however, started to unfold only when the proponents and stakeholders saw the incremental value delivered towards the goal and had the opportunity to regularly prioritise the work to meet changing needs. The infusion of change agility began to lead to greater trust and increased confidence. This culture of psychological safety enabled the system development team, the proponents and stakeholders to talk honestly when challenges and hurdles developed. Eventually, the team became empowered and self-directed.

Customer centricity

Because a collaborative demonstration was conducted every two weeks in a psychologically safe environment to elicit user feedback, the end users were actively engaged and familiar with the system throughout its development. Change management was addressed iteratively and thoughtfully; the end users were aware of what the changes were and why the changes were made. It was rewarding to have the system go live after a final demonstration, an end-to-end 'dress' rehearsal, and an end users' practice 'playground' without any formal classroom training.

Continuous improvement

A third reason for success was the willingness to learn and improve together as a team. The team conducted open and honest discussion from the retrospective sessions held every two weeks to identify action items for improvement. As a result, the team's productivity kept increasing as the team moved through these group development stages: 'formed, stormed, normed and performed.'[17] When a team member could not finish an assigned task for unforeseen reasons, other team members jumped in to

help. The development team was able to focus on building the system, while other team members proactively helped to remove barriers such as adapting to rapid changes, seeking clarity from senior leadership and quickly adding the resources needed to ensure success. Because the team was encouraged to reflect with a no-blame attitude, the team built the responsiveness, resilience and flexibility needed to surmount challenges.

DISCUSSION

The authors believe that change agility is necessary to sustain the effective and efficient delivery of healthcare in a dynamic world. The experiments and initial experiences at Mayo Clinic reinforced the importance of adopting a blended, human-centred and comprehensive approach to change agility. Healthcare organisations must build a change agility mindset with staff and a change agility model within the organisation.

Other healthcare organisations can help their staff embrace and develop change agility expertise in the following ways: (1) *Offer a variety of learning opportunities:* agility courses, coaching, case studies and real-life experiences. (2) *Develop reusable assets for learning,* such as agility training materials and crowdsourced virtual spaces. (3) *Promote a change agility culture by building flexible systems.* An example of flexibility is leadership empowering staff to be creative and innovative and to experiment with new methods and approaches. (4) *Focus primarily on outcome instead of output measures* while tracking the initiative's short- to mid-term progress. (5) *Provide a safe and learning-oriented environment that encourages risk-taking, empathy and transparency.* In this environment, mistakes and temporary unfavourable outcomes are embraced to allow staff to try, fail and grow professionally.

To foster the change agility model, healthcare organisations can benefit by adopting a continuous seven-step quest. The

seven steps are as follows: examine current state, define future state, assess gaps, develop strategies, execute the strategies, measure progress and maintain success (Table 1).

The Mayo Clinic ME&C's change agility journey is ongoing, but quantifiable results and outcomes are expected in the next phase of this capability-building effort. The team leaders elicited feedback from team members on using the change agility approach, and the following are examples of the qualitative feedback received so far:

> Because we were constantly changing our processes, it was nice, as an end user, to have the development team who understood what we needed in our system. These individuals had physically been through our [healthy lifestyle programme as a customer], allowing a better understanding of what we [as end users of the system] were looking for.
>
> The team wished we could have stayed together and would not hesitate to work together again. Once you have experienced being in a high-performing team, you feel a sense of loss when you part ways.
>
> It was hard to prioritise requirements and size the stories (ie scope incremental work) in the beginning; however, as the team learned and saw the value of scrum planning and being transparent, it became easier over time. It only worked, though, when the whole project team — both business and technical — was engaged and built trust.

The positive feedback on change agility is reassuring, yet the authors realise that it is important to implement this approach thoughtfully and anticipate challenges. Team members must consider the unique characteristics and nuances of the various business units in the organisation as they scale change agility. For example, in certain

Table 1: Continuous seven-step quest to adopt the change agility model.

Step	Actions
1. Examine the current state	Review the organisation's level of agility maturity related to its culture, processes and systems, leadership and staff knowledge, decision-making capability and risk tolerance Recognise both obvious and hidden attributes
2. Define the future state	Perform a strategic review of the organisation's priorities and growth aspirations Establish long-term and short-term goals for change agility
3. Assess gaps	Map the current and future state Identify gaps and root causes
4. Develop strategies	Prioritise which gaps to address first Develop actionable strategies and tactics for each gap
5. Execute the strategies	Relentlessly champion, 'socialise' (communicate) and execute strategies Seek iterative feedback
6. Measure progress	Create clear, actionable metrics (both quantitative and qualitative) to measure success Intervene when needed in a timely way Consider varying metrics depending on the individual staff person, department and organisation
7. Maintain success	Develop a strong operational sustainability plan to achieve long-term success Share positive experiences and lessons learned to build change agility capability

clinical, research and education settings, 'fail fast and learn fast' must be exercised with caution, especially concerning patient safety and regulatory compliance. Mistakes in a patient care environment could have devastating consequences. Also, change agility leaders may need to modify how they involve stakeholders. For example, engaging busy physicians and care teams in daily stand–up meetings does not seem to be an optimal use of their time. Challenges also exist to adopting change agility in a complex, matrixed healthcare organisation that needs multiple committee approvals. To function in a matrix structure, the organisation and its staff must balance the discipline needed for optimised operations with the flexibility to embrace agility, innovation and ideation.

CONCLUSION

Change agility deals with not only working quickly but also working on the right initiatives in the right way: bringing greater value to customers while maintaining quality and safety and carefully assessing the risks involved. Healthcare leaders must align their actions with their words to provide psychological safety and empower teams to execute initiatives ('the how') within the context of the vision ('the what') set forth by the leaders. A leader who merely provides changing directives to the team for every two–week sprint has not embraced agility.

Mayo Clinic's learning so far highlights the importance of investing in human resources, training and coaching and of coordinating coherent actions to embrace agility. Teams should be ready and empowered to pivot as needed when the next change comes. Into any agile culture and Agile approach, the team must integrate the fundamental change management principles, such as having engaged and visible leaders, raising awareness, understanding the reason for the change, knowing 'what's in it for me', acquiring the knowledge and ability to adopt the change and reinforcing the change. After all, whether the changes are big or small, slow or fast, planned or

spontaneous, they affect people. Hence, it is crucial for healthcare executives and change agility teams to manage aspirations and expectations. In this way, both the people involved with navigating change and those affected by the change can thrive.

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