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ADOPTING AGILE OPERATING MODEL FOR HEALTHCARE

student Mammedove Narmin
(Name, Surname) (signature)

Supervisor PhD Babych Tetyana
(scientific degree, academic degree)

(signature) (Name, Surname)

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Head of the Masters' Program
Associate Professor, PhD in Economics
Y.Solodkovskyy

(signature)

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INTRODUCTION:

The global competitions have for many years been forcing organizations to cut cost to be able to survive. Having equity tied up in large stocks is history and many organizations have adopted different lean philosophies in order to meet the fluctuating demand of their products or services, and success stories due to “Leanness“ which can be found in all kind of industries (Verstraete, 2004).[9]

Also, attaining strong competitiveness and superior business performance constitutes a major challenge for firms, especially in a volatile business environment. Customer demands are becoming more dynamic (Vinodh et al. 2010b) and the frequency of environmental changes is increasing significantly (Ahlbäck et al. 2017). This leads to growing complexity and uncertainty in the market (Vinodh et al. 2010a), thus increasing competition. Certain organizational capabilities can enable a company to respond appropriately to rapidly changing environmental conditions and to exploit these changes as business opportunities. In this context, Hatzijordanou et al. (2019) emphasized a high agility level as a rewarding capability when aimed at the quick exploitation of business opportunities. Meinhardt et al. (2018) confirmed the high impact of an increasingly dynamic business environment and suggest agility as a differentiation strategy. [10]

Lean organizations might be good at scaling its production, but when it comes to adapting to other changes, such as new technologies, business models, customer demands, sales channels or regulations (agile operating model), they sometimes stand perplexed (Verstraete, 2004). In the word of Hugos (2009), he argued that “just as we recognize the efficiency of the assembly line as the great wealth producer of the industrial economy, we will see the responsiveness of the real-time enterprise as the great wealth producer of the information economy”. To cope with this, many organizations have instead started to focus on how to become more flexible. [9].

This is more necessitated by the emerging challenges of COVID19 which is plaguing the global economy by forcing many businesses to shutdown abruptly. This is

also a perfect time and moment for the Healthcare sector to adopt more proactive approach in formulating and adapting good and timely agile operating model to curb the menace of this global pandemic by serving life at its fullest.

For the purpose of clarity, this research will look into the meaning of “Agility” and agile operating models, its features, essence, principles, segmentations, customer-oriented operating models in Hospital, etc.

According to Iacocca/ Leigh (1991) Agility is defined as a system that shifts quickly among product models/lines, ideally in real time in order to respond to customer needs. Goldman et al. (1995) explained agility as a capability of an organization to operate profitability in a competitive environment comprised of continually changing customer habits. In the words of Kumar and Motwani (1995), It is the ability to accelerate the activities on critical path and... time-based competitiveness. Cho et al. (1996) see agility as the capability to survive and prosper in a competitive environment or continuous and unpredictable changes by reacting quickly and effectively to changing markets, designed by customer designed products and services. Sambamurthy et al. (2003) maintained that agility is ability of a firm to redesign their existing processes rapidly and create new processes in a timely fashion in order to be able to take advantage and thrive of the unpredictable and highly dynamic market conditions. [9]

Yusuf et al. (1999), said it is a successful exploration of competitive bases (speed, flexibility, innovation, proactivity, quality and profitability) through the integration of reconfigurable resources and knowledge management to provide customer driven products and services in a fast- changing market environment. [9]

Therefore, Agile Operating model plays a crucial role in positioning an organization in the market place for competitive advantage.

In a review of business agility research, Sherehiy et al. (2007) says that the concept of business agility has been around for a few decades and been a main topic of

research in both industry and academia due to the need for organizations to cope with unpredictable, dynamic and constantly changing environments. This is also supported by Mathiassen and Pries-Heje (2006). Business agility is driven by change and though change is not something new, it is now occurring more rapidly than ever before (Tseng and Lin, 2011).

The term “business agility” might by some be considered to be just a new fashion word. We argue that this is not the case and that it also is important to understand that it is not a tool or technique. Business agility concerns the overall strategy of the company (Sherehiy et al., 2007), and is a shorter term for organizations ability to detect and respond to changes (Tsourveloudis and Valanvanis 2002; Overby et al. 2005; Tseng and Lin 2011). Overby et al. (2005) defined the notion enterprise agility as “the ability of firms to sense environmental change and respond appropriately”. Based on the words of Tseng and Lin (2011) which argued that “agility is considered the winning strategy for becoming a global leader in an increasingly competitive market of quickly changing customer requirements”. [9]. This importance of achieving high business agility has come to the notice of many organizations worldwide including the healthcare sector. As an example, IBM has launched a major business agility project due to a global CEO study in 2010, which revealed a strong correlation between agility and success, and resulted in a large focused business agility study (IBM, 2011).

In a 2006 McKinsey Quarterly global survey of 1562 executives, almost nine out of ten responders stated that agility is either extremely- or very important to business performance and 91% thinks that the importance of agility and speed has increased in the past five years (The McKinsey Quarterly, 2006). The Boston Consulting Group argues in an article that agility is the new competitive advantage (BCG, 2011). Microsoft Executive Leadership Series publishes books for executives, and in 2009 they published the book “Business Agility: Sustainable Prosperity in a Relentlessly Competitive World” (Hugos, 2009).

Based on a large study by Phillips and Wright (2009), the agility revolution is also highly present in the financial service business. Kodak is a recent example of a former successful organization that lacked the ability to adapt to the changing environment, which have led to the company filing for bankruptcy protection (Bloomberg, 2012).

The health care sector is becoming more consumer-centric, participatory, outcomes-based and cost-efficient, but lags in introducing automation and enablement technologies. This is according to *New Horizons 2019: An EY NextWave Health Report*, that explores the shift from reimagining the health ecosystem of tomorrow to executing on that vision.[11] This report highlights that investors and policymakers believe the future of health lies with technology. Responding to this, private equity investors are increasingly funding health technologies, physician practice management and outpatient specialty areas, including urgent care and home health care. Between 2014-18, health care expanded its share of total private equity deals in the US from 8.3% to 12.2%. In fact, one in seven private equity firms made at least one health care investment in 2018, with a focus in clinical efficiency and regulatory compliance.[11]

Additionally, the report found that only one in four consumers view their health system as innovative compared with other digitally transformed industries such as retail or banking. In general, healthcare lags other industries in introducing digital technologies for both consumers and physicians, with only 25% of Netherlands consumers and 21% of physicians in England rating their health care systems as performing well. [11] This lag in agile operating model in meeting the emerging environmental and customer needs also affect the healthcare sector in Azerbaijan.

David Roberts, EY Global Health Sector Leader, says: “A change in attitude, maybe that is culture, across the health care ecosystem is vital. Health organizations need to become more agile and look to build, buy or partner on solutions that bring the organization up to speed. Health care organizations and health systems contemplating

change will need to weigh three conditions that are necessary to achieve this — creating an overarching strategy of digital transformation, optimizing performance through agile business transformation and pursuing deep-seated cultural change.” [11]

In the long-term the value for health companies will not necessarily be in owning data, but in the relationships and access to ever-larger data pools that allow algorithms and insights to be created. These in turn will shape health outcomes in ways that matter to consumers, payors and other health stakeholders. To build the connected health ecosystem of tomorrow, an open IT infrastructure is necessary, that connects all these stakeholders and supports the frictionless, permission-based flow of information. This infrastructure, together with open source data standards, that go beyond application programming interfaces and clinical data models, are essential precursors to our view of the emerging, participatory health, world in which we live. [11]

Aloha McBride, EY Global Health Advisory Leader, says: “Care requires frictionless, but permission-guided, data sharing among stakeholders – whether they are consumers, who are increasingly recognized as owners of the data, or businesses that provide the tools capturing the data. Data sharing necessitates a health IT platform that allows for the storage and linkage of structured and unstructured data; the data has to exist independently of the applications that generate it; and the data must be accessible by a variety of interfaces.”[11]

Another example is Facit AB, a mechanical calculator manufacturer who did not manage to adapt to the changes in technology, and finally was liquidated (Petersson, 2003). Therefore, the need for organizations and healthcare sector, both private and public to be sensitive to adopting agile operating strategies in a global phenomenal age like ours is a key in tackling the present and the future problems.

Chapter 1. Theoretical and methodological basis of the agility operations model.

1.1 Features of the operations model of the service company.

Digitalization forces organizations to place flexibility and time-to-market at the core of their business model. Companies like Spotify have been doing this from the start, with the ability to quickly introduce new products and services tailored to changing consumer needs. These companies are shining examples for the more traditional players, who are struggling to respond. In order to keep up, many organizations are experimenting with agile in their (IT) Operating Model. This goes beyond applying agile IT development methods such as Scrum, but instead moves towards adopting agile principles throughout the entire organization. Embracing agile at an Enterprise level is widely believed to lead to the much-desired increase in flexibility, time-to-market and customer satisfaction. [12]

However, organizations that decided to radically change their (IT) Operating Model have proven that agile cannot be regarded as a silver bullet. The traditional world is often faced with rigid organizational structures and legacy, making it difficult to successfully implement agile at scale. Different frameworks are adopted (e.g. SAFe, Spotify) in various ways and at different levels in the organization, often leading to suboptimal agile transformations. What can we learn from these transformations in practice, and what are considered to be common pitfalls when trying to incorporate agility at an enterprise level?

Agility is critical to all successful businesses. Many organizations pursuing digital transformation programs rely on agile methodologies, not only to accelerate software development but also to improve productivity and manage changing business priorities. Agile drives innovation, accelerates product delivery, and engages employees in a digital-first world. Industry Goliaths can no longer prevail through size and market might. Today, speed and agility are what it takes to adapt to an ever-changing business environment and rapidly evolving customer demands. [1]

Moreover, many digital companies are using agile development practices to deliver goods and services to customers more efficiently and with greater reliability.

Using this software-development approach across all business units and product groups, digital giants have been able to design and build features quickly, test them with customers, and refine and refresh them in rapid iterations. [3]

By contrast, few traditional companies—those with both online and offline presences—are using agile methodologies across the majority of their product- and application-development teams. Many banks, for instance, have established digital units to develop and release mobile apps or website features quickly. But those groups typically remain physically and strategically disconnected from the rest of the IT organization and the rest of the company. [3] Research indicates that many traditional companies are experimenting with agile practices in discrete pilot projects and realizing modest benefits from them. But fewer than 20 percent consider themselves “mature adopters,” with widespread acceptance and use of agile across business units. Meanwhile, according to our own observations, the companies that are deploying agile at scale have accelerated their innovation by up to 80 percent. [3]

There are many reasons traditional companies have not been able to successfully scale up their agile programs, but we believe a chief impediment is their existing operating models and organizational structures. In most of these companies, the process of software or product development remains fragmented and complex: a business request for a new website feature can kick-start a development process involving multiple teams, each tackling a series of tasks that feed into the original request. For instance, one team working on the front-end application, another updating associated servers and databases, and still another reconciling the front-end application with legacy back-end systems. What’s more, the supporting business processes (among them, budgeting, planning, and outsourcing) and existing roles and responsibilities in both the IT organization and business units continue to adhere closely to the legacy waterfall approach. [3]

The financial company ING restructured several of its head office departments, moving away from hierarchical silos to cross-functional teams, which it calls squads. The squads are autonomous, dynamic groups responsible for the end-to-end execution of specific customer-related missions, such as streamlining mortgage applications. A designated product owner (a member of the squad) is responsible for the squad's activities and for managing backlog and priorities. Squads are composed of colleagues with different areas of expertise and disciplines, such as marketing, product management, and IT, depending on the mission. The squads are inherently small and fully empowered within their scope of accountability. They are co-located to maximize collaboration and can be ramped up, ramped down, added to, or reconfigured quickly based on the needs of the moment. [15]

The concept of “squads” borrows the idea of a “sprint” in software development; it is also similar to the agile “scrum” methods often used in application development. The cross-functional resources are 100% dedicated to a specific objective or project, and must deliver it within short period of time (often, a fraction of traditional timetables, perhaps two or three weeks rather than five or six months). It is important to note that not *all* resources are organized this way—some people perform more predictable work in more traditional, less dynamic contexts. However, some agile models can be used for work that is more repetitive and less project-based (these models are similar to the self-managed, high-performing work teams used in lean manufacturing) or for highly dynamic but less cross-functional work (the “flow-to-the-work” models for applying deep technical or functional expertise are examples of the latter approach). [15]

At ING, squads with similar missions are connected and coordinated through “tribes” (e.g., mortgage services)—essentially, focused performance cells within a business unit that often include up to a dozen squads. The tribe leader is responsible for budget

allocation, coordination, and best-practice sharing. A set of rules (e.g., squads have a limit of nine people, and a tribe can include no more than 150 people) supports this structure. [15] Employees within the same function coordinate with each other through “chapters”—functional competence groups that form the company’s stable backbone. A chapter leader decides how jobs should be tackled, represents to hierarchy for squad members, and is responsible for coaching, development, and performance management.

Companies like ING that successfully adopt these approaches often find that product release cycle times shrink by 50% to 80% and costs decrease by 20% or more. In addition, organizational capabilities improve. Since summer of 2015, ING’s adoption of agility has increased employee engagement by 20 points even as the company cut its total full-time equivalents by 30%. What’s more, the company reduced its time to market for new products by nearly tenfold, and its customer satisfaction has risen significantly.[15]

Buurtzorg, a home health nursing organization headquartered in the Netherlands, uses a rather extreme form of agility.⁵ The organization is completely flat: every employee—including approximately 9,000 nurses and 40 central office staff—“reports” directly to the CEO. Most employees are grouped into pods, which are self-managing teams of 12 or fewer nurses; each pod covers a defined geographic area and set of patients. This approach enables flexible working hours for nurses, supports the sharing of best practices among teams (organically and through an online forum), and produces innovative patient solutions (such as better approaches for teaching patients how to conduct basic tasks). Pods even manage all of their own hiring. In addition, coaches (not managers) are available to help the pods solve problems and function optimally, as well as spread best practices. [15]

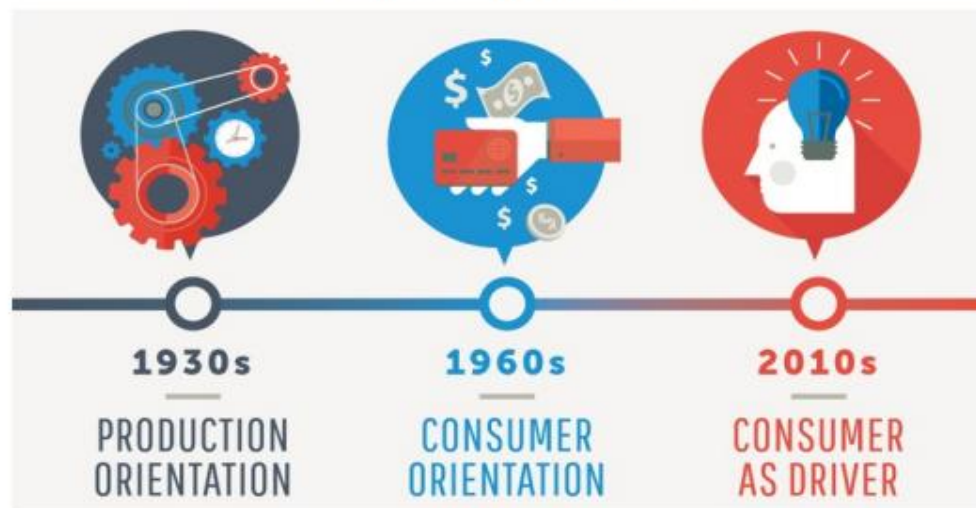
According to the researcher, within the company, a set of defined processes form a limited but effective stable backbone. Pods have a minimum utilization rate of 60%,

and all nurses are expected to participate in team decision making and meetings. Pods can also request the help of their coach from the central office, with one coach employed for every 40 teams. [15] This agile model has enabled Buurtzorg to improve the efficiency of its service delivery so that patients are able to regain autonomy more quickly and has helped the company capture 70% of the Dutch market over the past ten years. [15]

In summary, this agile operating model should be looked into by the Azerbaijan healthcare system practitioners and be critically analyzed its procedure to eliminate any pitfall in it. Before implementing the model, the environmental and cultural factors should be thoroughly examined and scrutinized before adopting the approach for optimum result.

Companies are having to reset their strategic direction in responding to this new wave of personalization. They want to be more agile, quicker to react, and more effective at creating differentiated propositions that command premium prices. They also want to deliver extraordinary customer experiences, exploit disruptive new technologies to cut costs and improve the quality of their offerings to realize a heightened state of value. These lofty ambitions are requiring more dynamic business models on the production line and within the organization itself, which require companies to rapidly evolve their overall operations into one which is highly agile and flexible. [5]

Evolution of the Enterprise



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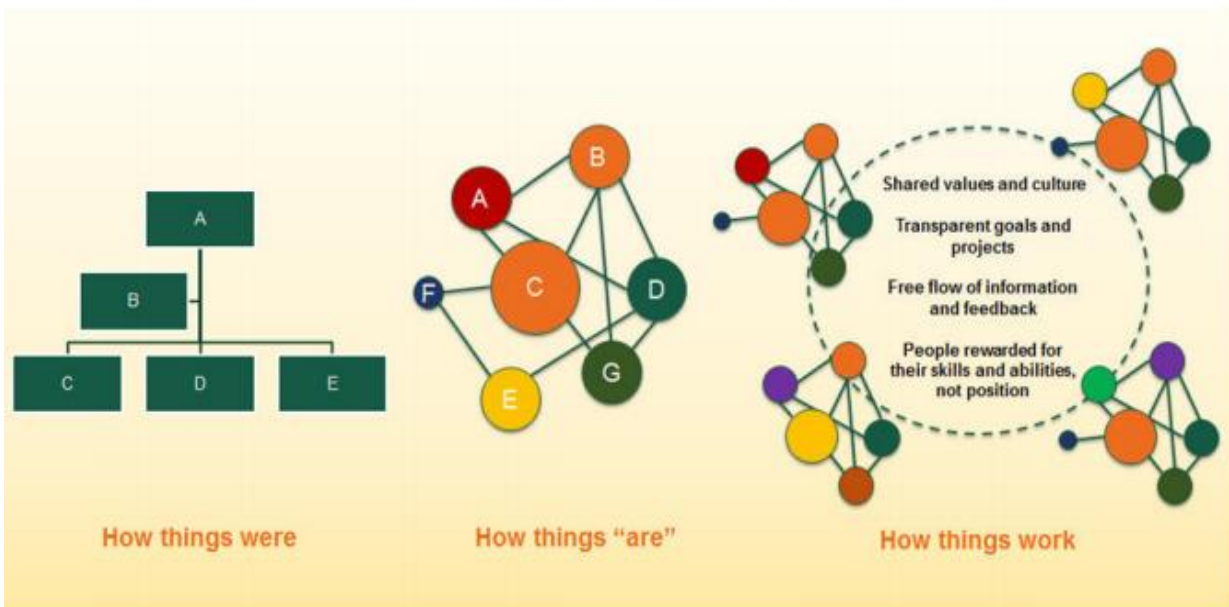
Flexible Operating Model creates value and provides compelling customer experiences at the most efficient cost. Companies are moving towards this new concept “flexible operating model”. These organization structures are new generational ways of running a company that combine disruptive technologies and agile operational capabilities in an integrated way to achieve next-level improvements in mass personalization. If implemented with precision, this can lead to incremental or accelerated revenue growth, with innovative and engaging customer experiences. A number of trends are helping foster this evolution; [5]

- Disruptive Technology – AI, blockchain, digitalization, Internet of Things (IoT), machine learning and robotic process automation have all intensified the velocity of change and the impacts they have on job roles, people, skill-sets required, and the need for a DevOps culture versus silo-based delivery.

- Demand Trends – Customer preferences are constantly changing with more bespoke, tailored solutions. Demand is often coming quicker and who is creating the demand (e.g., millennials versus baby boomers) is having a profound impact.
- New Sources of Competition – We have seen the competitive paradigm shake up a number of industries. For example, the supermarket business being challenged by Amazon. Or the traditional high street retail industry versus new omni-channel competitors.
- Regulatory Changes – As the speed of change intensifies, especially when driven by technology and data, governing bodies will continue to review and revise regulatory requirements to protect and support consumers (e.g. the new global data protection regulation). This is also shaping how organizations approach their future planning. [5]

As a result of the above trends, we have seen a dramatic shift in our clients' adopting agile as their methodology of choice for product development – to respond to real-time needs of today's demanding consumer. The success of agile-led developments is leading senior decision makers across almost every industry to consider the benefits of flexible, agile working for their broader operating model. This requires an adaptation in their existing strategies and approach to organizational design, people, processes and technology. [5]

Flexible Organization Structure



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1. **Strategy:** A sound strategy sets out how people can affect and influence the future direction, and how real-time trends and data are fed back into the business to ensure ongoing relevance. The strategy will seek to identify tangible and measurable outcomes which can be used by operating units and individuals to set performance targets, and more meaningfully to measure their contribution to success. Key principles underlying the agile organization include the shift from project-based working to product development, pre-eminence of customer focus, entrepreneurialism, transparency and standardized processes. [5]

2. **Organizational Design:** A critical feature of the flexible organization is the need to shift from a traditional, silo approach to end-to-end processes and products which become the focal point of collaboration between multiple organizational skill-sets to

deliver valued outcomes. Flexible organizations will identify well-defined competency homes, such as for traditional technology teams like architects, analysts and data engineers. Performance is more appropriately measured and rewarded according to their work as part of cross-cutting, multi-disciplined product development teams formed to address key market needs (and their ability to add value as they move from one team to another). [5]

3. Empowering People: Developing agile, flexible ways of working has significant impact on almost every aspect of the organization, including structures, roles, responsibilities, business vocabulary, processes, collaboration models and technology. Product owners are the focal point of ensuring the consumer is at the center of product development. They need to be given authority to make key decisions and engage directly with customers to avoid unnecessary roadblocks. Direct customer interaction ensures clear communication of requirements and priorities into the agile development process, which in turn drives agility and increased productivity. Leaders will need to adapt, as some roles go from front-line leadership of projects to managing capabilities which add value as part of product developments led by product owners. [5]

4. Working Processes: New products and services are developed in close interaction with customers - and ideas and prototypes are field tested early in the development process, so units can quickly gather data on improvements. Co-creation through the value chain with key customers and suppliers will need specific engagement and relationship skills, as these stakeholders become critical partners of the product development process. Standardized processes deployed within functions across multiple regions with a common language enable mobility and scaling. For example, moving people between geographies to add value where it is most needed can produce a global capability where changing demands require rapid action and solutions. Teams will need measurable performance goals for processes to help track customer satisfaction and to determine how processes can be improved. [5]

5. Fostering Collaboration: The way an organization fosters strong collaboration between silos will need to be addressed from the outset. Strong product owners who can mobilize multi-skilled teams around cross-cutting value propositions are critical to this process. Product owners need to have sufficient knowledge to work with and understand issues raised by team members from diverse groups such as IT, Sales and Marketing. Transparency of information and data becomes even more critical if self-managed teams are to identify ongoing improvements and share learnings across teams. [5]

6. Data-Driven Automation: Advanced analytics is the autonomous processing of data using sophisticated technology to discern insights and make recommendations. It provides intelligence to improve decision making and can especially enhance customer personalization journeys. Digital tools have the capacity to transform customer journeys in powerful ways, by reshaping time-consuming or transactional elements of the journey. Robotic process automation (RPA) is an emerging technology that can replace human effort in processes that involve aggregating data from multiple systems, or taking a piece of information from a written document and entering it as a standardized data input. [5]

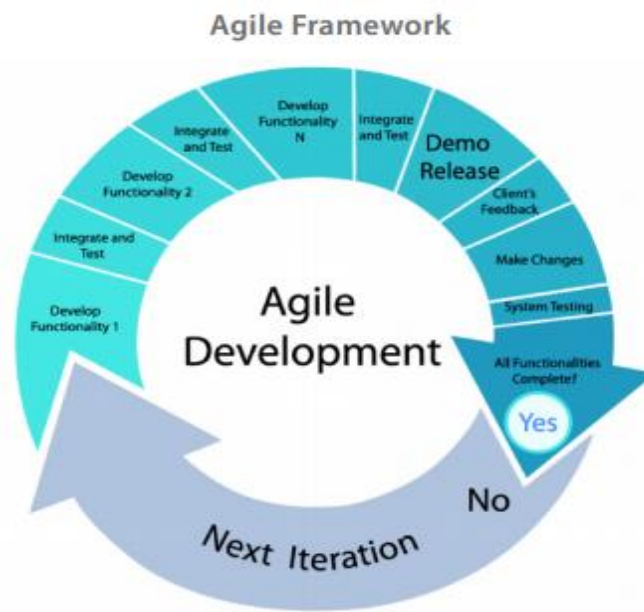
Senior executives need to actively and visibly lead the change in culture as they evolve into a flexible operating model. A sound leader should clearly identify, agree on and adopt the values and behaviors that will enable them to shift to an agile-based culture. Leaders will need to challenge and confront behaviors which are a barrier to collaboration between traditionally silo'd teams to ensure they can come together to deliver the greatest value for the organization and their customers. In this spirit, senior decision makers need to take time to ensure they are sufficiently conversant in agile working concepts and how they impact governance. [5]

Key examples include:

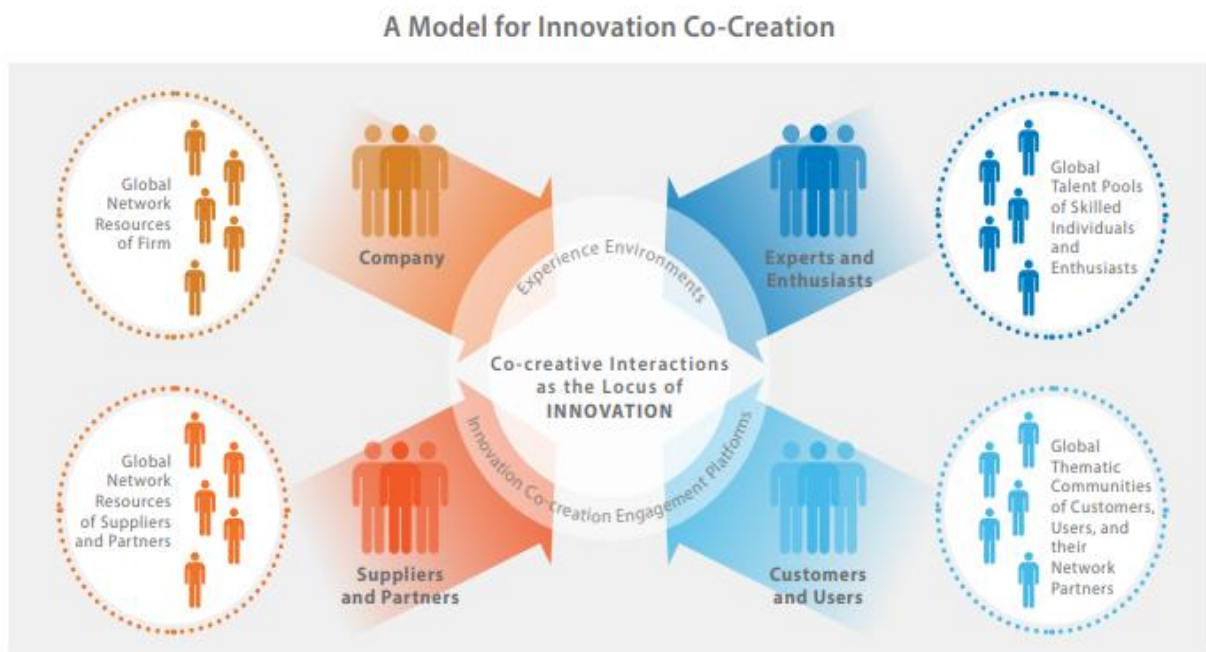
- Budgets – Decisions to progress development is based on return-on-investment and meeting pre-agreed product performance targets, rather than a single budget being agreed and tracked for the duration of a program.
- Design – Iterations to requirements are not considered ‘change requests,’ but rather natural evolutions on design that add greater value as a result of ongoing customer interaction.
- Planning – Priorities are driven by the product owner in conjunction with ongoing collaboration with end users, business units and IT to ensure the greatest value can be generated in the shortest possible time. Priorities may shift through a product to reflect a revised value perception. [5]

Agility requires a shift to a flexible operating model where performance is measured and rewarded. Staff also need to receive a greater share of training and coaching as it relates to the issues and opportunities they are helping to address. Traditional silos are replaced by capability teams that come together to deliver end-user focused outcomes. Here these teams receive specialist training and coaching from SMEs in their field of expertise. Several other elements play a key role helping to realize an agile approach:

- Co-Creation – Business and IT co-create and collaborate with requirements shaped together on an almost day-to-day basis, versus requirement gathering being a one-time event at the outset of the project.
- Development Waves – Agile team composition evolves and morphs according to prioritized sprints and the components to be developed. Teams are structured to support development waves.
- Broader Business Support – It is critical other parts of the business are prepared to support developments in an agile way to prioritize sprints and identify highest ROI for customers. [5]



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Embracing enterprise agility is challenging, but the pay-off can be enormous. Quick, iterative design and production cycles can lead to the delivery of higher quality products and services. And collaborative, autonomous teams make for happier and more loyal employees. [1] Enterprise agility allows a business to navigate shifting currents. Rather than creating one large airliner to drive change and run the business, organizations can achieve agility by enacting many adjustments by launching a swarm of smaller, nimbler jets. The smaller jets have autonomy, and for good reason: If every pilot of a smaller jet has to wait for a master pilot to tell them how to act and when to change course, they will soon be travelling in different directions at different speeds. But when each smaller jet has a crew empowered to make adjustments to stay on a course pre- determined by the organization, the fleet will be synchronized, travelling together toward its destination. An agile operating model helps organizations create those self-adjusting teams in every part of the business. The model includes strategy design, execution, and a library of best practices. [1] But first, an organization must determine which aspects of its operations – marketing, sales, or service – need to become more agile. This requires defining and articulating an organization's business strategy. It also means examining the relationship between IT and the business and assessing the impact of digital transformation on non-IT functions. It calls for a commitment to build agile capabilities and the technologies that support them. [1]

The next step involves establishing clear, measurable goals that the entire organization, from the C-suite to entry-level employees, can understand and work towards. A high-level roadmap can help teams see how the company is progressing in its agile journey and allow them to celebrate small but critical wins. Milestones can vary. One large European bank decided to “be better, cheaper, faster, happier” through agile. Its success measurements ranged from responding faster to client and business needs to

accelerating go-to- market capabilities by a factor of three. Making customers happier, determined priorities for changes in the business. [1]

Lastly, an agile strategy must test ideas before committing massive resources to them. Enterprise-wide agility is intended to encourage teams to experiment, fail fast, and move forward with winning proofs of concept. These experiments should solicit customer feedback, understand their needs, and respond accordingly. Sometimes, this may mean cutting investments in projects that fail to hit the mark with customers. Other times, gauging consumer interest, even in minimally viable products, can speed time-to-market and drive revenue. This is what the European bank did as it tested new products and gave the go-ahead to those that performed best with customers. [1]

The healthcare sector can tow the path of this European bank by developing and adopting its agile operational model to meet the present and future needs of the world.

Shifting from a traditional mindset to an agile one means investing in people and coaching everyone from top corporate leaders to entry-level employees. It means establishing technology capabilities that enable the fast and frequent release of new software products and seeing how customers like them. It means allowing people to experiment and fail, while learning from those failures. [1]

A strategy serves as the north star for a company's transformation to an agile operating model. It includes the company's vision statement, its goals for achieving that vision statement, and a roadmap for achieving it. Imagine a company determines that its strategy was to achieve full enterprise agility by the end of 2020. The company could articulate a vision to pursue this strategy, the goals for measuring progress and the path to get there. For example, a company could say: “We will achieve enterprise agility by the end of 2020. We will do this in four ways. Our employees will practice agile. Our workplace, including technology infrastructure, will enable agile work. Internally, we will develop, deliver and sustain all our products and services using agile approaches.

Externally, we will deliver products and services to customers using agile – even if the customer is not”. [1] The strategy lays the foundation for the following eight best practices that enable a company to pursue a roadmap for an agile operating model.

The agile operating model is built on the principle of the empowerment and autonomy of teams. But that does not remove the need for a robust organizational structure consisting of three main components. These include, Leadership roles that drive agility. Each business unit of an organization should include two leadership functions;

- **An Agile Transformation Management Office** to prioritize, coordinate, govern and facilitate collaboration across the enterprise to deliver agile processes.

- **An Agile Center of Excellence** with capabilities and expertise in defining the Agile Playbook for the organization, coaching the teams in embracing Agile Ways of Working and supporting organizational change at all levels. [1]

Product-centric teams. Lean-agile approaches call for teams that are organized around a product or issue, not a management hierarchy. This begins with empowering teams that align with key customer or business strategies, and continuously investing in their improvement. These teams are best organized by:

- **Pods or Scrum Teams.** These cross-functional teams deliver value by developing features and components. Members include experts in product development, user experience, the business environment and software architecture. Pods may select from a wide portfolio of products to work on, and report progress to product owners.

- **Business Units.** Leaders manage an organization's collection of products, establish business priorities and set budgets. [1]

Rationalized roles that divide stakeholders into three categories:

■ **Management:** Executive leaders, an IT manager, a business sponsor, a program manager, and a portfolio manager.

■ **Technology:** Solution architect, digital architect, technical lead, automation engineer, developer, database architect, quality assurance leader, project manager, support engineer, and data scientists.

■ **Business:** Domain expert and product manager.

In traditional hierarchical organizations, teams must gain approval from above before moving forward. The role rationalization process flips this management pyramid on its head. The result: new roles, such as product owner, product specialist, agile coach and scrum master, that focus on business outcomes, self-management, and swift decision-making. [1]

Organizations that compete successfully in a digital world embrace agile as a new way of working. Methods such as Scrum and scaling frameworks such as Scaled Agile Framework (SAFe) can prioritize projects that deliver the highest business value in the shortest amount of time.

Internal communication channels, such as social networks, can be used to champion agile ways of working. That is because these applications provide employees with valuable resources and background materials that emphasize the benefits of agility, driving adoption.

Techniques such as retrospectives also can help employees learn and improve through fast feedback cycles. And a solid technology infrastructure can move an organization along the agile maturity curve. As an organization gains experience with agile ways of working and delivering results, it strives for continuous improvement through its technology infrastructure (including DevOps), process, culture, and structure. [1]

People and processes are not the only building blocks for agile work. Innovative tools and technologies play a key role in reducing deployment time for software products and increasing employee engagement. For example, microservices enable the design of software applications as small packages of independently deployable services. By building these self-contained, modular components, as opposed to large, sprawling systems, teams can get innovative services to market faster, easier, and more affordably. [1]

In addition, DevOps fosters a culture of collaboration in which developers and IT operations teams work together, pooling resources and taking equal ownership for an application's journey from design to deployment. By automating technical capabilities, DevOps can reduce time spent building, testing, integrating, and deploying new software products. And then there is automation. A critical component to maintaining agility, automation takes a Machine First approach to software testing, continuous integration, and the deployment of new products. [1]

The originators of agile argued that its effectiveness required teams to meet in the same physical space. In today's global economy, that is not practical. Indeed, location-independent agility can foster greater collaboration across time zones, no matter where or when an employee is working. Letting agile team members work from different locations can deliver advantages in access to skills and knowledge in digital transformations. [1]

The Agile Manifesto was written in the year 2001. We have come a long way since then - the technologies have evolved, and there are marked changes in the way organizations operate.

- Businesses have truly become global with their presence in markets throughout the world
- Large enterprises have their talent base spread all over the globe
- Collaboration technologies have advanced significantly since 2001

Invest in people management

As leaders increasingly embrace agile methods, it is imperative for them to invest in their people, from recruitment to hiring. Once on board, the learning should start and never stop. Agile organizations develop talent by investing in training and coaching to ensure employees can collaborate effectively. Roles-based training instructs team members – developers, business analysts, or product owners – to be self-organizing as they adopt agile practices. [1]

Other agile-specific roles, including scrum masters, and program managers, receive ongoing training to manage agile projects and empower teams. Product owners and business stakeholders learn how agile reinvents workflows, how to manage the stream of product requirements and backlogs, and how to ensure IT alignment with the work of agile teams. Executives receive training in agile ways of working, including servant leadership, which emphasizes listening before directing. Agile organizations also provide training to all levels to encourage the delivery of fast feedback, including self-assessments, and rewards and recognitions based on team performance.[1]

Today's global and digital organizations work with vast networks of suppliers and buyers. And agile principles can help organizations build and sustain important partnerships with crucial IT service providers. Here's how:

- To boost value, source services around products and value streams rather than by technical capabilities.

- The organization pays for the time and materials invested in vendor management; the Scrum teams determine when to terminate a vendor contract.
- At regular intervals, gauge a vendor's value, and determine whether to tweak, sustain, or sever a relationship. For example, adjust contracts for service delivery based on the fluctuating needs of agile teams.[1]

Traditional company cultures rarely translate into an agile environment. Agile enterprises are flatter, granting all employees a stake in success. This means fostering a culture that emphasizes transparency, experimentation, relentless improvement, and the employee's continuous engagement with customers. Top executives can lead this cultural shift by encouraging teams to win while providing a safe environment for experimentation. [1]

The agile mindset focuses on the incremental delivery of business value, minimizes the size of projects, and commits to continuous improvement.

Finally, the triumvirate of trust, clarity and purpose at all levels of an organization can ensure that the right people with the right knowledge and skills are afforded the opportunity to shape an agile enterprise.

There are six steps to the agile transformation process:

1. Initiation. The agile transformation begins when leaders are aligned on their vision for the process. They assess the organization's existing capabilities, including what agile work has begun, and how ready the various parts of the enterprise are for adopting agile ways of working. Establishing an agile transformation management office enables the organization to provide training and develop a communication plan for starting work on agile product development.

2. Training. All stakeholders, including leaders, scrum master, product owners, agile coaches and other team members are brought up to speed on agile methods, and then they begin planning for pilot projects to put the training into action.

3. Piloting. As pilot projects commence, coaches observe and guide.

4. Retrospection. The organization analyzes and measures the success of pilot tests, using the data from one set of tests to inform future tests. In this way, an organization can leverage data to continuously improve.

5. Launch. Another continuous improvement process, launch is when an agile organization really takes shape and implements its agile transformation roadmap, including implementing agile ways of working that extend to budgeting and other decisions (about governance and technology architectures). The agile culture takes hold, with teams working iteratively on products based on value. The organization builds a location- independent agile capability. Coaching continues for all roles, and new agile-related career paths emerge for various roles.

6. Sustain. The company continues to assess progress, seeks to improve its agile practices including team member coaching and communities of practice, and, on the technical side, DevOps, development and technology operations. Sustaining the agile organization also means monitoring and communicating outcomes (and value retrieved) to all teams. [1]

1.2 THE ESSENCE OF AGILITY AS A BEHAVIOR AND AS A STATE.

Agility is an organization's state of high responsiveness, speed and adaptiveness. It is an organization's state of continual adaptation and optimization, a state in which each status quo is challenged, by our own will or by external turbulence. [13]

Agility is a state that is a natural fit for the unpredictability so common to the work of complex product delivery and to the markets that organizations operate within. *However, it requires accepting that the work is unpredictable, a mental barrier to overcome.* Agility is why teams and organizations adopt Agile processes. From that adoption agility increases, a new way of working emerges, new organizational ways of learning, improving and constant adaptation, and restored respect for people, re-humanization. [13]

The distinct rules of Scrum help. Scrum is actionable. Agile and Scrum, actually, are two inseparable ingredients in a complex product delivery ecosystem. Scrum can be your foundation for agility. Sprints are at the heart of business agility in generating a regular flow of improvements, updates, learnings and various other sources of value. Organizations discover, experiment and deliver on opportunities from an end-to-end perspective in the fastest possible way. People develop new ways of working; through discovery, experimentation-based implementation and collaboration. They enter this new state of being, this state of *agility*; a state of constant change, evolution and improvement. Re-humanization takes place. Innovation surfaces again. [13]

The path of increasing agility via Scrum is inevitably bound to be a cobblestone path. It might take some time to accept that agility starts and ends with people, not with procedures or tools. It might take some time to accept that agility takes time, that agility need not be analyzed, designed and planned. A time-planned way to become (more) agile introduces unfavourable expectations. Introducing Agile methods to increase agility causes significant organizational changes. Several existing procedures,

departments and functions will be impacted. There is no way of predicting what needs will be encountered at what point in time, how these will be dealt with and what the exact outcome will be in order to control the next steps. It is a highly complex and unpredictable journey. There is no way of predicting the pace at which the state of agility will take root and spread. [13]

Scrum and agility are much more about behavior than about (following) a new process. A decision to adopt Scrum is a decision to leave the old ways behind. It is not only about accepting, but about *celebrating* the fact that agility is living the art of the possible. It requires the courage, honesty and conviction of acting in the moment, acting upon the reality that is exposed by iterative-incremental progress information. Agility is about doing the best possible at every possible moment, constrained by the means we have and facing the constraints. A time-planned way ignores the essence of Scrum and Agile, that of dealing with complexity via well-considered steps of experimentation and learning. Time-plans simply extend the old thinking. In general, a plan will even slow down the overall increase of agility, because serious delays and waiting times are incorporated. [13]

Time-plans create the illusion of deadlines and a final end-state. Agility has no end-state. Living the art of the possible engages people and accelerates a transformation as it shapes the future, thrives upon the future and what the future might bring. It's a bright future for organizations that have the vision, the determination and the dedication. These basic truths must be in the hearts and minds of every person managing, guiding, facilitating, hoping or striving for agility. And even then, it takes time for agility to settle in the hearts and minds of the people impacted. After all, people have been instructed in the wrong behavior of the industrial paradigm for 15 to 20 years, or more. Agility starts and ends with people, not with tools, procedures or games. And since agility starts and ends with people, it is pertinent to adequately develop the people within the system so

that they will be able to carry out these needed changes by responding favourably to the changes in the environment and that of the customers' needs. [13]

Another researcher opined that through decades of research, Center for Creative Leadership (CCL) has gained insight into the exact nature of these behaviors, collectively called learning agility and how these behaviors can be developed. What's more, while many people don't possess high levels of learning agility, it can be learned and anyone can become more proficient. At the heart of learning agility is something we all have but we might not always see or leverage the value in—our experience. [14] Learning-agile individuals are distinguished by their willingness and ability to learn from experience. But they also excel at applying that learning to perform successfully in new and challenging situations. Put another way, learning-agile people have “learned how to learn” from their experiences and made a strong commitment to seeking new challenges that allow them to both apply what they've learned and acquire new lessons for later application. [14]

Many payors and providers have struggled to keep pace with an ever-changing business landscape. Thus, the pursuit of agility—an organization's ability to adapt quickly and successfully in the face of rapid change—has taken on increased importance. In numerous industries, the companies thriving most have managed to crack the paradox of agility, balancing a stable foundation of core processes and capabilities with the ability to dynamically redeploy those capabilities to address emerging challenges and opportunities. Both stability and dynamism are needed to excel—companies that get the mix wrong can find themselves either drowning in chaos or saddled with a bureaucracy that leaves them unable to respond to changing market conditions. [15]

The concept of agility is especially relevant to healthcare, which has endured tremendous upheaval in recent years. The industry continues to see strong growth in

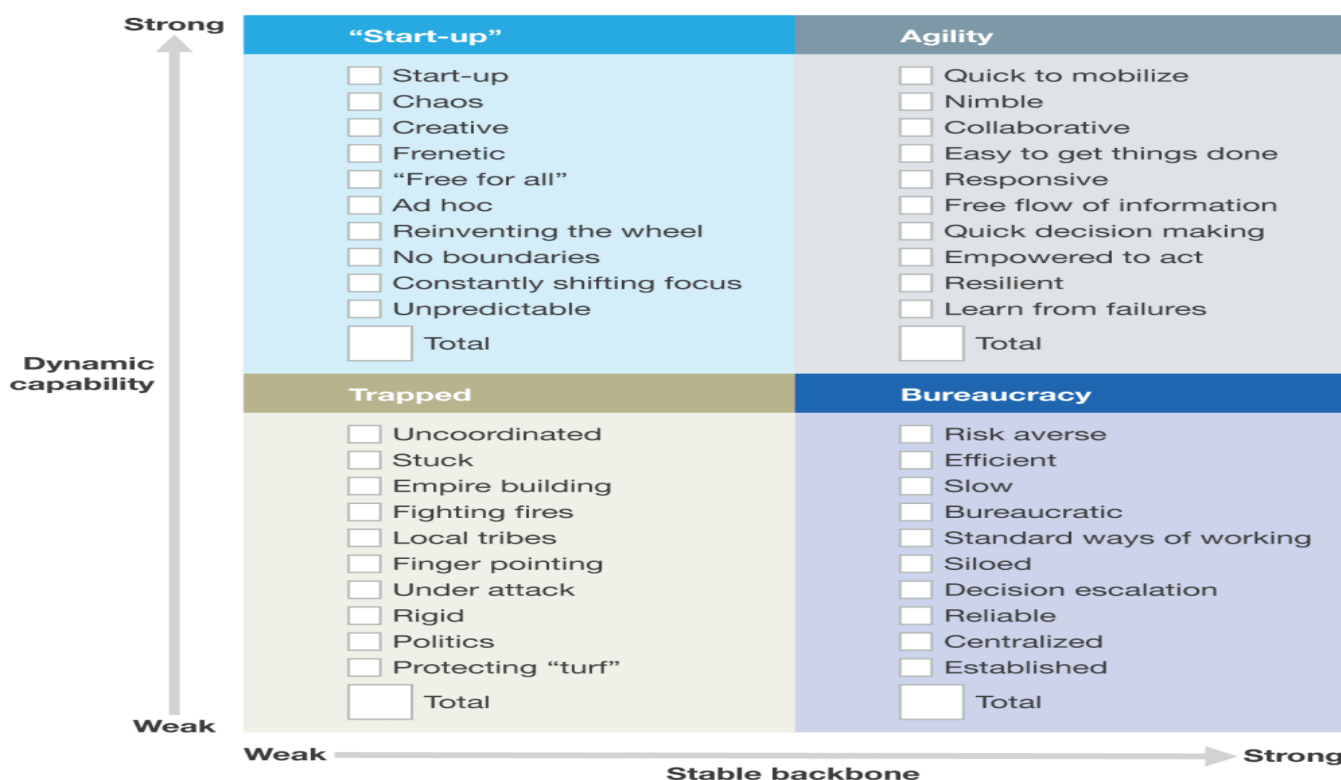
M&A, the ownership of physician practices by healthcare organizations, and the adoption of value-based care arrangements. Consumers have become increasingly empowered in making care decisions. Financial and regulatory pressures have grown. And further changes are likely given the outcome of the 2016 election. [15]

Although the healthcare industry has been slower than many of its counterparts to embrace agility, payors and providers are particularly well suited to benefit from it. An examination of how companies in other industries have transformed their operations demonstrates the far-reaching advantages. Healthcare organizations can begin unlocking this potential by assessing their current degree of agility and then creating a road map to integrate agility throughout their enterprise[15], hence the essence of this research. By building the capacity to respond to change more effectively, both payors and providers will be better positioned to survive in the years ahead. [15]

An agile development process, as espoused by Jim Highsmith in his 2000 book *Adaptive Software Development*, has enabled companies to work faster and more collaboratively to reduce the time to market for new product. [15]

Also, as it is maintained by the researcher, truly agile companies (those in the upper right quadrant] are characterized by resilience, quick decision making, and empowerment to act. The other three quadrants reflect varying imbalances between stability and dynamism. Companies that are weak on both attributes typically lack the coordination and leadership to seize opportunities. [15]

Organizational agility is the right balance of stable backbone and dynamic capabilities



McKinsey&Company | Source: McKinsey Organization Practice

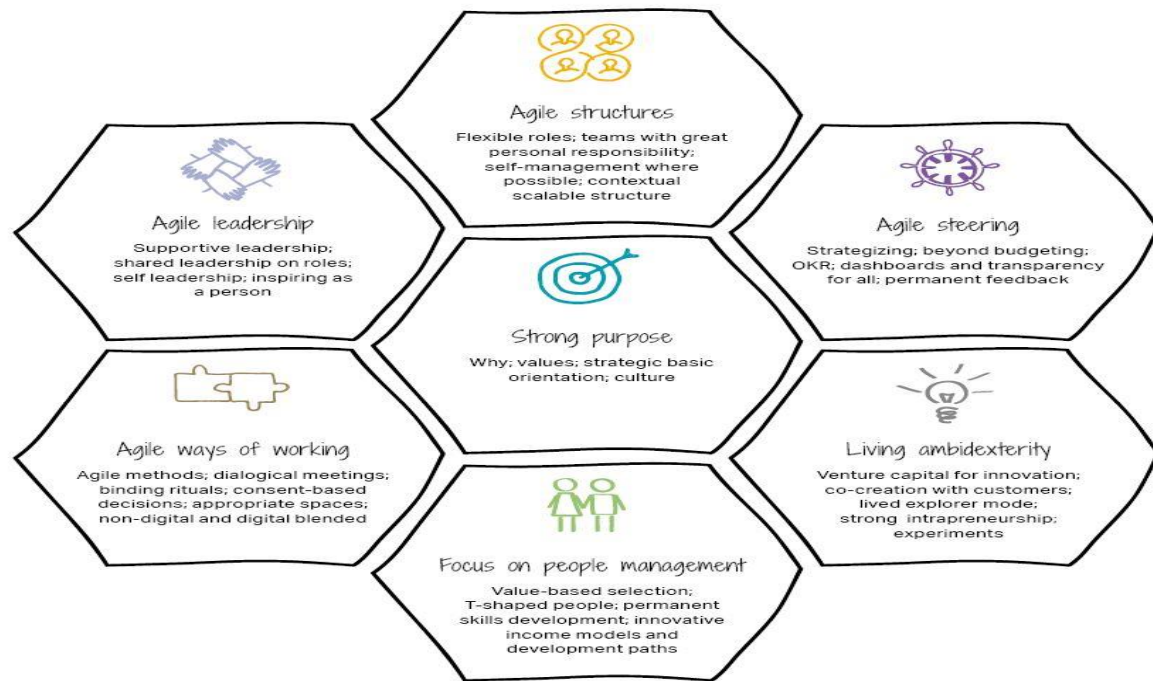
Agility can help payors and providers take on not only the industry's ongoing uncertainties, but also more tactical challenges, such as:

- Pursuing new alignment models and innovative partnerships to foster growth
- Investing in functions or products that enable market differentiation
- Increasing efficiency and reducing costs by improving productivity, without losing local responsiveness to customer needs
- Improving performance transparency in both clinical and nonclinical areas
- Empowering frontline staff to meet evolving consumer preferences and needs more readily

In short, agility can enable healthcare companies to adapt quickly without requiring a full-scale redesign. Change becomes part of the norm (rather than a disruption that seems to crop up randomly every other year), and it evolves fluidly and naturally—often bottom-up, without intervention from the top. By developing the ongoing capacity to

change, healthcare companies can acquire the flexibility and dynamism needed to respond as the landscape shifts. [15]

Holistic Model for Agility-ICG



Source: integratedconsulting.eu

1.3 PRINCIPLES OF AN AGILE OPERATIONS MODEL

Another researcher says that the benefits of organization agility are now well known. Under agile development methodologies, IT organizations and product developers co-create products and services with the business, rather than simply collecting feature specifications and throwing them back over the wall, as would happen under the waterfall development model. Teams can experiment with minimally viable products, test and learn from those prototypes, and ultimately deliver new software features and products in days or weeks, not years. Based on our observations of leading-edge adopters, quick co-development of products and collaboration among highly skilled IT

and business professionals can happen on a broader scale when companies take steps to remake their operating models and organizational structures, focusing in particular on these four principles. [3]

Traditional companies tend to organize their IT resources according to applications and projects—creating the type of fragmented development experiences described earlier. Instead, they need to organize IT resources around products, gathering business-unit leaders, developers, and other members of the organization in stable end-to-end teams that are focused on delivering designated business outcomes. Such a structure would mean the end of projects as they are traditionally defined and of coordination bodies such as the project-management office. [3]

In an agile-at-scale environment, products can't be defined solely as commercial offerings. It is important for business and IT leaders to redefine the units of delivery. And once products have been recategorized, the company must designate an agile team, or clusters of agile teams, that will be responsible for the development and maintenance tasks associated with those products. These teams typically will include developers, testers, product owners, and others. They can draw additional support from a centralized group of experts—specialists in security issues, user-experience researchers, or enterprise IT architects, for instance. [3]

A large medical-device manufacturer significantly shortened its time to market by refining its organizational structure. Under its traditional structure, there could be as many as 20 handoffs when a business unit shared its specifications and requirements with the technology organization for a new piece of software or an additional feature in existing software. Because of the interdependencies among its products, leadership knew it wouldn't be enough to deploy agile within one business unit or within certain product-management teams in the technology organization. In 2015, the company tweaked its product-ownership model so that software requirements were directly transmitted from dedicated product owners in the business units to the agile teams, rather than passing through multiple parties. With this change, the company was able to reduce

the amount of time it took to release products in the market. The structural changes also facilitated the rise of several communities of practice. These role-based or topic-based groups (sometimes called guilds) are critical in agile-at-scale environments. They can encourage the transfer of knowledge among team members, promote coordination between teams and functions, and become the catalyst for continuous performance improvement. [3]

To create an agile-at-scale environment, companies will need to break down silos between and within the business units and the IT organization. It's a perennial issue in most companies. But closer collaboration can be achieved by designating strong product owners from the business units to work with IT—individuals who understand the company's products well and who have the technical knowledge and authority to prioritize feature changes in products. [3]

In most traditional companies, product owners from the business side are involved in software development sporadically, providing input only as needed. To compensate for this lack of engagement, IT organizations often appoint a proxy product owner from IT. This arrangement can be useful in the near term but impede long-term product or project success. The proxy product owner typically has limited access to customers due to organizational barriers and possesses no mandate or the authority to make decisions. Because direction, priorities, and accountability are lacking, agile development is stalled. Teams face a significant amount of rework and waste. [3]

A provider of software-as-a-service solutions was struggling to get products to market in a timely fashion. There were marked lags in decision making and unclear lines of communication between IT and the business. In 2014, the company implemented a three-tiered product-owner structure, with a chief product owner leading a product domain, a senior product owner leading a product line, and product owners working with the scrum teams. Under this revised structure, interactions between IT and the business units improved. The lines of communications were clearer. The company was able to make decisions much more quickly while maintaining consistency and coordination

within and across product-development groups. In part, because of this structural change, the company was able to bring new software products to market quarterly—and in some instances monthly—rather than only once or twice a year. [3]

Many companies have redefined managers' roles and responsibilities to account for the distinct capabilities associated with agile versus waterfall development. Under an agile approach, however, the number of tasks (and therefore the need for coordination) is minimized. The tasks that remain are handled by a strong product owner or the agile team itself. Similarly, the process-management tasks that were traditionally done by line managers—for instance, identifying and addressing dependencies and assigning tasks to individuals—are handled by self-organizing, product-focused agile teams. [3]

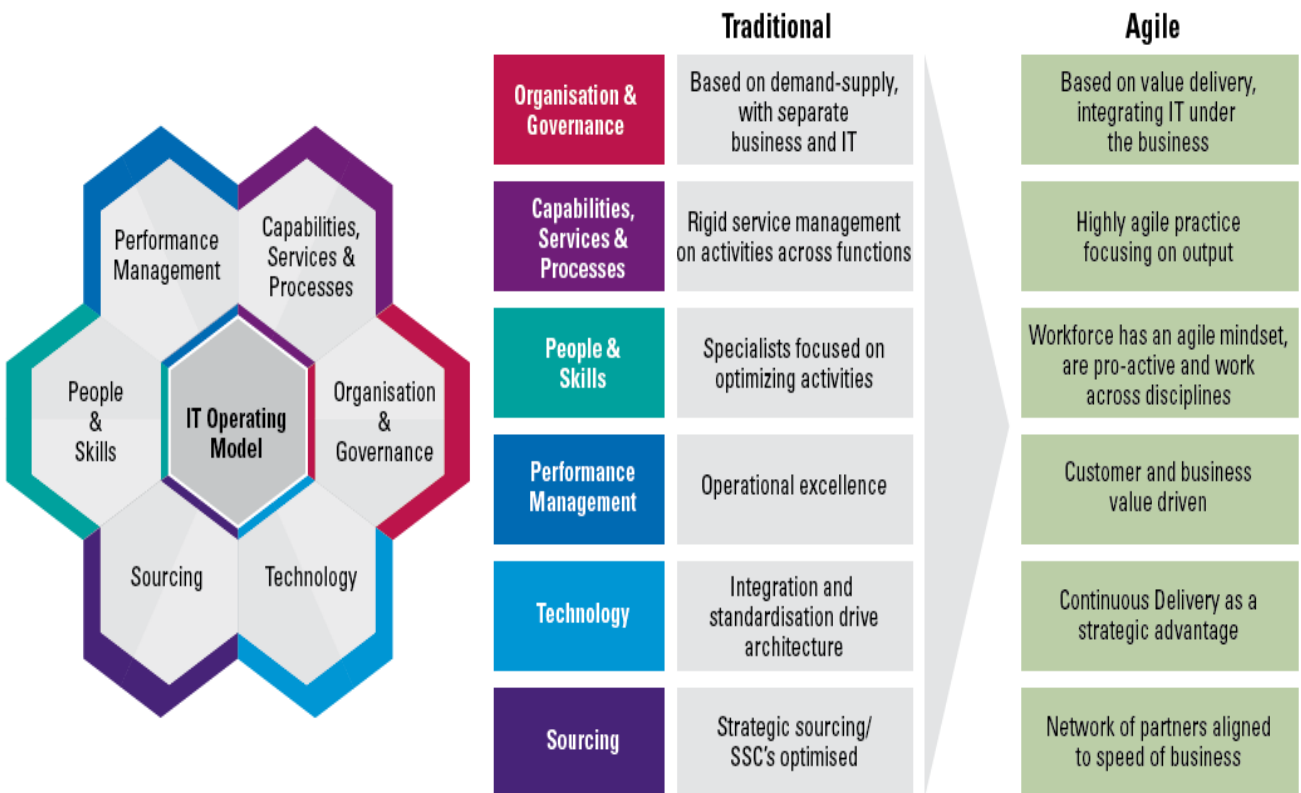
A large bank in Africa redefined certain roles, shifting the lines of communication and responsibilities, to accommodate the bank's desire to deploy agile practices more widely. Previously, software-development teams worked with various technology leads to translate architects' requirements into technical specifications. Under an agile approach, however, this translation step was no longer needed. The bank eliminated the tech-lead role within agile teams. Developers are now empowered to talk directly to architects and product owners, so they gain a better understanding of customers' needs and can develop software to accommodate those needs. Line managers will, of course, continue to play central roles—providing career-development support and serving as subject-matter experts within agile teams and formally transferring their knowledge to others. But their responsibilities were redrawn, and this was communicated widely so that team members knew what to expect and whom to contact in particular situations. [3]

The boundaries are clearly defined; team members are empowered enough to be accountable but not so much that they could create major risks with rogue or carte-blanche actions. [3]

IT organizations typically adhere to annual budgeting and planning cycles—which can involve painful rebalancing exercises across an entire portfolio of technology initiatives, as well as a sizable amount of rework and waste. This approach is anathema to companies that are seeking to deploy agile at scale. [3]

A large European insurance provider restructured its budgeting processes so that each product domain is assigned a share of the annual budget, to be utilized by chief product owners. Budget responsibilities have been divided into three categories: a development council consisting of business and IT managers meets monthly to make go/no-go decisions on initiatives. Chief product owners are charged with the tactical allocation of funds—making quick decisions in the case of a new business opportunity, for instance—and they meet continually to rebalance allocations. [3] Meanwhile, product owners are responsible for ensuring execution of software-development tasks within 40-hour work windows and for managing maintenance tasks and backlogs; these, too, are reviewed on a rolling basis. As a result of this shift in approach, the company has increased its budgeting flexibility and significantly improved market response times. [3]

A handful of companies are even exploring a venture-capital-style budgeting model. Initial funding is provided for minimally viable products (MVPs), which can be released quickly, refined according to customer feedback, and relaunched in the marketplace—the hallmarks of agile development. And subsequent funding is based on how those MVPs perform in the market. Under this model, companies can reduce the risk that a project will fail, since MVPs are continually monitored and development tasks reprioritized. Typically, there is less waste and more transparency among portfolio and product managers, and it becomes easier for the company to scrap low-potential projects early. [3]



Source: Compact.nl

Revamping an operating model is a large undertaking. There will be significant risks to address and short-term disruptions as new ways of working take hold. As with any large change-management initiative, such a transformation will require long-term commitments from employees at all levels, in all functions and business units. The companies we've studied have used a number of approaches to alter elements of their operating models. [3]

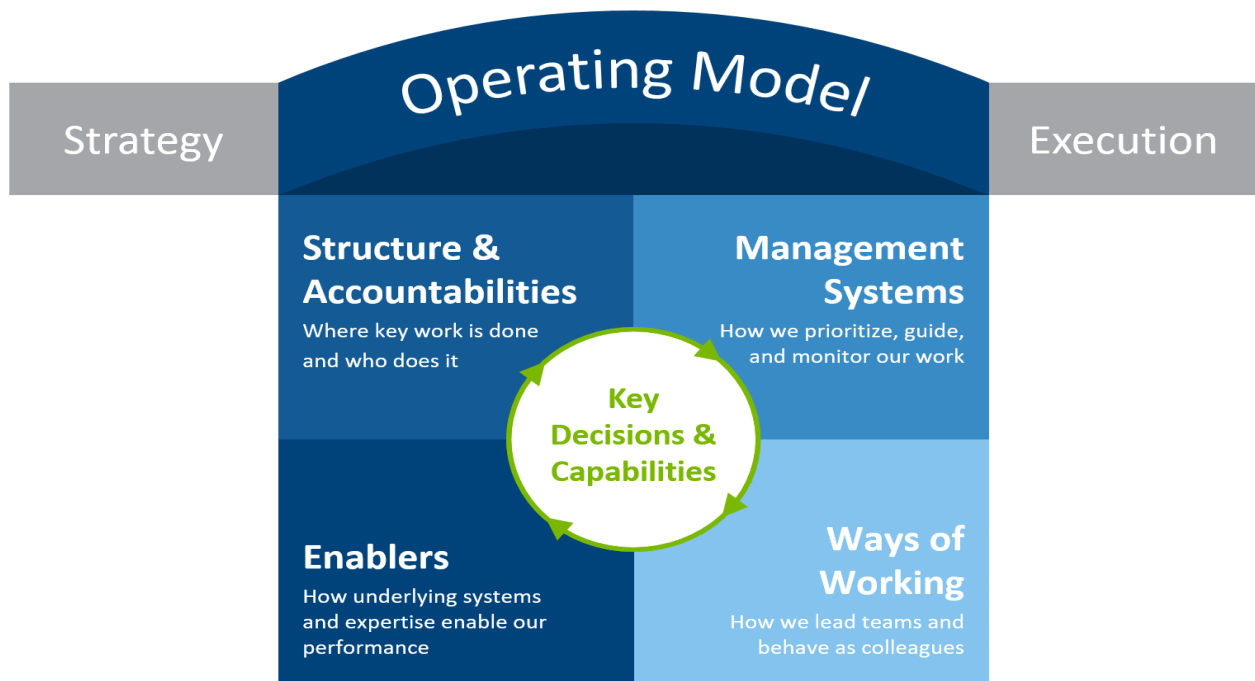
At one extreme, some have used the "lab approach," in which an agile operating model is set up apart from the rest of the organization to serve as a testing ground before capabilities and processes are rolled out to the entire IT organization. This approach makes most sense when the company has only limited support from senior management for larger changes and needs to prove the business case quickly. For the most part, however, the separate organizations created under the lab approach tend to remain separate rather than influencing change across the organization. [3]

At the other extreme, a handful of companies have embarked on a “big-bang redesign,” in which they move all functions and business units toward new organizational structures and roles, self-contained agile cells, and faster processes—all in one go.

Somewhere in the middle is the “wave and spike” approach to deploying agile at scale. Under this model, individual teams are reconfigured as agile teams in waves, while elements of a new operating model are deployed in spikes. A large technology-solutions provider, for instance, needed to ramp up its digital capabilities fast. The company’s IT organization was struggling to get products to market given the increasing size, complexity, and sheer number of projects. [3]

Companies that are finding small-scale success with agile development practices may be loath to mess with a good thing, figuring it best to avoid the risks that widespread adoption might present. One of the chief risks in a digital business world, however, is standing still. To keep pace with new market entrants, emerging technologies, and changing customer expectations, companies will need to find ways to extend their capabilities in agile software development to all functions and business units. They must be willing to adapt the very fabric of their organizations and give agile methodologies the space and support they need to thrive. [3]

An Operating Model is the bridge connecting strategy and execution



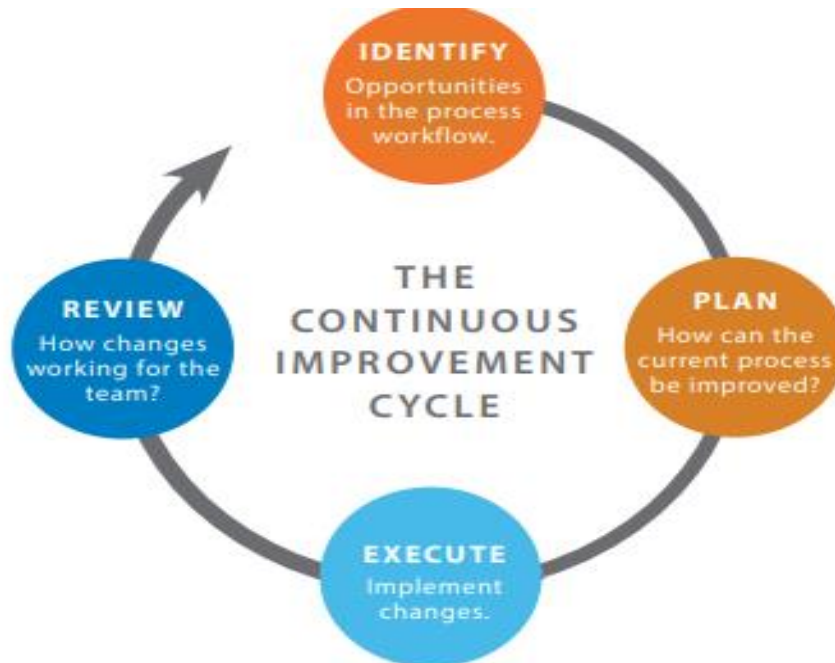
Source: Developed by The Bridgespan Group, adapted from Bain & Company.

Source: Developed by the Bridgespan Group, adapted from Bain & company

The essence of a great, high-performing culture in the agile operating model is one that embodies several core principles. It's one that is always streamlining processes, eliminating waste and fostering a continuous culture of learning and improvement.

- Customer Value-Focused – Teams continually assess requirements with a lens of generating the most value to the end-user as early as possible. Not all requirements are equal and there is no single finish line, as with a traditional waterfall approach.
- Make Mistakes Early, Learn & Adapt – Flexible operating models focus on continuous learning and the fluidity of knowledge and experience sharing within the teams to support accelerated progress. This helps to avoid blockers in the future, and to learn early from mistakes. [5]

- Speed & Progress – Business development teams proactively share progress and the value of their projects with the broader business. The development teams should not be viewed as elitist and should be encouraged to evolve learning of agile related concepts.

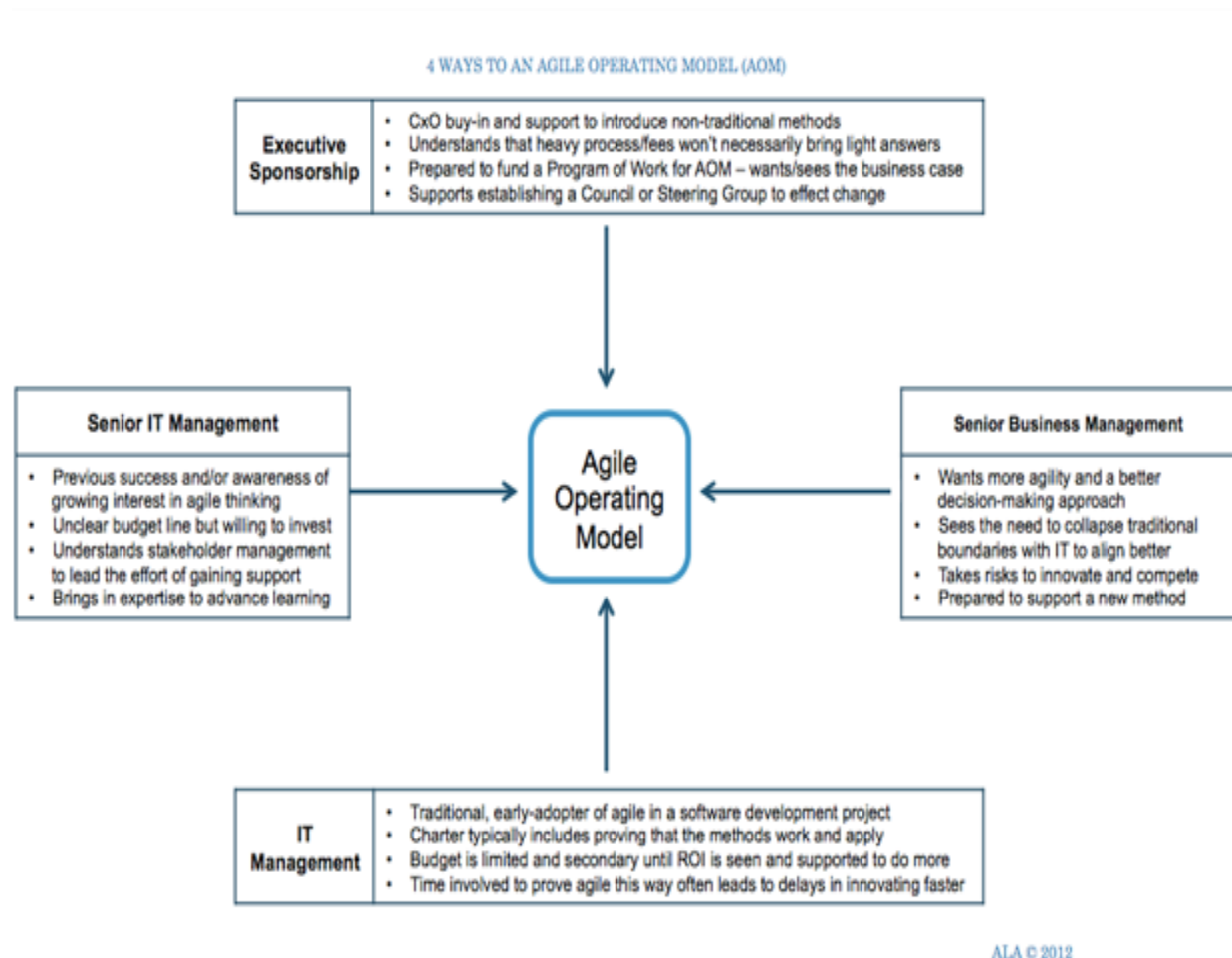


Source: External Document @2018 Infosys consulting

Consumer demand for increased personalization runs counter to the ‘command and control’ of the traditional, centralized operating model. It’s clear much consideration has to be given to the devolution of decision making power and accountability for results in the enterprise of tomorrow. Decentralized decision making is changing traditional leadership structures and necessitating more open, non-hierarchical conversations across organizations, as well as outside into the value chain through co-creation. The full impact of this flexible operating model comes from combining operational improvement efforts around streamlining processes, eliminating waste, and fostering a culture of continuous improvement with the integrated use of agile approaches and capabilities. With nearly nine out of ten of the Fortune 500 companies that existed in 1955 now gone,

merged, or contracted, this demonstrates the extreme of market disruption that is abound. [5]

The diagram below represents the four ways to an Agile Operating Model based on the organizational dimension it stems from.



Source: ALA @ 2012

A five-step journey can allow companies to achieve greater agility

Define where you want to be	• Agree on your strategic objectives and how agility can help you get there (e.g., targeted segment/market growth, enhanced value-based care models and reimbursement capabilities)
Understand where you are today	• Assess where pockets of agility may exist within your current organization (e.g., discrete business units focused on healthcare innovation, IT departments) • Chart the proposed journey and two-pronged approach (i.e., identify pilots for agility concept, as well as system-wide priorities to build agility capabilities)
Draft the new model	• Define and detail the specific aspects of the stable backbone for your organization (e.g., decision-making processes and rights, core functions that can be drawn upon as needed) • Overlay the dynamic capabilities and model for agile units and teams
Use agile to become agile	• Launch agile prototypes, then iterate and refine via defined feedback loops • Allow learning and local adaptation in the dynamic elements; transformation happens most effectively by moving quickly toward an agile model in selected areas for the business • Build scale by shifting targeted areas to a more fully agile model, rather than attempting to shift a broad set of teams at once
Use agile as a source to learn and improve	• Scale agility and formalize the new model • By moving area by area to implement agility, your organization can reach a tipping point at which the model becomes self-sustaining

McKinsey&Company | Source: McKinsey Organization Practice

As the organization begins to implement agility, it should do two things simultaneously: conduct discrete pilots to test and prove the agility concept within the organization, and solidify the stable backbone (e.g., core processes and reporting structures) to lay the foundation for broader implementation. This method is analogous to the approach ING took when it embarked on its agility journey. It ensures that the pilots can show what is possible and the organization will be able to support and scale up the successful pilots. Continuous learning and follow-on improvements are vital characteristics of agility—the key to embedding the concept into an organization’s DNA.[15]

Chapter 2. Analysis of the world market of medical services.

2.1. Dynamics and trends of the world market of medical services.

The world medical services/healthcare services are faced with huge challenges from environments and customers/patients to adopt an agile operating model in meeting up the challenges they faced. In other words, the world medical services are heavily hit by the COVID 19 pandemic and at such, there is a high need for change in its products creation, to marketing and distribution across the globe so as to respond rapidly to combat the monster in the society, hence the need for adopting agile operating model is eminence.

In this chapter, the world market of medical services would be examined and analyzed. The trend and dynamism of world medical services, the market segmentation of medical services and the customer-oriented hospitals would be analyzed as well, so as to project to viewing how the future of the world healthcare system would look like using Azerbaijan as a case study.

In a period like this, the Healthcare companies are under increasing pressure to improve quality and reduce costs. To win in the coming decade, leaders are reinventing their organizations for rapidly evolving markets. Above all, they are innovating faster and designing better customer experiences. Agile teams allow these companies to focus quickly and intensively on the set of innovations that matter most, to get prototypes in front of customers, and to rapidly test, learn and adapt. Leadership teams that seize those advantages will have the best shot at staying on top in a rapidly changing landscape. [8] The healthcare services market consists of sales of healthcare services and related goods by entities (organizations, sole traders and partnerships) that provide human healthcare services. This industry includes establishments that provide services such as medical and diagnostic laboratory services, dental services, nursing care, residential substance abuse and mental health facilities and other healthcare services. [22]

According to this website; <https://www.businesswire.com>, the global healthcare market reached a value of nearly \$8,452 billion in 2018, having grown at a compound annual growth rate (CAGR) of 7.3% since 2014, and is expected to grow at a CAGR of 8.9% to nearly \$11,908.9 billion by 2022. [28].

According to <https://www.thebusinessresearchcompany.com/report/healthcare-services-market>, the global healthcare services market is expected to decline from \$7102.7 billion in 2019 to \$6657.1 billion in 2020 at a compound annual growth rate (CAGR) of -6.3%. The decline is mainly due to the COVID-19 outbreak and the measures to contain it. Globally, the essential and emergency healthcare services have been prioritized which include covid related activities, prevention and management of communicable diseases, reproductive health, maternal health, new-born and child health, and other emergencies, while, non-essential services that include health promotional activities, other non-emergency screening services, routine diagnostic tests, and other desired health services among others have been restricted and recommended to shut down. Therefore, although some of medical emergency services are available, since most of the other healthcare services are shut down, the market is expected to slightly decline. The market is then expected to recover and grow at a CAGR of 7% from 2021 and reach \$9725.4 billion in 2023. [22]

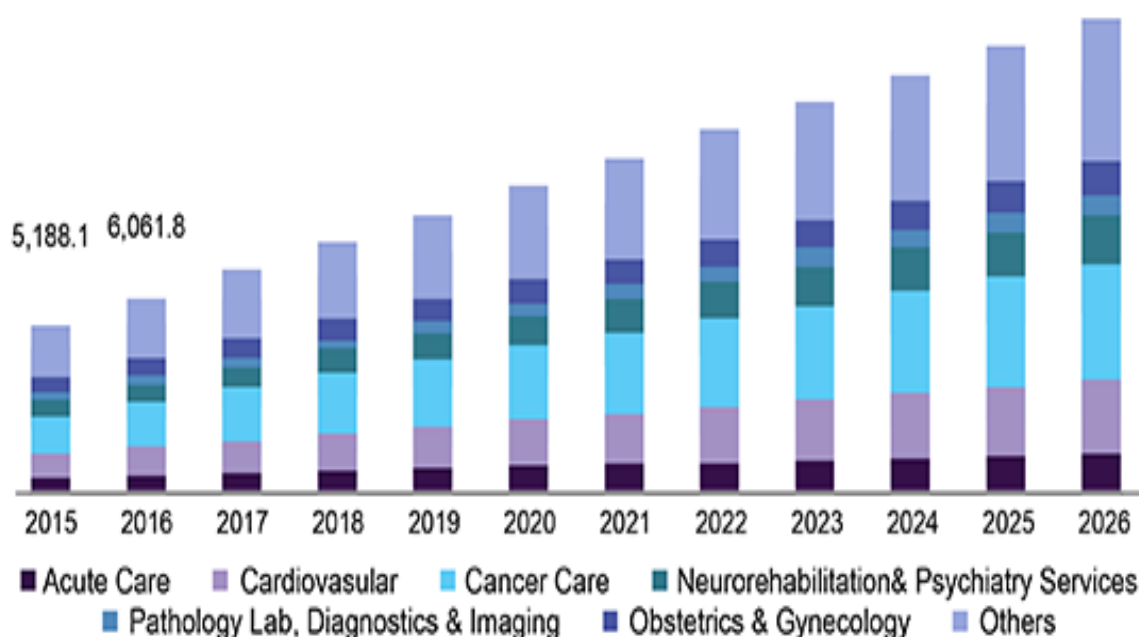
North America was the largest region in the global healthcare services market, accounting for 40% of the market in 2019. Asia Pacific was the second largest region accounting for 25% of the global healthcare services market. Africa was the smallest region in the global healthcare services market. Laboratories in developed economies are looking to optimize by investing in automatizing equipment to meet the demands of testing more efficiently. Automating labs increases cost efficiency and automated equipment is being introduced in core areas of diagnostics like microbiology and molecular diagnostics. For example, the Aptio Automation System at NHS, Tayside

processes 7000 tubes per day, a 20% increase in the workload of its main laboratory, without any additional staff. [22]

Assessing these reports given by different researchers on the world market of medical services, there is a need for the medical sector to adopt agile operating model, flattened/decentralized her structure to meet the emerging needs. Other healthcare services provider that have not come to terms for digitalization of its hospitals/facilities to position itself favourably in the market. Also, the major players in the global healthcare services market are National Health Service, Fresenius Medical Care AG & Co. KGaA, Community Health Systems, DaVita, Universal Health Services, etc [22]

According to Grand View Research website, a report on Hospital Services Market Size, Share & Trends Analysis Report by Service Type..., “The global hospital services market size valued at USD 7.8 trillion in 2018 and is expected to grow at a compound annual growth rate (CAGR) of 8.1% from 2019 to 2026. Medical costs have increased in the last few decades. Advanced diagnostic technology has paved the way for improved & early disease detection and aided research on treatments for terminal diseases, such as cancer. Medical innovation is primarily fueled by the sales profits made by various cutting-edge medical institutions. With increasing awareness and affordability, the market for medical services is expected to grow, which is already evident among many developed nations, as healthcare services contribute significantly to the growth of their GDP”. [23]

Global hospital services market size, by service areas, 2015 - 2026 (USD Billion)

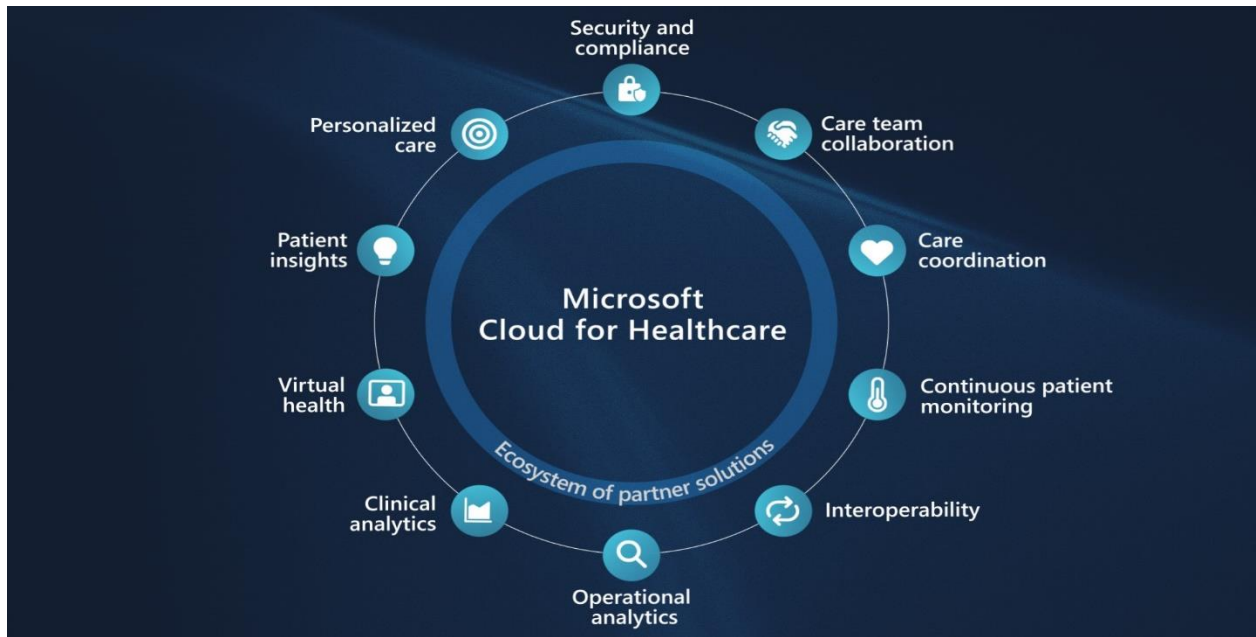


Source: www.grandviewresearch.com

Also, the researcher maintained that, “as a result of growing healthcare costs, most developed nations have established national health insurance plans. In North America, the healthcare insurance sector in itself is a significant part of the overall industry. The growth of the healthcare insurance industry in the U.S. and other developed nations, which is the largest payer of healthcare services in the U.S, is expected to further propel the market for healthcare services”. [23]

Healthcare services are the largest shareholders of the healthcare industry. Pharmaceutical companies, medical devices sector, term care services, healthcare facility management services, and medical consumables industry together contribute toward the healthcare services market. Even as an end-use segment, hospitals have the largest consumer base within the healthcare industry. [23] Hospitals, therefore, are an integral part of the healthcare sector and are a major revenue source for the entire industry, which fuels research and innovation. Therefore, multiple corporations invest significant efforts, both in terms of revenue & marketing strategies, to promote their

product/services among the hospitals. Hence, strategic decisions within the hospital sector can affect other sectors within the healthcare industry, giving them considerable power to dictate terms of the contract with suppliers/service providers/distributors. [23]



Source: Cloudblogs.microsoft.com

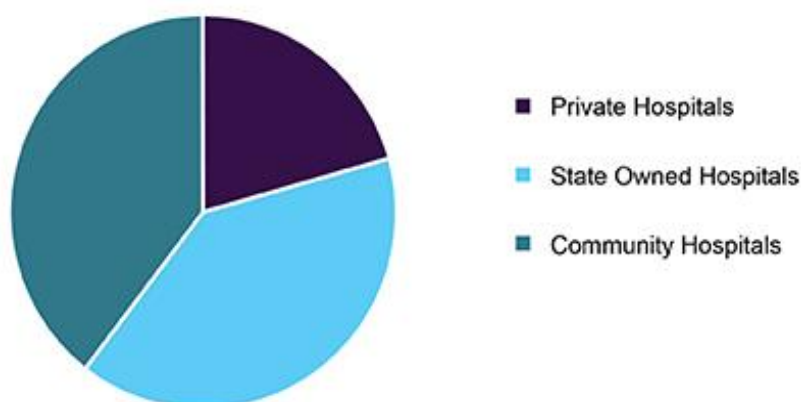
According to this website, Hospital service areas are segmented by medical conditions into acute care, cancer care, cardiovascular, neurorehabilitation & psychiatry services, pathology lab diagnostics & imaging, obstetrics & gynecology, and others. Each service area covers a significant condition for a demographic and observes major diseases/conditions with high prevalence.

Among these segments, cancer and cardiovascular care were observed to be the largest individual in terms of medical costs incurred. The rise in the incidence of cancer and a globally aging population are expected to promote the growth of this segment. However, in terms of revenue, the others segment was observed to be the largest. This segment includes various medical services provided in a hospital, ranging from cosmetic to orthopedic procedures and includes dentistry as well. With the rise in demand for esthetic procedures and awareness about dental hygiene, a significant rise in revenue of the others segment is anticipated. [23]

Based on type, the hospital services market has been classified into inpatient and outpatient services. Till recently, inpatient services, including hospitalization procedures that require a patient stay, were considered as a primary revenue source for hospitals. However, in recent times, due to improved quality of wound healing equipment and quicker recovery from surgeries, patient stay duration has decreased significantly, resulting in the gradual decline of the inpatient market. Furthermore, the longer hospital stay is an additional cost for hospitals, as they reduce a hospital's capacity to admit new patients. [23]

The outpatient market, on the other hand, is expected to grow in the future as a result of development in communication technology, which paved the way for the growth of telemedicine and remote consultation procedures. Shorter patient stay and higher medical costs for inpatients have therefore made outpatient segment a more lucrative market for hospital services providers .[23]

The market has been segmented on the basis of hospital ownership type into private, state-owned, and community/public hospitals. The hospital market structure was influenced by the privatization of the hospital industry in the U.S. and U.K. Many retail clinics fall under the network of private hospitals. Globally, the hospital ownership segment indicates the revenue generated by the hospital institution type per region.[23]



Source: www.grandviewresearch.com

The hospital services industry is expected to exhibit growth, majorly attributed to private and community hospitals. Community/public hospitals remain the largest segment globally. Community hospitals are observed to have the largest number of patient beds and cater to numerous service areas/medical conditions via their specialized departments. They are generally promoted by local philanthropist organizations, corporations, and crowdfunded communities. However, as per the analysis of the hospital industry, private hospitals have been increasingly observed to expand their specialist capabilities and specifically cater to patients with critical care requirements, such as cancer & cardiovascular care. On the other hand, state-owned hospitals aim to primarily target patients needing acute care, including infection control and accident/trauma treatments. These hospitals are therefore expected to have a declining market share in the future, especially in developed parts of the world. [23]

North America dominated the regional segment in 2018 and held around 49.0% of revenue share. The rising cost of medical services and the increasing incidence of cancer in North America are expected to fuel the market growth during the forecast period.

However, Asia Pacific is anticipated to witness the fastest growth over the forecast period. Improving the quality of hospital services and the rising number of private

players in countries such as China, India, & Thailand are expected to fuel the growth of the regional market. [23]

Increasing focus on specialty services and cancer care is expected to be the major driver among hospital services providers globally. Retail clinic chains are expected to observe a rise in various parts of the world. Mergers and acquisitions among hospitals pave way for bigger institutions, although resulting in increased costs, as per the *Journal of the American Medical Association* (JAMA) hospital mergers report. Focus on outpatient services is expected to lower the risk and associated cost of hospital-acquired infections and, therefore, result in the growth of outpatient services sector. [23]

Hospital Services Market Report Scope

Report Attribute	Details
Market size value in 2020	USD 9.4 trillion
Revenue forecast in 2026	USD 14.8 trillion
Growth Rate	CAGR of 8.1% from 2019 to 2026
Base year for estimation	2018
Historical data	2015 - 2017
Forecast period	2019 - 2026
Quantitative units	Revenue in USD million and CAGR from 2019 to 2026
Report coverage	Revenue forecast, company ranking, competitive landscape, growth factors, and trends
Segments covered	Service type, hospital type, service areas, region
Regional scope	North America; Europe; Asia Pacific; Latin America; MEA

Country scope	U.S.; Canada; U.K.; Germany; France; Italy; Spain; Japan; China; India; South Korea; Thailand; Brazil; Mexico; Argentina; Columbia; South Africa; Saudi Arabia; UAE
Key companies profiled	HCA Healthcare; Mayo Clinic; Cleveland clinic; Tenet Healthcare; Spire Healthcare Group plc; Community Health Systems, Inc.; Fortis Healthcare; Ramsay Healthcare
Customization scope	Free report customization (equivalent up to 8 analysts working days) with purchase. Addition or alteration to country, regional & segment scope.
Pricing and purchase options	Avail customized purchase options to meet your exact research needs. Explore purchase options

Source: www.grandviewresearch.com

According to Agile Healthcare 4.0 Strategy & Switzerland, (Strategy & part of PWC Network), Healthcare companies need to become more agile to respond at speed to the COVID-19 pandemic, which has intensified the existing challenges of an increasingly complex customer landscape and growing competition. Some companies have already started to apply agile principles to transform themselves into nimble market participants and retain their “right to win”. [27]

Strategy& researched into the changes and identified six key success factors which will help all industry players to follow suit. To build what we call the Agile Healthcare Organization 4.0, companies should:

- Ensure the empowerment of teams and speed through a results-oriented working culture
- Focus agile transformations on new drug research, market access, and marketing and sales
- Transform culture, ways of working, organization, and infrastructure simultaneously

- Determine the appropriate level of agile for the company as a whole and for individual units
- Apply a piloting approach appointing key employees as “ambassadors” for the rapid adoption of agile
- Build bridges between agile and traditional parts of the company COVID-19 is a threat to healthcare companies which fail to update their capabilities to respond to the pandemic’s unprecedented impact.

Yet the current crisis is also creating opportunities for companies with the agility to navigate a globally disrupted and rapidly evolving market landscape. This report sets out how companies can seize these opportunities by achieving the right level of business agility, in line with their “way to play”, and build up required future healthcare capabilities. [27]

As governments worldwide race to contain and eventually suppress the COVID-19 pandemic, the global healthcare industry is responding to the crisis with unprecedented speed. New hospitals are being built in a matter of days. Medical supply companies such as Roche or Quotient are mass producing test kits, yet they still cannot keep pace with demand. Pharmaceutical companies are quickly shifting research and development (R&D) resources into the search for an effective vaccine. [27]

Given the healthcare industry’s critical role in the fight against COVID-19, the good news is that many leading pharmaceutical, biotech, and medical device companies have already put in place ambitious programs to make their organizations more adaptable and responsive to rapid disruption and an increasingly unpredictable environment. They have chosen operating models that follow principles of business agility, a framework designed to convert slow-moving, hierarchical departments, divisions or whole companies into nimble, results-driven teams and organizations capable of reacting quickly to change. [27]

Between July and November 2019, Strategy& “surveyed senior executives at eight leading healthcare companies in Europe, the United States and Asia about their organizations’ agile transformation programs. This research has proved timely as the current COVID-19 crisis has dramatically reinforced the industry case for adopting agile business models. [27]

According to markets and research.biz report on the global Healthcare Services market such as product scope, market revenue, opportunities, growth rate, sales volumes, and figures. The report tracks the new technological advancements and new releases to assist clients in preparing their future-based prospective services and products as well as create profitable business decisions. [24]

According to the website, the growth of the market is driven by key factors such as manufacturing activity, market situation and demand, risks of the market, new trends, and new technologies and their implementation. The report provides an understanding of the global Healthcare Services market landscape, important industry trends, market size, and market share estimates, and how to position-specific brands in the best way. The overall growth of the market has been forecasted for the years 2020-2025, taking into an account the previous growth patterns, the growth drivers, and the current and future trends. [24]

Despite the growth rate forecasted by some researchers in the medical service sector, we still believe that medical service sector is still faced with enormous issues and challenges due to the second lockdown in most countries due to COVID-19 pandemic which is affecting the global market, including the healthcare services. In view of the above, stakeholders, government agencies and the decision makers have to respond to this challenge by adopting a more proactive approach in production and marketing/distribution of the medical products to the desire locations. There is a high

need for both private and public healthcare practitioners to revamp the sector, break some bureaucratic procedures and adopt a timely-agile operating model to this effect.

Digital technology is now the new direction where every business is tilting towards. According to Deloitte Insights, Across the globe, Deloitte Digital helps clients see what's possible, identify what's valuable, and deliver on it by combining creative and digital capabilities with advertising agency prowess and the technical experience, deep business strategy, and relationships of the world's largest consultancy. Deloitte Digital empowers businesses with the insights, platforms, and behaviors needed to continuously and rapidly evolve to perform beyond expectations. [25]

Also, McKinsey's Organizational Health Index (OHI) researched on Organizational Health, agility and healthcare by using an outside-in assessment of nine payors and providers to gauge the level of agility within the healthcare industry, as well as how it relates to overall organizational health. In each case evaluated, the organization based on both its level of overall agility and the presence of agile components within parts of the enterprise. This proprietary research has helped in identifying effective strategies that healthcare companies can use to gain speed without losing stability. [15]

Further analysis found that the more agile healthcare companies demonstrate better organizational health, as measured by McKinsey's Organizational Health Index, and stronger performance, as reflected in higher patient satisfaction scores, better outcomes, and healthier financial results. Two companies, one that has already achieved a high degree of agility and one that is still in transition, shed light on the impact of becoming more agile. [15]

According to McKinsey's Organizational Index, Company A, a regional healthcare provider, embarked on its agility journey about a decade ago. As part of this process, the company transformed its operating model from a decentralized, nonstandardized

structure to one with substantial stability and consistency. In particular, it instituted rigorous standards for patient care, as well as a system to measure and track performance against those standards. As a result, Company A now has a stable backbone centered on clinical quality, which has enabled it to pursue more innovative care delivery and payment models. [15]

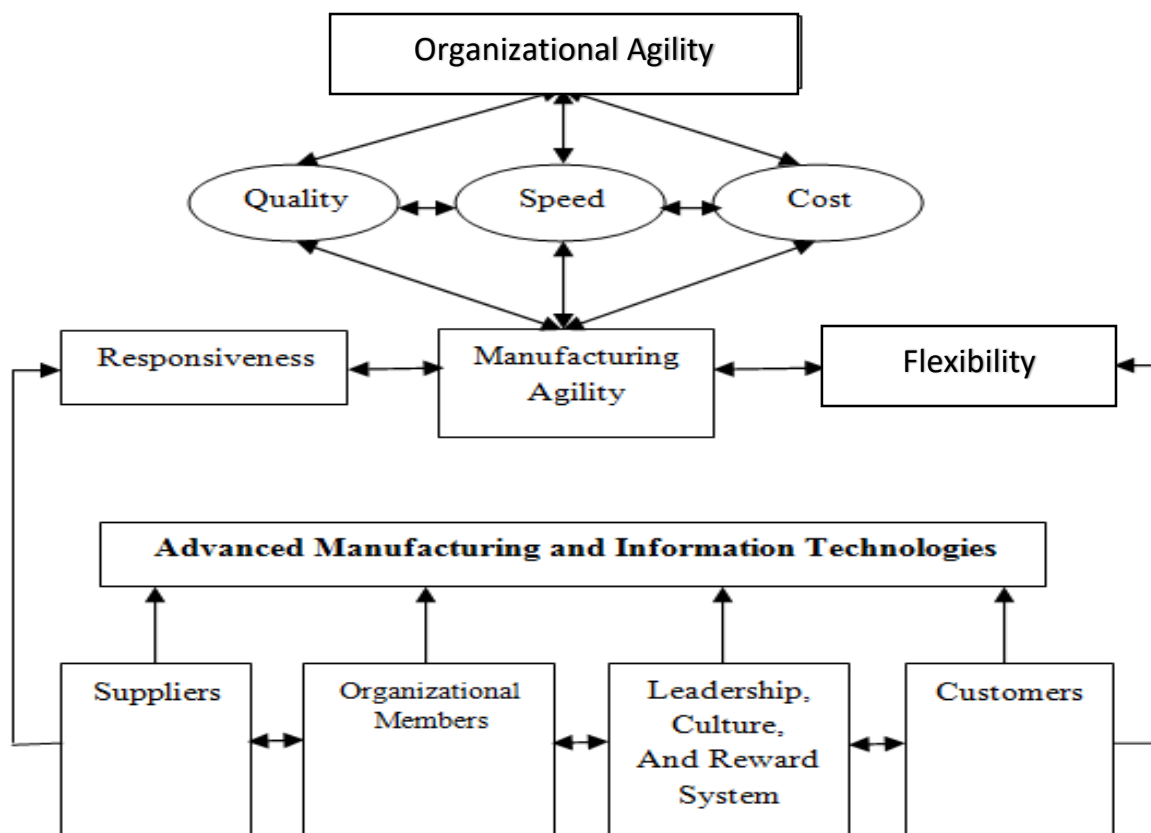
The journey began when the company's CEO said to the CMO, "Deliver a plan for clinical excellence, and I'll give you the resources you need." Once the plan was approved, the CMO put in place a number of teams, each of which was tasked with building stable, translatable processes to establish consistent clinical standards across the organization. The teams consist of self-directed physicians who choose the areas they want to focus on based on their expertise and interests. The teams are supported by a centralized group of permanent, dedicated resources, including a research team (to help gather data and identify best practices) and an implementation team (to assist with putting the standards into practice and then measuring and tracking results). [15]

This infrastructure—the combination of a stable backbone and the ability to react dynamically as the need arises—has instilled a company-wide ethic of high clinical standards and evidence-based practice. It also helps ensure that the company's core business is preserved and runs smoothly as the organization begins to implement different care delivery and payment models. In addition, it has enabled the company to achieve top-decile clinical outcomes and solid financial performance. [15]

Company B, a national payor organization, is shifting toward an agile matrix structure by establishing several shared services for functional areas (e.g., HR, claims) and "centers of excellence" in specialized areas (e.g., quality, compliance). The business lines can draw on these shared services as necessary for resource-intensive but infrequent efforts, and then set priorities and direct activities for the shared staff assigned

to their projects. (An example of such an effort would be the need to develop the approach for responding to a large request for proposal.) This agile setup allows the company to quickly develop and scale capabilities that can then be rapidly deployed as needed. [15]

Company B is in the process of expanding this approach to tackle a wider range of business issues beyond resource-intensive, one-off efforts. For example, the business lines can now call on a central team when they need to answer particularly challenging or time-sensitive analytics questions. The company is also experimenting with expanding agility in a few areas with high strategic priority by creating working teams staffed with dedicated employees from a range of functional homes, such as IT and medical management. [15]



Source: Researchgate.net

McKinsey’s Article on May 8th, 2020 maintained that “As healthcare providers face the humanitarian tragedy of the COVID-19 pandemic, they also face unprecedented

stress (individually and institutionally) around the world. The immediate response to the crisis is causing seismic shifts in *how* and *where* care is provided”. [26]

The article states that, new initiatives are helping provide both lifesaving care for those directly impacted and routine care for patients whose regularly scheduled visits with their providers have been interrupted. CEOs and leaders of healthcare provider systems worldwide are dealing with unprecedented levels of demand in their hospitals and grappling with questions about how to provide optimal care. They also face pressing questions about *what the future of healthcare provision* may look like in a post-COVID-19 world. [26] He further narrated that, the experience of the last few weeks and months has demonstrated the potential for fundamental shifts across the care continuum. These shifts include the design and construction of facilities, the training of healthcare workers, sourcing and inventory management of critical care equipment and personal protective equipment (PPE) materials, and the optimal settings for care delivery and how it is reimbursed. The healthcare response to COVID-19 will remain a priority for an anticipated 18 to 24 months, as countries implement phased relaxations and restrictions to suppress the virus, expand testing and treatment capacity, and find better therapies. The future success of providers may be determined by their ability to adjust to the next normal, dealing with a specific set of new or accentuated challenges, and capturing new opportunities at speed, he stated. [26]

2.2. Segmentation of the world market of medical services.

Businesswire.com states that “the healthcare market is segmented by type into healthcare services, pharmaceutical drugs, medical equipment, biologics, and veterinary healthcare. Healthcare services were the largest segment of the healthcare market, accounting for 79.4% of the total in 2018. It was followed by pharmaceutical drugs, medical equipment and then the other segments”. [28] Going forward, the fastest growing segments in the healthcare market will be biologics and veterinary healthcare, where growth will be at CAGRs of 13.6% and 10.9% respectively. These will be followed by healthcare services and pharmaceutical drugs where the markets are expected to grow at CAGRs of 9.3% and 6% respectively. [28]

The healthcare market is also segmented by type of end-user gender into female end-users and male end-users. The female end-users segment was the largest segment of the healthcare market in 2018 at 52.6%. The male end-users segment is expected to be the fastest growing segment going forward at a CAGR of 9%. [28] The report states that North America was the largest market for healthcare, accounting for 41.9% of the global market in 2018. It was followed by Asia-Pacific, Western Europe and then the other regions. [28]

Going forward, the fastest growing regions in the healthcare market will be the Asia Pacific and Africa, where growth will be at CAGRs of 13.4% and 13.1% respectively. These will be followed by the Middle East and South America where the markets are expected to grow at CAGRs of 12.8% and 10.7% respectively, it maintained. [28]

The author further maintained that, the healthcare market is highly fragmented, with a large number of small players. The top ten competitors in the market made up to 7.2% of the total market in 2018. Players in the market include UK National Health Service, Kaiser Permanente, Johnson & Johnson, Pfizer, and Novartis AG. The top opportunities

in the global healthcare market will arise in the healthcare services segment which will gain \$2,873.6 billion of global annual sales by 2022. The global healthcare market for female end-users will offer the most opportunities as it will gain \$1,807.8 billion of global annual sales by 2022. The healthcare market size will gain the most in the USA at \$808 billion, says the report. [28]

Market-trend-based strategies for the healthcare market include increasing the adoption of bundled payments, using digital tools, increasing collaborations across industries and companies, focusing on the development of new medicines, and adopting hybrid imaging technology. Players adopted strategies in the healthcare industry include acquiring companies in similar industries to expand their presence and focusing on offering quality products and services. [28]

To take advantage of these opportunities, the author recommends the healthcare companies to collaborate across verticals and industries to provide value-based healthcare, focus on the development of new medicines, adopt cloud-based electronic health records, and expand in emerging markets, among other strategies. [28]

Another author segments the global healthcare services market as follows:

- By Type, Medical and Diagnostic Laboratory Services, Dental Services, Home Health Care And Residential Nursing Care Services, Residential Substance Abuse And Mental Health Facilities, Hospitals And Outpatient Care Centers, Physicians And Other Health Practitioners, All Other Ambulatory Health Care Services, Ambulance Services.
- By End User Gender, Male, Female.
- By Type of Expenditure, Public, Private Subsegments Covered, Medical Laboratory Services, Diagnostic Imaging Centers, General Dentistry, Oral Surgery, Orthodontics And Prosthodontics, Other Dental Services, Home Health Care

Providers, Nursing Care Facilities, Orphanages & Group Homes, Retirement Communities, Residential Mental Health & Intellectual Disability Facilities, Substance Abuse Centers, Hospitals, Outpatient Care Centers, Specialist Doctors, Primary Care Doctors, Physical Therapists, Optometrists, Chiropractors, Podiatrists, Ground Ambulance Services, Air Ambulance Services, Water Ambulance Services. [23]

Markets and Research.biz (marketsandresearch.biz.) segments the world healthcare services by regions/countries, North America (United States, Canada and Mexico), Europe (Germany, France, UK, Russia and Italy), Asia-Pacific (China, Japan, Korea, India and Southeast Asia), South America (Brazil, Argentina, etc.), Middle East & Africa (Saudi Arabia, Egypt, Nigeria and South Africa) [24]

The market segmentation reveals further regional distribution for the global Healthcare Services market, business trends, potential revenue sources, and upcoming market opportunities. The report then forecasts revenue growth, at the global, regional, and country-level and presents an analysis of the market trends, in each of the sub-segments from 2020 to 2025. Moreover, product capacity, product price, profit streams, supply to demand ratio, production, and market growth rate, and a projected growth forecast from 2020 to 2025 time period has been given. [24]

2.3. Customer-oriented operations model for hospital.

International Journal of Health Care Quality Assurance, maintained that a hospital needs to match its uncertainty with relevant internal organizational capacities. The degree of uncertainty calls for different organization structures – an organization appearing in an environment characterized of stability and certainty benefits’ from a mechanistic organization structure characterized by formalization, rules, procedures, and a clear hierarchy of authority. As environmental uncertainty increases the internal organization tend to become more organic, characterized by less formal rules and procedures, decentralized authority and encouragement of employees to take responsibility for tasks and interactions (Burns and Stalker, 1961). [30]

Hospitals are often characterized as particularly complex systems situated in a dynamic environment, interacting with a wide variety of heterogeneous actors, interests and factors, often with disparate demands. Social and demographic changes, rapid medical technological developments, professional interests, as well as changes in public demand for care and new theories about health care management and organization all affect modern hospitals. [30].

In the light of the above assertion, hospital is expected to adopt customer-oriented operations model in order to position herself and staff competitively.

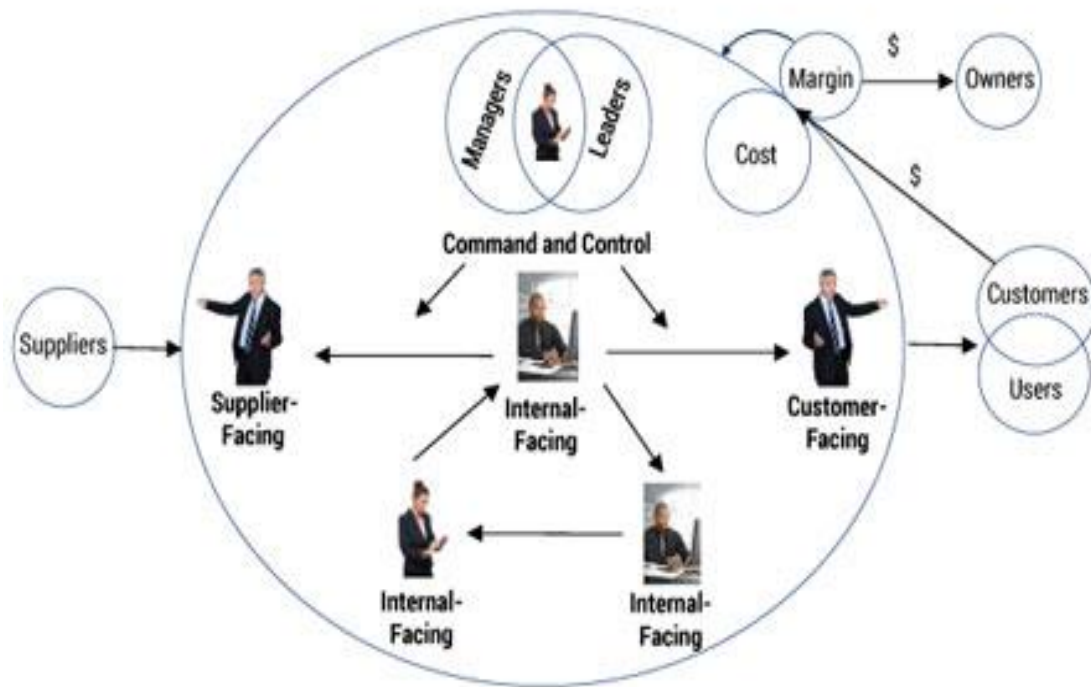
According to jetbrain.com, “Utilizing Agile has reformed businesses into competitive leaders of their industry. There is a huge competitive advantage to be gained from fast releases and better innovation in products. By adopting agile processes and ways of working, organization can be more productive and adapt to the increasingly complex and uncertain technology driven world which we are part of and stay competitive”. {29]

The researcher stated that to be market sensitive, in the sense of reading and responding constantly to real demand of the customers is seen as an important enabler. This requires

acuity in perception, awareness and attention to the environment (Doz and Kosonen, 2010). Sensitivity and capability to synergize information from customers, rivals and suppliers in real time enables detection of economic shifts and regulatory changes (Yang and Liu, 2012) as a complement to forecasts (Mason-Jones and Towill, 1999). It is also essential for an agile organization to assess market turbulence and use market knowledge (Naylor et al., 1999) to identify emerging trends (Li et al., 2008) and their impact on the organization (Mason-Jones and Towill, 1999). [30]

Devadasan et al., (2005) opined that Customer focus is a central principle for an agile organization. A product needs to be viewed as a solution to a problem for the customer, not just as a product. This can entail building long-term relationships with the customer, which might have a longer life-span than relationships mandated by the particular product. This type of intimate and trusting customer relationship can include elements of the customer's own design of solutions (Meade and Sarkis, 1999), addressing customer demand throughout all stages of production (Prince and Kay, 2003), and seeing the customer as a trusted partner involved in interactive communication (Guisinger and Ghorashi, 2004). [30]

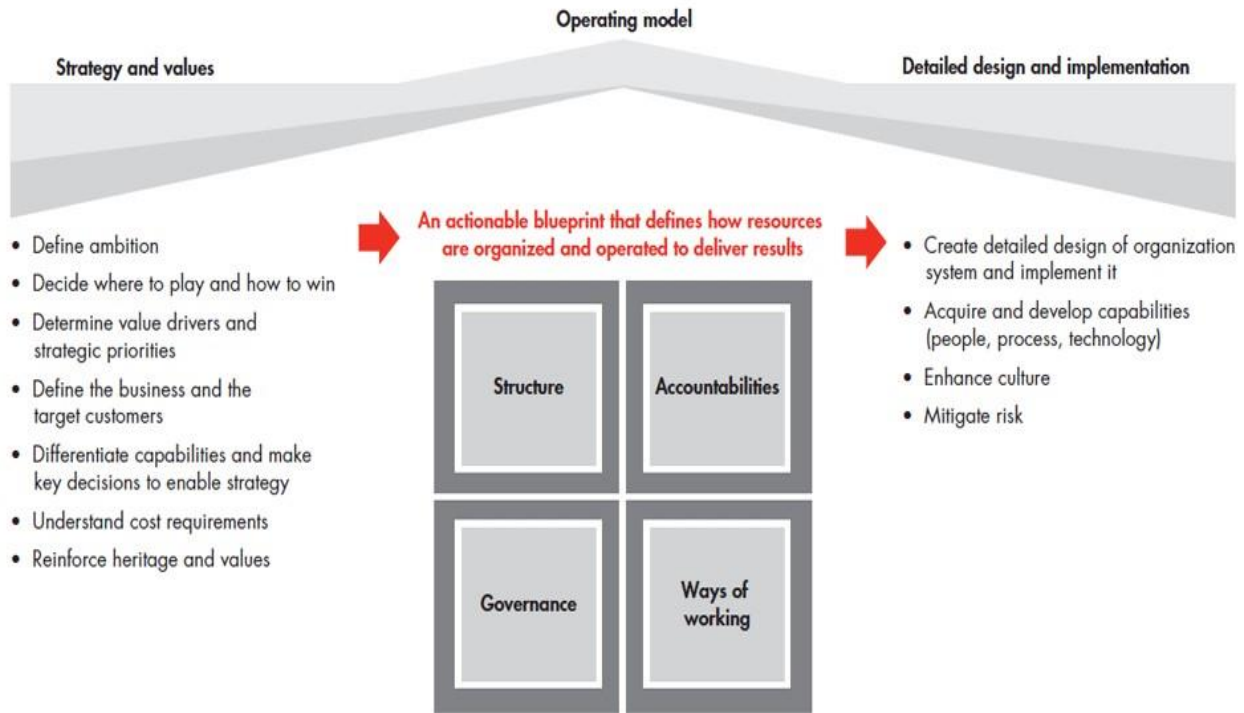
As it is shown in the diagram below where the system is built to centre on customer.



Source: Cutter.com

Moreover, the agile way of organizing can be viewed as a seedbed for hospitals to identify and nurture patient flows and variety of activities, that is. characterized by certainty and possible to plan and structure (lean), but also for those that are uncertain and, consequently, hard to structure and plan for (agile) (Bohmer, 2009). Identification and standardization of common patient flows enables planning that release resources needed for flows where flexible capacity is necessary, as suggested in hybrid strategies (Towill and Christopher, 2005). This reasoning indicates that the relation between lean and agile in health care can be viewed as two complementary approaches when it comes to designing processes. To enable these designs to be as accurate as possible, the capacities and structures of an agile organization might be more accurate than the conventional mechanistic view. [30]

The Operating model serves as a bridge connecting strategy and implementation



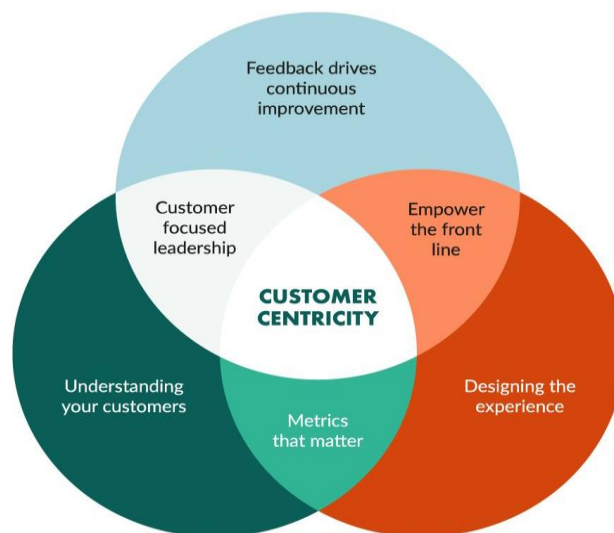
Source: Bain analysis, 2014

It is worthy to note that every organization, including the hospital exists to satisfy the needs of their target customers by creating a tangible product or rendering services which is the hallmark. In the light of the above, customers exert a huge influence in the manner which organization operates, the type and quality of products and services render and other value-added services.

In the words of Bernd W. Wirtz & Peter Daiser, (Journal of Business Models (2018), Vol. 6, No. 3,), the customer decides what a business is and how much the products and services of a business are worth (Drucker, 1954). But customers' needs and preferences change—and due to massive external disruptions, the speed of change increases. Thus, managers are increasingly confronted with strategic, operational, and systemic shifts that require continuous and effective Business Model Development (BMD) to adjust the business model to the requirements of the customers. Putting the customers' needs and preferences at the center of any BMD initiative is therefore essential. [31]

Furthermore, Business Model Development (BMD) has to be conducted fast and repeatable since companies today continuously have to act—as reacting can already be too late. Against the still limited understanding of business model development that particularly takes into account the customers’ needs and preferences, this is a challenging issue for academics and practitioners. The proposed Customer-Oriented Business Model Development (COBMD) framework, which is derived from the business model and market orientation literature, and thus, systematically combines a holistic business model mindset with a thorough customer focus, serves as helpful guidance to research and management in this matter. [31]

Therefore, the core issues for successful Customer-Oriented Business Model Development (COBMD) are a clear and useful customer group specification, the acquisition of customer information, the transformation of the customer information into applicable customer intelligence, the application of the customer intelligence to derive a new or adjust the existing business model, the preparation of the customer-oriented business model development set, and the implementation of the changes that result from the business model development.[31]



Source: superoffice.com

Chapter 3. Private hospital on the principles of agility in Azerbaijan.

3.1. Medical services markets features in Azerbaijan

The blueprint for Agile comes from the software industry. Before the advent of Agile principles, most software engineering was typically organized in a top-down approach, similar to the processes used in health care organizations today. Customer needs were gathered and outlined as specifications, and architects created highly detailed project plans that were then passed to engineers for development, to quality assurance teams for testing, and then released to the users. Projects followed this linear stepwise approach, often called “Waterfall.” Since all customer needs were intended to be captured during the specification phase, software engineers were often separated from users. Furthermore, any subsequent deviation from the initial specifications was considered a failure of the process. Teams lost the flexibility to adapt to changing situations and needs, or to incorporate new knowledge, tools, and technology. Engineers themselves were demoralized, “being viewed as resources rather than valuable participants.” Our experiences as clinicians, team leaders, and team members in health care are comparable and shown in alarming rates of burnout. From such frustrations grew principles that radically changed the way software is now built. [52]

According to healthaffairs.org, in 2001, thought leaders in software development outlined a set of principles, known as the Agile Manifesto. The document described four core values supported by 12 principles that would guide future work. The value statements are at the heart of the Agile movement: Individuals and interactions over processes and tools, Working software over comprehensive documentation, Customer collaboration over contract negotiation and Responding to change over following a plan. [52] From these principles have grown multiple tools, techniques, and implementation methods, but all reflect back to these four core values and guiding principles. Agile has been credited with accelerating innovation not just in the software industry but across several others as well, including manufacturing, entertainment, and logistics. Regardless

of the specific use case, Agile helps companies move from a method in which everything is meticulously and painstakingly planned to one that acknowledges, plans for, and embraces change. [52]

Azerbaijan is one of the developing countries in world which lies between Asia and Europe. As young as the country seems, its healthcare is still struggling to position itself in adopting better standardization agility principles. When compared to other Developed countries like Japan, Singapore China in Asia and the likes of Germany, France, Spain, etc in the Europe, much is need to attain this desired outcome. Healthcare sector in Azerbaijan was formerly handled by the government (public) and this has not met the high demand for medical attention as these public hospitals are sited in the urban areas, leaving the rural settle into their fate. This huge gap created necessitated the advent of private hospitals which pushed the sector open for competition.

According to i-brokers.com website, Azerbaijan's private health system has far better quality of medical care with top-notch medical staff and advanced medical equipment. The private hospitals and private clinics have recently branched out throughout the city of Baku, providing expatriates in Baku with even more medical options. [49]

The medical industry is one of the most lucrative forms of sector. In Azerbaijan, its development became possible after the independence of the country and the transition to a market economy. On the other hand, the economic crisis in the country has created the conditions for attracting private capital to healthcare. This redirecting flow of patients from state medical facilities to private institutions is an important topic, where doctors can earn more and patients can access better equipment and the quality of healthcare. The volunteer insurance business is rising fast. High package rates, culture shortages, insurances promotion and compulsory medical insurance are hindering the growth of individual voluntary health insurance. [36]

The poor pharmaceutical industry is the key feature of Azerbaijan's modern pharmaceutical market, but positive dynamics are seen for the industry's growth. The

country's market possesses tremendous potential for medical business growth, which makes it attractive to foreign investors along with its favorable geographical location. Simultaneously, with the devaluation in 2015, the need to help local producers, both economically and socially, became deeper.

Private Hospitals in Azerbaijan are faced with challenges both from environments and customer. Although few of it are responding to meet up with these challenges, many are still lagging far before due to some legislations from government, lack of infrastructure, lack of facilities and capabilities and rigid organizational structure. These principles require the digitalization of the medical facilities/hospitals, decentralized its structure, form of scrum and lots more.

According to www.rhazesglobal.com website, as part of its agility model, the use PET CT by Rhazes Global opens up new possibilities in the precise diagnosis of tumors, and in one procedure, in addition to a more precise localization of the primary tumor, it allows you to obtain detailed information about the state of other organs and systems. PET-CT scan takes about 30-40 minutes. All this time, patient cannot move, therefore, problems associated with being stationary (pain in the joints or bones, swelling, cramps, tremors, etc.) must be reported to the doctor in advance. Specialists will select the optimal examination mode. The procedure itself consists of injecting a special preparation (an hour and a half before the tomography), labeled with an isotope, and subsequent scanning of the whole body using PET-CT device. The procedure is painless. The radioactive isotope 18-fluorine is rapidly excreted from the body, therefore PET-CT examination is safe for health. For the speedy removal of the drug from the body, patient should drink more distilled non-carbonated water after the procedure. [50]

In recent years, the PET-CT study has become a leading diagnostic tool for various types of cancer. Using this scan, the degree of spread of the tumor process in the body is determined, the response to therapy is evaluated, and observation is carried out. In addition, PET with FDG has been shown to be highly effective in detecting infections.

This type of scan is also used in neurological examinations for epilepsy and degenerative brain diseases. [50]

International Multi-Profile Clinic (IMP) is one of the private hospitals in Azerbaijan with agile principles. This clinic is committed to providing professional, compassionate, and evidenced-based health care in a clean, modern, multidisciplinary, multilingual and multicultural environment. [51]

It is structured for client to feel the difference from her first visit, the difference in its caring approach to addressing clients' medical needs in a supportive and professional environment. IMP adopts customer-oriented agility model which is seen by building the facility to center on customer's needs and satisfaction.

The mission of the IMP Clinic is to provide its patients with innovative medical services applying Western standard of medical care, delivered by different languages-speaking medical staff. It structured itself as specialists in serving embassies, multinational corporations and the expatriate community, plus offering international medical escorts or evacuations. As a courtesy to client, they provide direct billing to most western insurance providers. [51]



Source: Acendis.com

Azerbaijan belonged to the USSR until 1991 and had a similar health care system to the Soviet countries. There was a large network of medical institutions in the region. Health care has been financed on a fiscal basis by the budget. Medical establishments were mostly state owned and a doctor or institution had no preference for the patient, which caused the rivalry to be almost complete. Only a small number of institutions served pay medicine (mainly dental clinics).

However, during the lifetime of the USSR non-official payments occurred, by the time that the nation fell, they reached the highest. Following the dissolution of the Soviet Union, it was in a critical state which decided a substantial decrease in public health expenditure. In addition, there has not been any drop in the State-declared guarantee

package of medical services. The increased funding gap offered a justification for private capital being drawn to healthcare.

Since 1994 a variety of specialized facilities have been deemed payable by decree of the president to form an alternative source of funding. Prime ministers in the field of pharmacy, conventional and alternative medicine were given the Presidential Decree of January 27, 1997[32].

A public health security law was adopted that defined in particular the financial system and the list of medical services included in the guarantee package in the same year. All other programs have been paid for (excluding some categories of the population). Privatization affected primarily small dental clinics and drug industries. The privatization of 350 medical establishments ((Kholli D., Akhundov O., Nolte E.(2004), in 2003) [38]. Since their expenses were, however, minimal and most were closed because taxes were not paid or bankrupts collapsed, the process of privatization has not significantly affected overall health expenditure. In order to eliminate the shadow market, official reimbursement for medical services was implemented in 1998, as a further source of financing.

Official service payments were primarily made available on additional wages to doctors and drugs and were roughly 10% of the local health budget in 2004 (D. kholli, Akhundov O., Nolte E.(2004) [38]. However, as a value-added tax on medical institutions, 18 percent of the collected funding had been allocated to the Ministry of Finance. While the rates for the same facilities were expected to be the same, they were actually different according to institutions.

Furthermore, the fact that official payment often exceeds the average monthly salary is of particular concern. The patient had to pay \$70 in some situations for surgical treatment, double the normal monthly income. This helped to create a vicious cycle, which meant that the conditions for the reverse process were developed when attempting to substitute informal payments with official payments. However, both patients and

medical professionals were satisfactory. It should be stressed that by introducing official fees, the public's access to medical services was decreased. One in three families couldn't get the medical care required because of the high cost of a survey conducted in 2001. This figure was 40% among poor families. A survey carried out in May-June 2003 found that the profits of at least two-three of those surveyed were inadequate to meet medical needs. This figure was 79-89% (Kholli D., Akhundov O., Nolte E..(2004), for workers in non-productive sectors (medicine, education, public administration) and in agriculture and particularly in the unemployed[38].

While payments out of pocket contribute to increased inaccessibility for the population to medical care, a poorly arranged payment structure is contributing to the growth of informal payments. The goal was to raise the health budget with 10% by the implementation of services. This funding policy was, however, counterproductive. First, it was not well planned to release the project. The bulk of population (approx. 75% of the population) was also excluded from payment (State Poverty Reduction and Economic Growth Program 2003-2005 (2003), [13]. Secondly, it was not sufficiently planned to implement paid services and a large portion of the funds went into the doctors' pockets to circumvent the treasury. Thirdly, there was a reduction in government support as paying programs were implemented. The paying medical services in all State agencies, which belong to the Health Ministry and are funding from the State budget, were canceled by the Minister of Health since February 2008. This decision was motivated by "an increase in the healthcare budget, which amounted to 385 million AZN in 2008 (\$ 1 = 0.81 AZN)" (for comparison, health care expenses made up 257.2 million AZN in 2007). This helped create good conditions for medical business growth.

Voluntary health insurance

The voluntary insurance market is also rising. VHI was released in 1995 in Azerbaijan. In Azerbaijan, as throughout the world, volunteer corporate health insurance is fast growing, for which there are many reasons. On the one side, the team is a dynamic

multi-functional organization in which all are linked through a chain. And one workplace's handicap will beat the rhythm of the whole organization's activities. From this viewpoint, VHI pays its price for increasing labor efficiency and reducing the loss of professional experts. In the eyes of both their corporate partners and the public, on the other hand, the treatment of institutions about their employees is a crucial indicator of the company's high-level culture. Finally, there are all sorts of discounts and benefits in the corporate assurance contract for legal companies, dependent on the number of covered workers. SOCAR and the Pasha Insurance company have signed the largest joint contract in our country. Under the deal, some 50,000 oil workers were insured throughout the world. The voluntary insurance insured approximately 15,000 people (Kholli D., Akhundov O.; Nolte E. (2004), in 2003, or under 0.1% of the population of the nation. [38]

According to 2006 estimates, voluntary medical insurance protects 0.2 per cent of the population (Zoidze A., Mekhtiev F.(2006), [48]. Health insurance represented 12.1 percent of the industry in the first quarter of 2007 as one of the major forms of insurance coverage. VHI expenditures constitute 1% of the overall health care spending of the country (WHO), according to the WHO data of 2015[45].

Every independent insurance firm now deems itself the obligation to provide volunteer health insurance services, including: A-GROUP, Pasha Insurance Company; MBASK; Regular Insurance Company; Multinational Insurance Company; Xalq Insurance Company (Xalq Insurance Company), Ateshgah; A network of private and public hospitals offers care. The price, arrangement, and scope of services of volunteer health insurance policies differ. VHI is the only form of voluntary insurance in Azerbaijan that grows in our lives.

VHI is expanding in Azerbaijan, but it is a slow process. One explanation is that costs are pretty expensive. The cost for each patient of a minimum of 400 AZN for the business is more than 250 AZN per year. Since the minimum monthly salary is 130 AZN

and the country's average salary is approximately 500 AZN, we can see that private insurance can be purchased from only relevant parts of the population. The fact that MHI has not been implemented yet in Azerbaijan prevents the production of VHI on the other hand. Since you go above them and deliver something better exactly because of the strict limitations set by the compulsory medical insurance. VHI programs now serve a replacement role in Azerbaijan. By incorporating MHI, additional programmes, and in particular by applying a more burdening style of family-run health-care, for example, medical and dental care, it would be more fitting to formulate them. Actually, if we establish the insurance scheme and with many applicants (e.g., a million covered persons), the population is entitled to a drugs package of at least 3-4 times the size of the insurance contribution (Vishnevsky A.G., Kukzyminov Y.I., Shevskiy V.I., etc. 2006), [12]. With the aim of increasing the availability of voluntary medical insurance in the future, a mix of compulsory and voluntary medical Insurances may be created following the implementation of compulsory medical insurance, which would reimburse people and organizations when buying a voluntary medical insurance policy for a per capita standard. It makes sense to add tax incentives, as in other nations. [48]

For the population, the attractiveness of the supplementary program depends, for one, on the clarity of the definition of the additional services package and, for other reasons, on the ratio of the insurance premium provided by this programme, to the potential cost incurred by it if there is no insurance, that is, the amount spent by it on receiving the paid service. Furthermore, it is highly critical that the facilities entitled to the insured are available physically. Furthermore, the underdevelopment of the population's insurance culture as well as most insurance firms' unwillingness to work in this sector are responsible for a low insurance operation. It is a very dangerous sphere that consumes energy, as you know. The 2015 devaluation impacted insurance companies' activities adversely. Higher medical care rates have, on the one hand, resulted in rising expenses, and, on the other, the number of individuals who are involved in insuring themselves has declined. The most successful and versatile companies will

thrive in these circumstances. Insurance firms try to succeed in the age of innovation and technological growth by offering an advanced product. This helps you to find the nearest clinic and pharmacy, select a route, locate a prescription expert, assess a doctor and a healthcare provider on a cinematographer's scale, save observational results, request expense reimbursement, measure policy cost, and call an emergency help simply by pressing the SOS button (the ambulance will find you by geolocation), turn on a prescription alert, a doctor's appointment, etc. Moreover, online insurance transactions are increasing via app and websites. [48]

3.2. Substantiation of the possibility of opening a private hospital in Azerbaijan

Azerbaijan has a very large network of private medical and diagnostic institutions, although most of them are concentrated in the city. The reasons are that informal payments at state clinics are insignificantly different from official payments to private, but the patient gains terms and conditions, a good mood and generally a quality.

In general, this is the only conceivable situation in which medical services are received, considering the infrastructure, the composition of workers and the availability of public sector facilities. More than 700 private medicines have been run in the country, according to 2012 data, now have 593, with approximately 100 doctors working in private [41]. In the state hospitals, only 26% of rural citizens go to their own diagnostics centers and private clinics (Azerbaijan Health Sector Review Note) (2005). At the same time, the 2015 depreciation led to the closing of a large number of private medical facilities, related to a rise in prices and a reduction in population buying power. The private sector plays an important role, particularly for the wealthy and rural people, in the provision of preventive services. The Government supports the development of private medicine, which in most cases is a replacement for public medicine, rather than a supplementary one. The Ministry of Health granted private practice licenses. In 2005, 300 healthcare facilities including testing labs, ambulatory clinics and dental

establishments issued medical licenses (OECD (1993). [42]. In 2015 licenses for private health and pharmaceutical operations were given unrestricted after the President's decree "On some licensing measures." The government license fee for private medical practice is 2250 AZN, in the pharmaceutical industry (individually) 2250 AZN for the preparation and the wholesale of medicines is according to the list of licensed activity approved by this Decree.

The medicinal products sold in retail shall be 1000 AZN, the raw materials obtained by wild medicinal plants shall be 250 AZN [34].

It is commonly used to lure foreign experts to private clinics. Reports suggest that 61 foreign doctors had obtained a work permit from the State Migration Service in Azerbaijan only in 2015. In addition, in Baku, almost all workers consist of foreigners. There are medical establishments. The International SOS Clinic, for instance. Private medical institutions provide a very large variety of facilities. In the context of voluntary medical insurance, private suppliers can contractually provide services to workers of local and transnational companies. As wages cannot be rated as high by physicians, doctors try to find jobs and established work in public clinics in private clinics. Doctors' pay in private practices is a portion of the clinic's income (from medical visits, from observations).

The more patients and medical appointments for the doctor is easier. This gives rise to the intention of rising the number of patient visits and findings. Furthermore, it is important to redirect patient flows from public health facilities to private ones, with physicians being able to earn more and patients having access to better facilities. The quality of services offered at private clinics is another important issue. During the review in the first half of 2015, the AR Ministry of Health reported several vulnerabilities. As a consequence, six clinics have entirely ceased, eight have discontinued the provision of a certain form of service, and nine clinics have been fined facilities that are not approved or still not licensed [41].

One of Azerbaijan's most competitive economic trends is its pharmaceutical industry. Almost the entire pharmaceutical industry, including hospitals, was privatized during the years of independence. In Azerbaijan, the market is estimated at \$ 700 million, pharmacies have a wide network in the area of 2000, local production at \$ 3 million, potential markets are projected to hit \$ 1 billion, and pharmaceutical clients are the first to be ranked in the CIS. A weak pharmaceutical industry is a key feature of the modern pharmaceutical market in Azerbaijan. Whereby people's needs are rising. In contrast to the same period last year, imports into Azerbaijan of pharmaceutical products increased by 31.7% by 45% in quantity in January to August 2018. [37]

However, a major development sphere is tending to be stimulated. European countries (55% of drugs), led by Russia and Ukraine, are a big source of medicines in the territory of Azerbaijan (14 percent and 9 percent of registered drugs, respectively). [34]

In general, at least 98 per cent of total pharmaceutical capacity is based on imported products in terms of value and volume. Local manufacturers' goods account for around 2%. The republicans currently have the following major producers: "Bakikimyaəczasanaye," "Biol" and "Azerfarm." The company has a range of major manufacturers. The new plants will be set up and supposedly manufacture about 90 quality drugs (Agaev E.M., Gadzhibalaev P. F. (2017). [34].

Local businesses are 23 on the sector. Azerfarm LTD JSC, a market leader among local producers, accounts for 74 percent and 71 percent among local producers (in value and quantitative terms, respectively). Production rates range from 5 US dollars to 10 US dollars and up to 2 US dollars. Nevertheless, drugs must not be forgotten as a particular commodity that is potentially detrimental to human health. The government bodies of the whole chain therefore need strict supervision. A variety of pharmaceutical laws and regulations have been provided for this reason. Legislative interventions in the domain of the drug trafficking, customs legislation, the development of new drugs and drug price

control are essential aspects for pharmaceutical industry management. The Tariff Council controls most drugs' rates. Basic prices are based on a guide for us to at least 5 out of 10 Basic countries (Turkey, France, Italy, Spain, Portugal, Greece, Poland, Hungary, Bulgaria, and Slovenia). The above situation shows that local drug development is significant. This is necessary for the supply of cheaper drugs to the market, particularly during devaluation, but the fact that new jobs have been generated is also important. For example, Azersun Holding is setting up a drug factory in the Pirallahi Industrial Park, an Azerbaijan company, which, with the Government, is represented by the Azerbaijan Investment Company and the Iranian Tamin Pharmaceutical Investment Company. The company will soon be responsible for 20-30 percent of the Azerbaijan pharmaceutical market [36].

However, in view of the potential market size of the State, such as in Turkey, Iran or Russia, or the geographic situation of the country, for example in the case of America, which provides access to the markets of the Caspian region and the center of Asia, it is also attractive for international companies. The Russian pharmaceutical company R-Pharm is one of the biggest pharmaceutical distributors in Russia and has signed a joint project "Hayat Pharm" (45% obtained in the "R-Pharm"), 55% by "Vita-A" deal with the Azerbaijani Vita-A and Azerbaijani Investment Firms. The investment volume will amount to EUR 70 million. The company will have maximum potential in 2019. [46]

The FAVEA Group Representative Office was opened in Baku in 2016. The representative office will concentrate on the integrated design, development, and commissioning, ensuring the production of quality medicines, of new industrial installations of the pharmaceutical industry. Furthermore, preparation for the pharmaceutical industry and state control agencies, including internships in the Czech Republic would be an important operation of the FAVEA representative bureau [39].

Furthermore, a large pharmaceutical company is planned with Belarusian investments which will sell modern medical products, mainly in the field of oncology, to Azerbaijan's

market. This also involves the exportation to third countries of goods produced by the company [40].

Market Size:

Healthcare spending (including investment) as percent of GDP	1 % (2018)
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Hospitals, Procedures, Healthcare Professionals UN:

Number of hospitals	1,225 (2017)
Public	566
Private	656 (2015)
Number of hospital beds (in public hospitals)	44.1 /1,000 inhabitants
Number of surgical procedures	1,842/100,000 population (2015 est.)
Physicians	32.6/10,000 population

Source: Azerbaijan Ministry of Health

Demographics

Population	10,006,149 (May, 2019)
Male	49.9 %
Female	50.1 %
Life expectancy men/women	male: 69.7 years female: 76.1 years (2017)
Infant mortality	11.1 deaths/1,000 live births (2017)
Percent of population older than 65	5.8 % (2016)
Annual deaths	7.1 deaths/1,000 population (2017)
...caused by [highest disease burden]	Coronary heart disease
...caused by [second highest]	Neoplasm/cancer
Prevalence of coronary heart disease	41.36 %

Source: Azerbaijan State Agency on mandatory Health Insurance

3.3. Agile operations as new possibilities in the next normal.

Organizational agility rest on the assumption that the environment is uncertain, ranging from frequently changing to highly unpredictable. Proactive, reactive or embrative coping strategies are described as possible ways to handle such uncertain environments. Five organizational capacities are derived as necessary for hospitals to use the strategies optimally: transparent and transient inter-organizational links; market sensitivity and customer focus, management by support for self-organizing employees, organic structures that are elastic and responsive, Flexible human and resource capacity for timely delivery. Agile is portrayed as either the “new paradigm” following lean, the needed development on top of a lean base, or as complementary to lean in distinct hybrid strategies. [30]

Environmental uncertainty needs to be matched with coping strategies and organizational capacities to design processes responsive to real needs of health care. This implies that lean and agile can be combined to optimize the design of hospitals, to meet different variations in demand and create good patient management. Also, while considerable value has been paid to strategies to improve the internal efficiency within hospitals, this research raises the attention to the value of strategies of external effectiveness. [30]

Bradley H. C, et al., (2019), opined that organizations may initially incorporate Agile methodology within their innovation portfolio as a starting point. Innovation centers or teams are often working on strategically important but high-risk projects. To be successful, separate units within organizations, such as business planning and information technology, must give their staff freedom and flexibility to join these teams. Recruiting patients to be part of these teams ensures that the focus remains on the people receiving services. [52]

Indeed, innovation centers within health systems can be the initial spark for Agile. The intent of Inception Health is to catalyze and support innovation, supporting its health system partners in areas of digital transformation, consumerism, and precision medicine. While structured as a separate limited liability company, the work Inception Health does is part of the fabric of its member organizations, working with operational leaders, key advisers, and front-line staff in a participatory process. Inception Health has adopted Agile as its backbone, forming teams of health system staff dedicated to each innovation project. [52]

Bradley H. C, et al., (2019), asserted that given the complexity and constraints, health care organizations have more to gain from adopting the Agile methodology than other industries. Health care organizations are inherently complex adaptive systems, with several medical and non-medical professions working in tandem with technology to serve the needs of almost any patient who comes through their doors, within a

constantly changing regulatory and reimbursement system, and with rapidly accelerating medical knowledge. Health care rarely, if ever, reaches a steady state, resists reductionist analysis, and interacts with a constantly changing environment. For these reasons, waterfall approaches are often inadequate for achieving meaningful and sustained change in health care delivery, something we see born out in the continued suboptimal results of health care delivery improvement efforts, which are expensive and cumbersome. [52]

Furthermore, Health care organizations in Azerbaijan can accelerate the incorporation of new ideas and the adoption of new knowledge through the following key elements derived from the Agile principles: using user-centered design to clarify the problem(s) to be solved, key metrics, and potential solutions; empowering a team to develop a rapid useable prototype using a collaborative, disciplined approach and testing the initial implementation of early work; and embracing new insights from the users, external tools, and knowledge. [52] Agile embeds “testing” and “validation” as an integral part of the process. In software engineering, Agile methodology led to the development of a test-driven development, known as It stated that, Test-Driven Work outside of software, in which design and the development is guided by first establishing micro-tests that are validated perpetually, this is by embracing these principles and a focus on providing value to the patient, Agile approaches could help health care organizations capture and incorporate new knowledge more rapidly and wisely. For those working in quality improvement who are familiar with the Improvement Model, or Plan-Do-Study-Act (PDSA) cycles, these concepts of measurement and iteration will look familiar. [52]

Conclusions

Technology and environmental issues have pushed organizations into fierce competition for relevance and dominance thereby stimulating creativity for survival in the market. Just as the manufacturers of consumer goods are competing for recognition and relevance, the healthcare is faced with similar competition especially in this turbulent time of COVID-19 pandemic.

Therefore, the effects of environment and the increasing needs of customers have posed a huge challenge on so many businesses thereby making many organizations to think agile. Agility can help payors and providers adapt more quickly to changing customer needs, competitor responses, and regulatory guidelines without requiring a full-scale restructuring and reallocation of resources. Also, agility can enable healthcare organizations to innovate and lead, and not be confined to reactive responses. [15]

Hence, in the journey to become agile, organization should communicate their vision to all managers and employees throughout the enterprise. The company's structure, core processes, culture, and basic capabilities are, in essence, the smartphone's hardware and operating system -a platform upon which a more dynamic set of capabilities can be built. The platform provides the foundation, framework, and skills needed to permit employees to perform effectively, and to move quickly as the business environment changes. However, the company's core processes and basic capabilities must be sufficiently open and flexible so that the "apps" (the tailored, dynamic capabilities needed for a given initiative) can easily and quickly be added or reconfigured. [15]

Companies and Hospitals need to deeply understand that the innovation driven by the endless pursuit of profit can only come from serving customers with better prices, high quality products and great customer service – and can only be realized by having an agile, flexible operating model. The companies or hospitals that are best positioned to

thrive will embrace these concepts, while the ones that don't will likely risk losing customer loyalty, revenues and market share at a rapid pace. [3]

The world medical service has also suffered some challenges due to either organizational structure, capabilities, infrastructure and regulations and these in turn affect the production, distribution and marketing of its products. The need for formulating and adopting agile operating model cannot be overemphasized.

Moreover, the world medical service market should be properly understood and examined as we analyzed in this research to know its dynamism and trends. This market should be properly segmented in order to know which operating model will suite each segment so that it can develop agile customer- oriented model to meeting the overwhelming demands in the market.

In addition, those who plan for organizational capacities can make use of more detailed descriptions of the type of uncertainty and the available strategies, so that hospital management can better design work processes that reflect the real short and long term needs of patients, i.e. to combine internal efficiency and external effectiveness.[30] This research provides some support for the use of a combination of lean and agile principles in private hospitals in Azerbaijan to optimize variations in demand.

In the market of medical services in Azerbaijan, it was only when it moves to a market economy that the growth and formation became possible due to post Soviet mentality. The principal stimulus was State support: establishing a favorable market climate, improving organizational and legal structures, and building the needed infrastructure. The market in the country has a wide potential and its favorable geographical location which attracts foreign investors, hence there is a high need to build customer-oriented model of agility to meet this demand and have competitive advantage in the region.

The advancement of the medical industry sets new priorities for businesses and governments to strive. These changes create a competitive environment by pushing

industry players to innovate and create new technology to sustain and improve competitiveness.

Since organizations are operating in turbulent environments with many challenges, there is a high need for innovation on the part of the decision makers to be more flexible in their approach by factoring in the consumers/end users as the key element in their decision making.

This research critically examined and analyzed different principles and capabilities involved in making organization and hospitals more agile. It was found out that, though some organizations have moved forward to agility for competitiveness, many are still operating with the traditional structure.

Although there is significant improvement in patient care and treatment in Azerbaijan, a lot needs to be achieved in the health sector. Government should review some of the enabling laws to encourage private practitioners to invest more in the health sector.

Also, there is a market for medical services in Azerbaijan, this research recommended for a high need for infrastructural development to give investors an opportunity to expand their health facilities to the rural areas.

The private hospital owners should adopt agile operating model just like her counterparts in developed world by digitalizing their facilities to be able to reach many patients within a short possible time.

It was also viewed that, many private hospitals charged higher rate on their treatment thereby discouraging low income earners from accessing the facility. Government as instrument for regulation should improve the public hospitals and create enabling environment for this gap to be reduced.

This research also creates an avenue for other researchers to build on it.