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The Gartner Top Strategic Technology Trends for 2022: Healthcare & Life Science



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Bryan Cole

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Agenda



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A View into the
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Must-Know Healthcare Statistics in 2022



The global healthcare market will reach \$11,908.9 billion by 2022, according to Business Wire (forecasted CAGR of 8.9%).



The US has the greatest healthcare spending, sitting at \$12,703 per capita (2021 est).



There are 784,626 companies in the US healthcare sector.



The internet of things (IoT) can lower the costs of operational and clinical inefficiencies by \$100 billion per year.



64% of physicians believe the IoT can help reduce the burden on nurses and doctors.

Innovation in Consumer Wearables and Apps

More than a million health and well-being apps are available from the Apple and Google app stores.

Smart watchmakers are now adding blood oxygen (SpO2) sensors to their devices as standard or thermometers that can track the rise of body temperature that often accompanies viral infections.

Connectivity accelerated by 5G

AI and VR integration

appleinsider

Apple developing new terahertz radiation sensor tech for non-invasive glucose monitoring



The Rapid Advance of Payers and Retail Giants



The 10 biggest healthcare companies

do not include a healthcare system (Kaiser was #8 in 2019, would fit in at #11 in 2020). But it does include three payers and two retail giants!



CVS \$69B acquisition of Aetna created a digital and retail healthcare giant.

Created a Value Based Care partnership with Banner Health in Arizona.



Walgreens deploying a digital first patient platform using a digital front door.

They have partnered with VillageMD to staff and operate connected health clinics in 700 locations (US) over the next 5 years.

2019 Largest Healthcare Companies (U.S.)

McKesson



UnitedHealth Group



AmerisourceBergen



Cardinal Health



Anthem



Kaiser Permanente

Aetna
Humana

The Rapid Advance of Payers and Retail Giants

2020 Largest
Healthcare Companies (U.S.)



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UnitedHealth Group
McKesson

AmerisourceBergen®



CardinalHealth



Anthem

Johnson & Johnson

CENTENE
Corporation

Gartner

The Value of Data



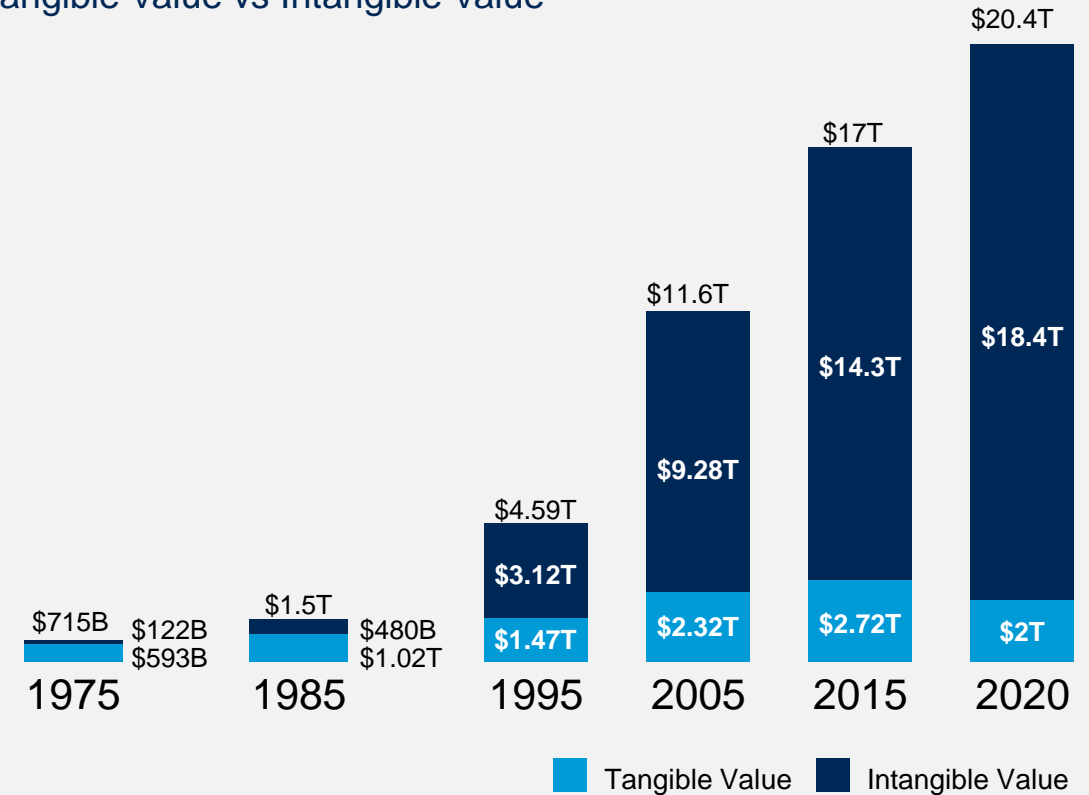
Caroline Chung, M.D., named MD Anderson's first Chief Data Officer

The University of Texas MD Anderson Cancer Center today named Caroline Chung, M.D., associate professor of Radiation Oncology and Diagnostic Radiology, the new vice president and chief data officer (CDO), effective Oct. 1, 2021

“We have established the role of CDO to develop our data strategy and manage one of our most valuable strategic assets – our data,” said David Jaffray, Ph.D., senior vice president and chief technology and digital officer of MD Anderson.

“Her extensive experience leading data-driven operations and innovations makes her uniquely qualified for this role.”

Value of the Fortune 500,
Tangible Value vs Intangible Value



Global Transition to Value Based Care

Most wealthy countries are in some process of adopting VBC.

Sweden has very high alignment with VBC, UK has high alignment

US scores high within enabling elements for VBC, but low on overall adoption

Source: The Economist, “Value-based healthcare: A global assessment”





Outcomes Cost Quality



One extreme interpretation of the VBH model considers diagnostic radiology as a “cost center” to be minimized	Value can be increased by radiologists participating in team-based clinical decision-making with other specialists.
Maximizing value is often interpreted as maximizing volume	It will also require willingness on the part of referrers to work with radiologists to ensure the most appropriate use of radiology resources, services and personnel

Source: “Radiology in the Era of Value-based Healthcare: A Multi-Society Expert Statement from the ACR, CAR, ESR, IS3R, RANZCR, and RSNA”

Digital Health Funding Sets YoY Records

Digital Health funding doubled in 2020	2x
Funding will double again in 2021	
Telehealth accounts for almost 30% of the funding raised in the first half of 2021	
Fifty digital health companies raised \$100 million or more in 2021	
M&A activity within the hospital sector declined substantially, dropping 43%	

ROCK
HEAL+H

H1 2021 Digital Health
Funding: Another Blockbuster
Year...In Six Months

 **FIERCE**
Healthcare

Digital health dollars hit \$15B high driven by telehealth investment in 2021

Explosion in Digital Therapeutics

Virtual Primary Care



Digital Diagnosis



Measurement



Health and Wellness



Digestive Health



Remote Patient Monitoring



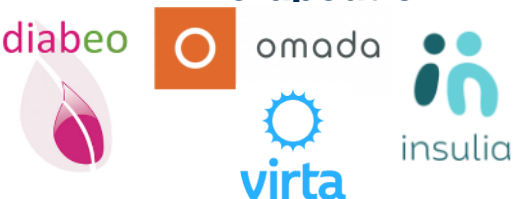
Dermatology



Digital Asthma & COPD Therapeutic



Digital Diabetic Therapeutic



Hypertension



Pain Management



Digital Physical Therapist



Medication Adherence



Substance Abuse



Pain Therapy



Digital Coaching



Expert Guidance



Neurodegenerative



Sleep Disorders



Cognitive Health



Virtual Clinical Trials



Welcome to The Next Normal



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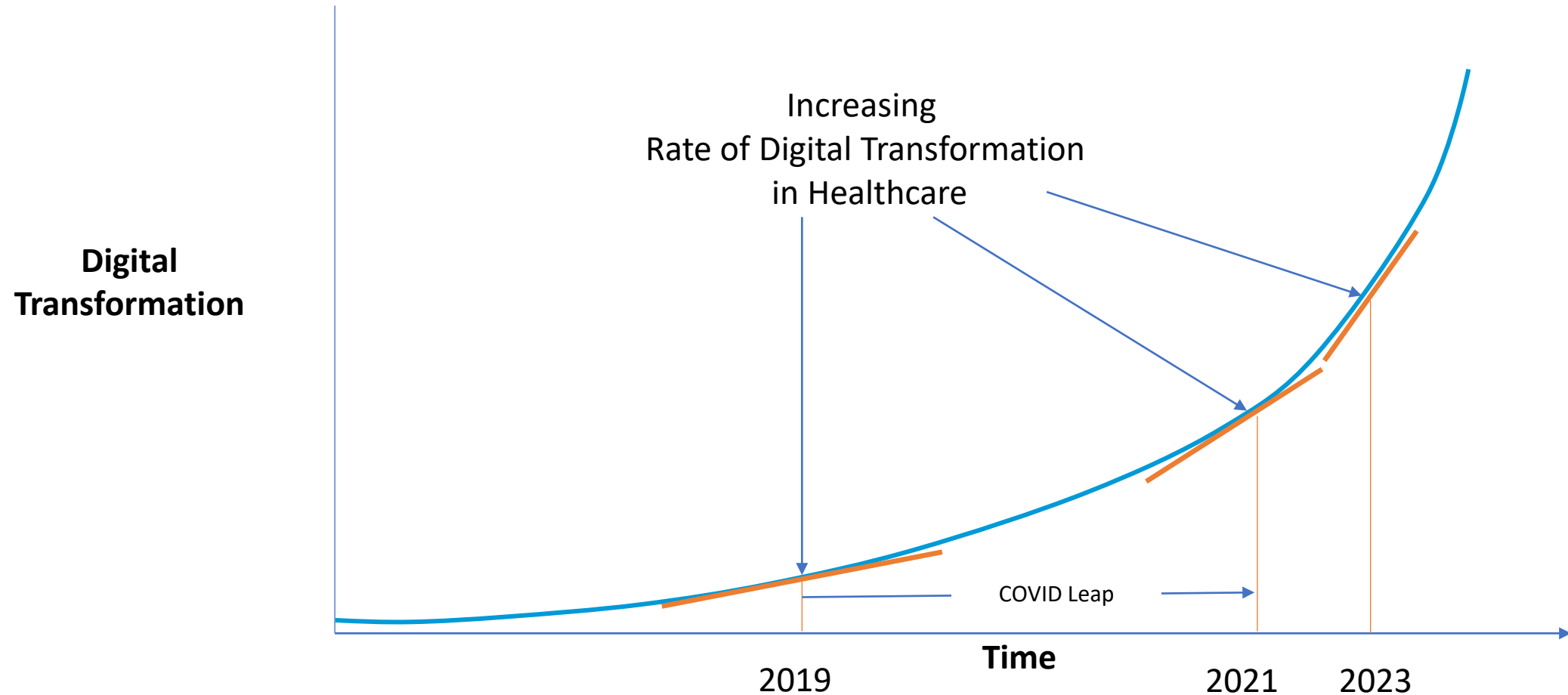
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A View into the
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The Increasing Rate of Change In Innovation

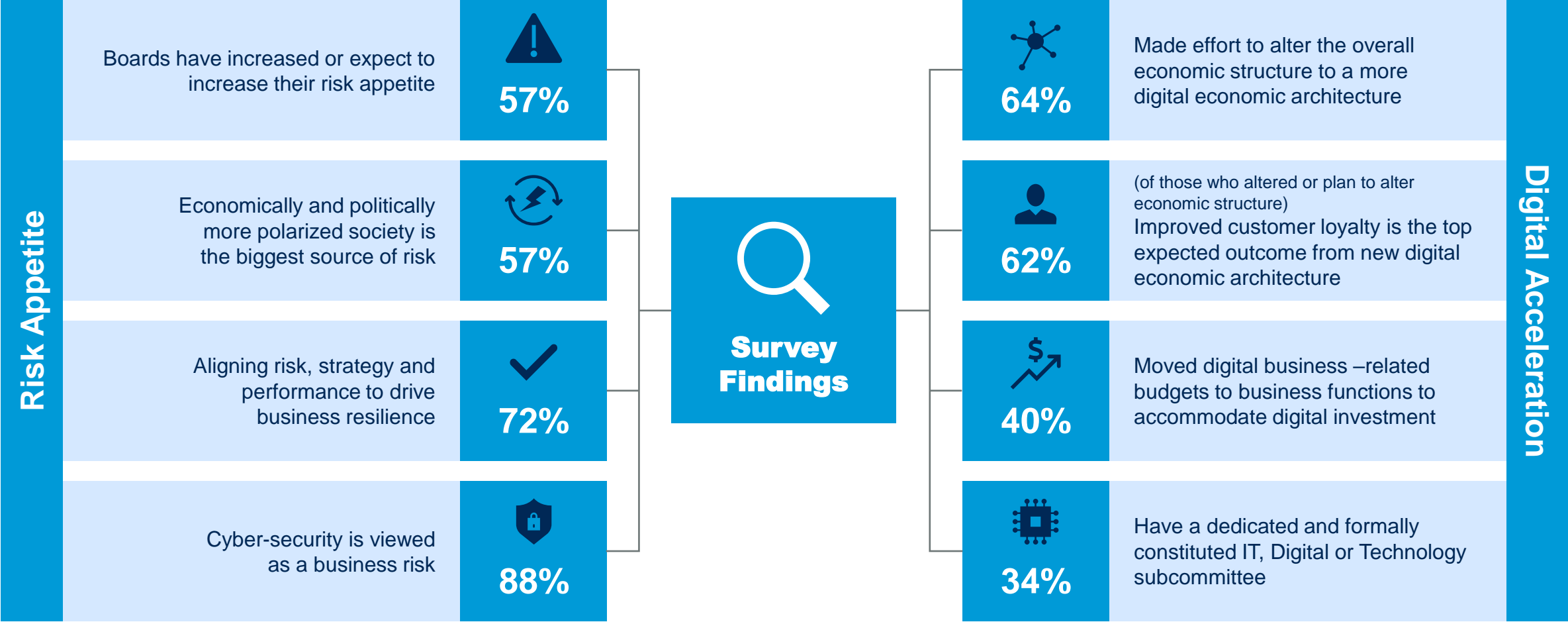




The Era of Continuous Change

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Key Insights from the 2022 Board of Directors Survey



Case Study **The New Stanford Hospital**



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The New Stanford Hospital



Photo courtesy of Stanford Health Care

Actions Taken

The New Stanford Hospital

From Automated Patient Check-ins to Pharmacy Robots: **Everything's Smart**

Operational core of technology



180

applications



368

private patient
rooms



28

new state-of-the
-art operating
rooms



NEW

emergency
room

Patients



In-room, tablet based,
“Guided Patient Journey”,
MyHealth app

Clinicians



iPhone with secure
messaging platform
alarm management systems,
EHR integration

Pharmacists



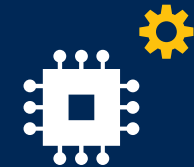
integration of robotic pharmacy
pill-pickers, EHR and
drug dispensing platforms

Facilities

23

Automated Guided Vehicles
for delivery of supplies to inpatient
units, and loading docks

Nurses

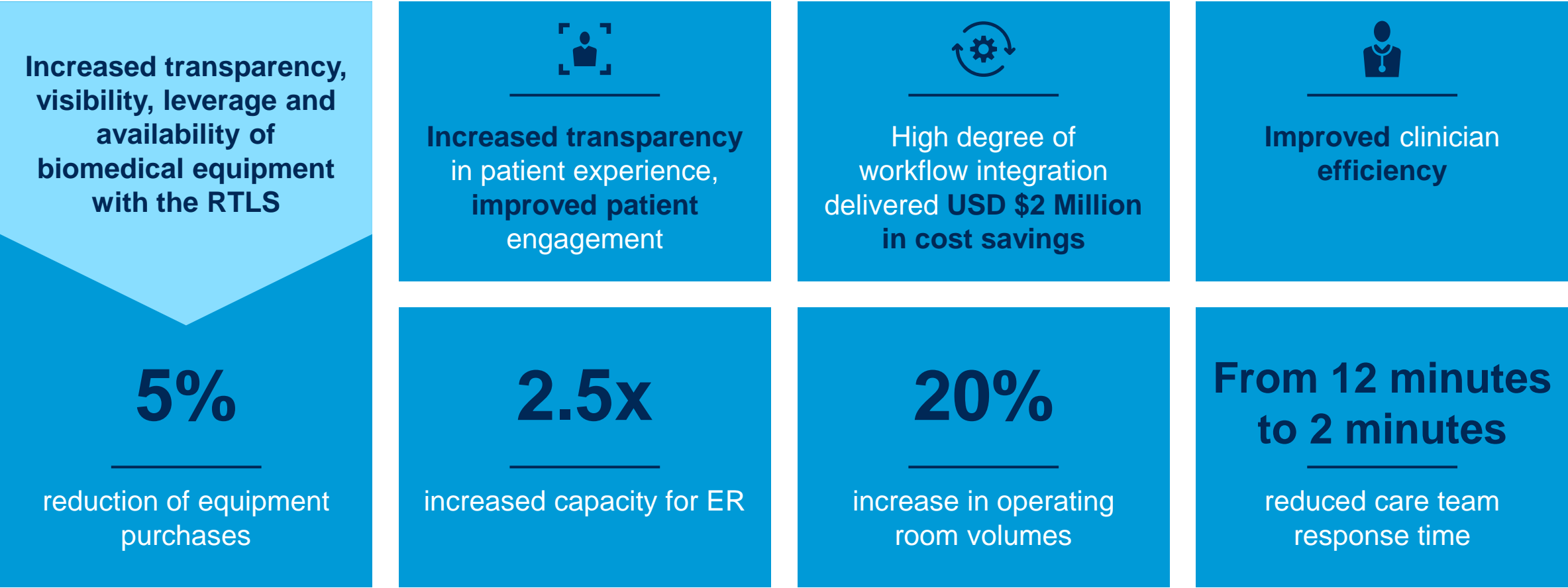


Automated documenting
of workflows through
RTLS (Midmark) integrated
with infusion pumps,
telemetry and
nurse call systems

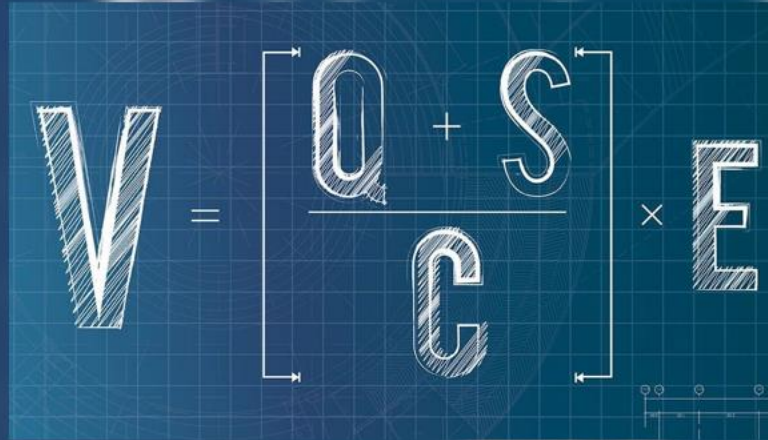
Benefits

The New Stanford Hospital

Engaged patients, integrated processes, improved resource utilization



Stanford Hospital Value Equation



The diagram illustrates the Stanford Hospital Value Equation as a hand-drawn formula on a blue grid background. It features the letters V, Q, S, C, and E in a sketchy, chalk-like font. The equation is structured as V = (Q + S) / C × E. Brackets are used to group the terms: a large bracket on the left for V, a bracket above the Q+S numerator, a bracket below the C denominator, and a bracket to the right of the multiplication sign for E. The background of the slide has faint, large-scale versions of the letters V, S, and E.

$$V = \frac{Q + S}{C} \times E$$

01

Quality

The quality of services we provide to maximize both safety and effectiveness.

02

Service

The ease of access to care from Stanford Health Care.

03

Cost-efficiency

The cost of our services and efficiency of our care delivery.

04

Engagement

The caliber of our people, their level of engagement, and the support we provide to help them do their best work.

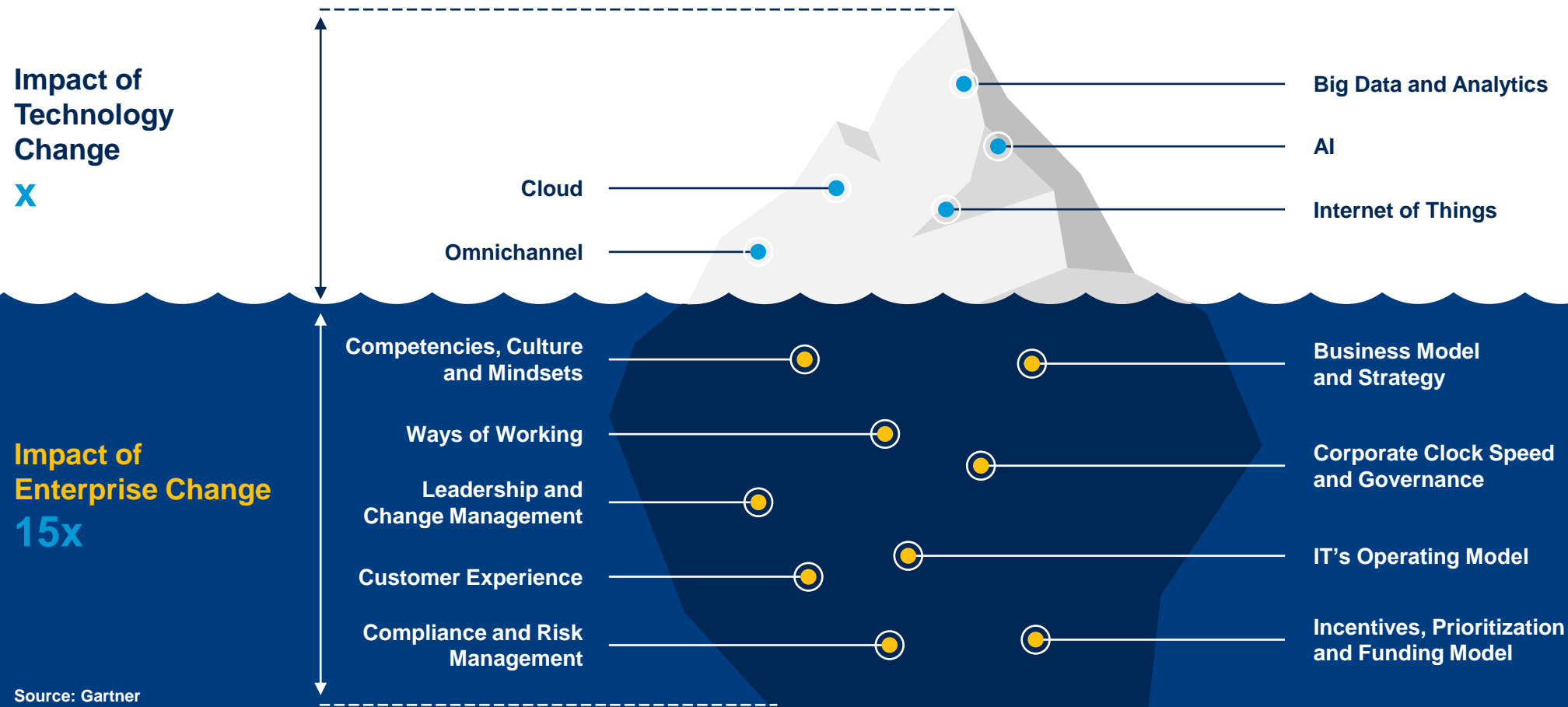
The Importance of Partnerships



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Transformation Is More Than Technology

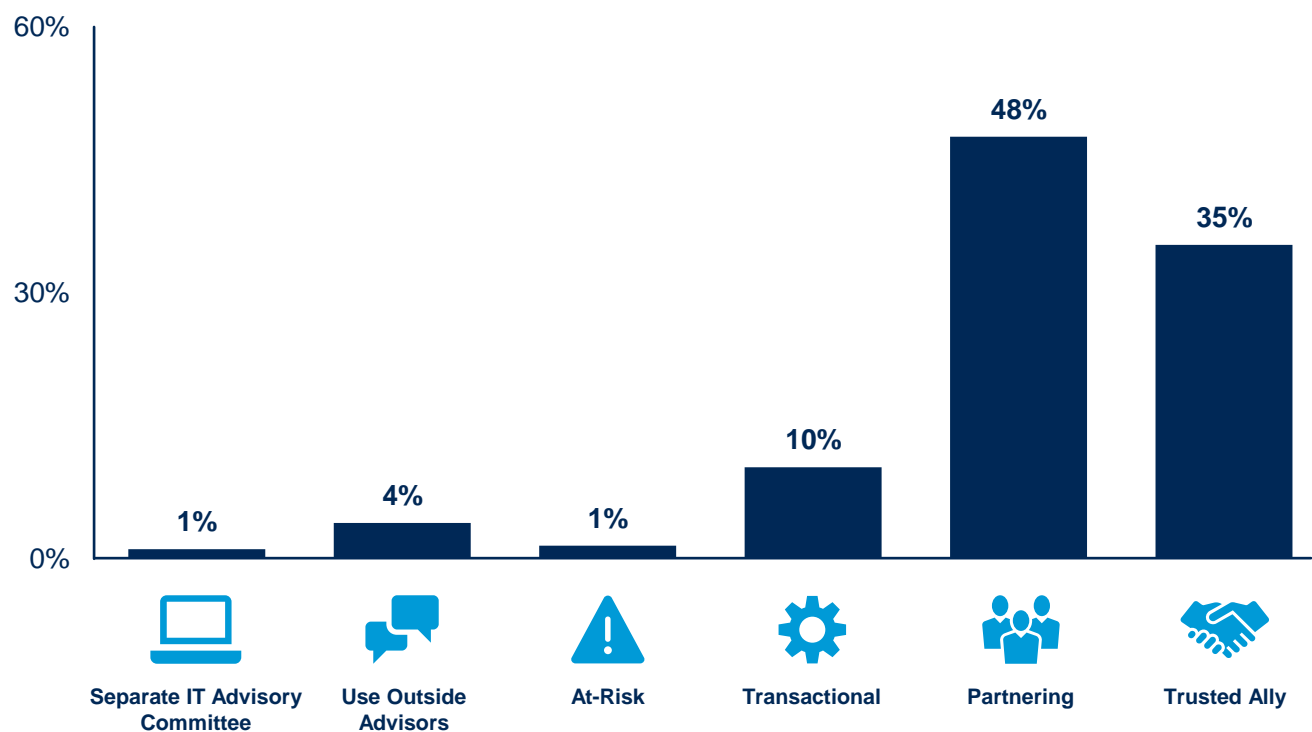
Role of CIO as an Adviser to the Board on Digital Business Issues



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CIOs Have High Visibility and Respect at the Board Level

Role of CIO as an Adviser to the Board on Digital Business Issues



Trusted Ally: We look to the CIO to take leadership role/ownership of business/digital business issues and be a key adviser to the Board

Partnering: The CIO and IT organization often work in partnership with senior business leaders and occasionally provide inputs to the Board

Transactional: The CIO and IT organization are seen as a back office transactional function and do not typically interact with the Board

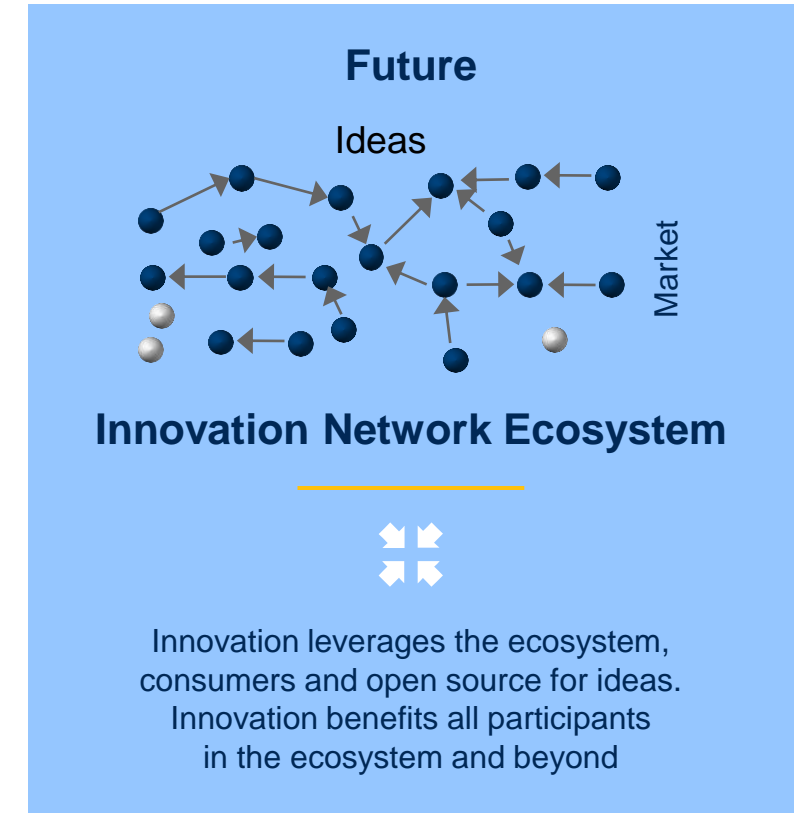
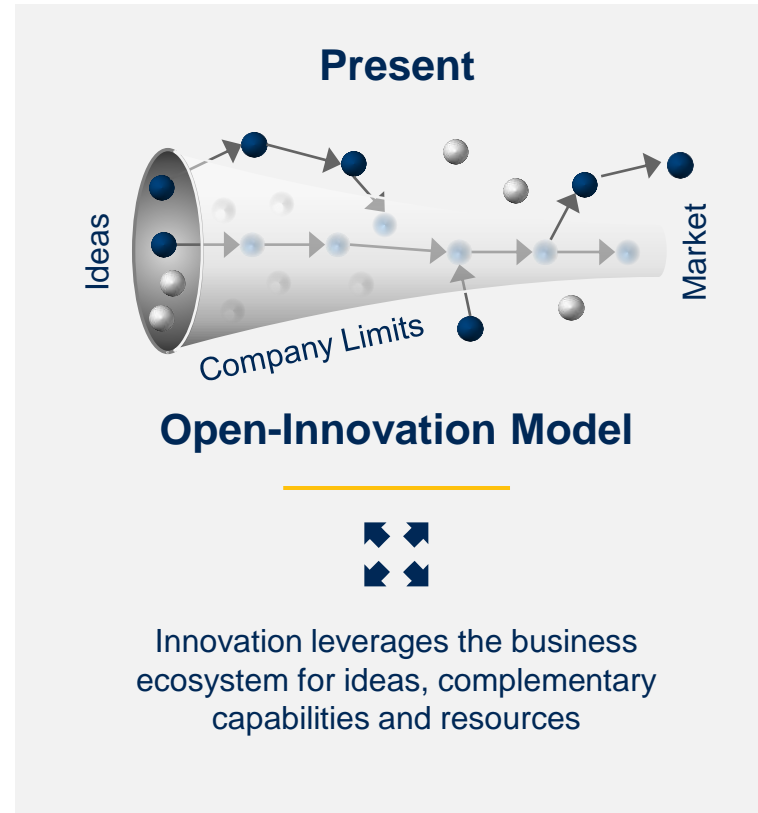
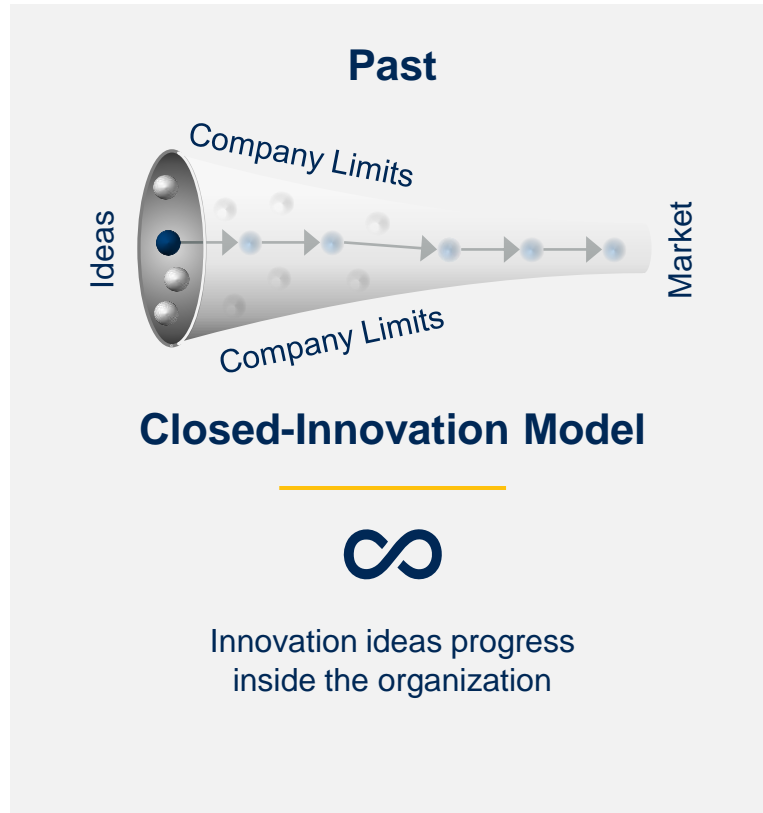
At-Risk: The CIO and IT organization are perceived to be in crisis management mode most of the time and interact with the Board only when there are major IT issues or concerns the Board has

Use Outside Advisors: We mainly use outside advisers (consultants) as digital business advisers and the CIO has no role to play in that

Separate IT Advisory Committee: We have a separate IT Advisory sub-committee the Board relies on for digital business advice

n = 271 ; All Respondents, Excluding Don't Know
Q10. How would you describe the current levels of influence and power of the CIO (Chief Information Officer) or the most senior IT executive as it relates to digital business and his/her role as an 'adviser' to the Board on digital business issues?
Source: 2022 Gartner View from the Board of Directors' Survey

Evolve Your Innovation Competencies to Match the Ecosystem Business Vision of Health Systems



Scale of Innovation

Clarity of Strategy Drives Perceived Value:

Make Sure Strategy Is Clear and Referenced in Investment Decisions

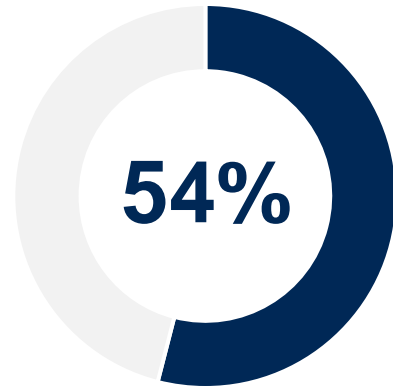


The Great Resignation

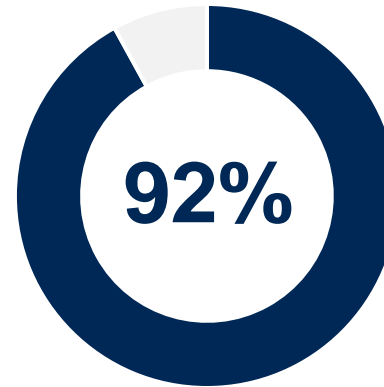


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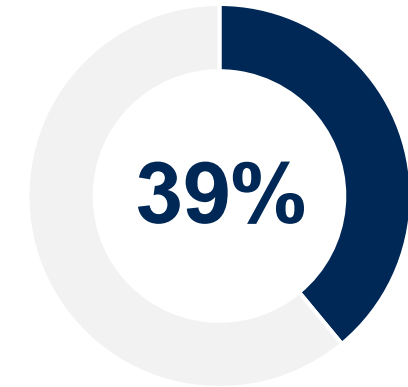
Welcome to the Great Resignation



54% of physicians said COVID-19 has caused them to change their employment plans with over half stating they plan to leave their current employer and 36% saying they will retire early or leave the practice of medicine.



The pandemic is causing 92% of nurses to consider leaving the workforce. Nearly half cite insufficient staffing as one of the primary reasons.



The pandemic has caused 39% of nurses ages 20-39 to report that their commitment to nursing has decreased.

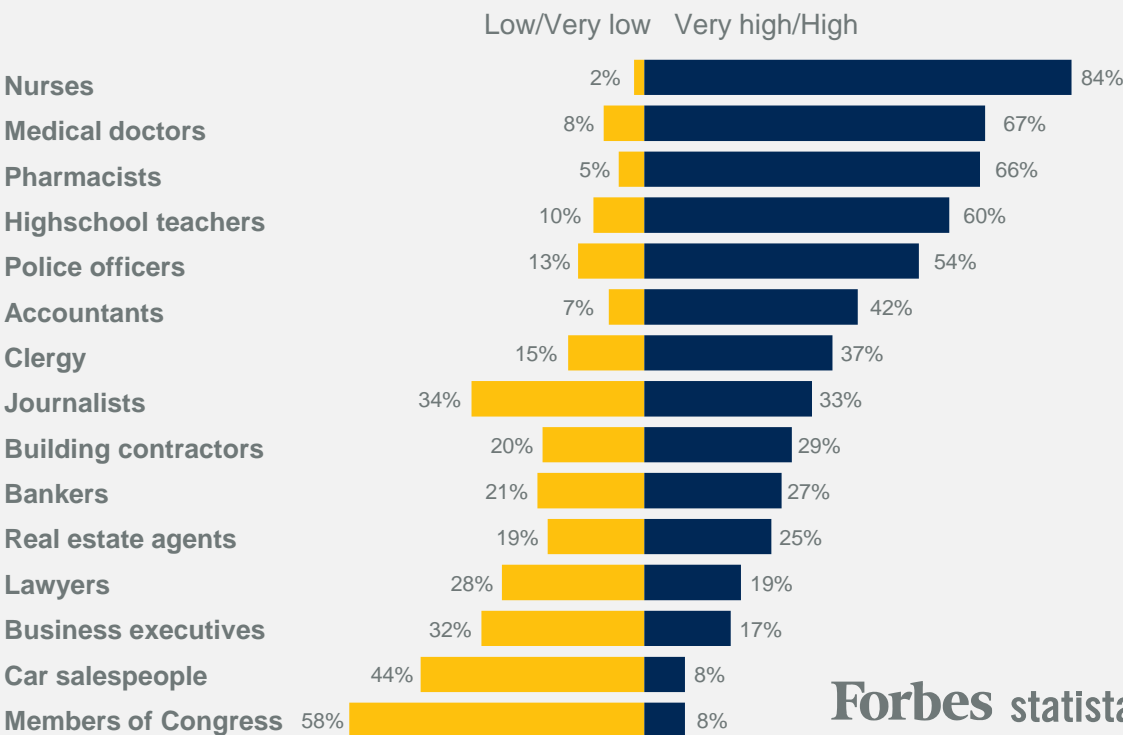
Nursing Shortage

Recent surveys indicate the turnover rate for staff RNs is now 18.7%, hospitals have an average vacancy rate of 10% with a recruiting and onboarding time of 89 days on average.

Hospitals are experiencing nursing shortages for several reasons, including the possibility that nurses could get \$150 an hour to be a traveling nurse versus the \$48 an hour they are paid as hospital staff.

Nurses are the Most Trusted Professional in the U.S.

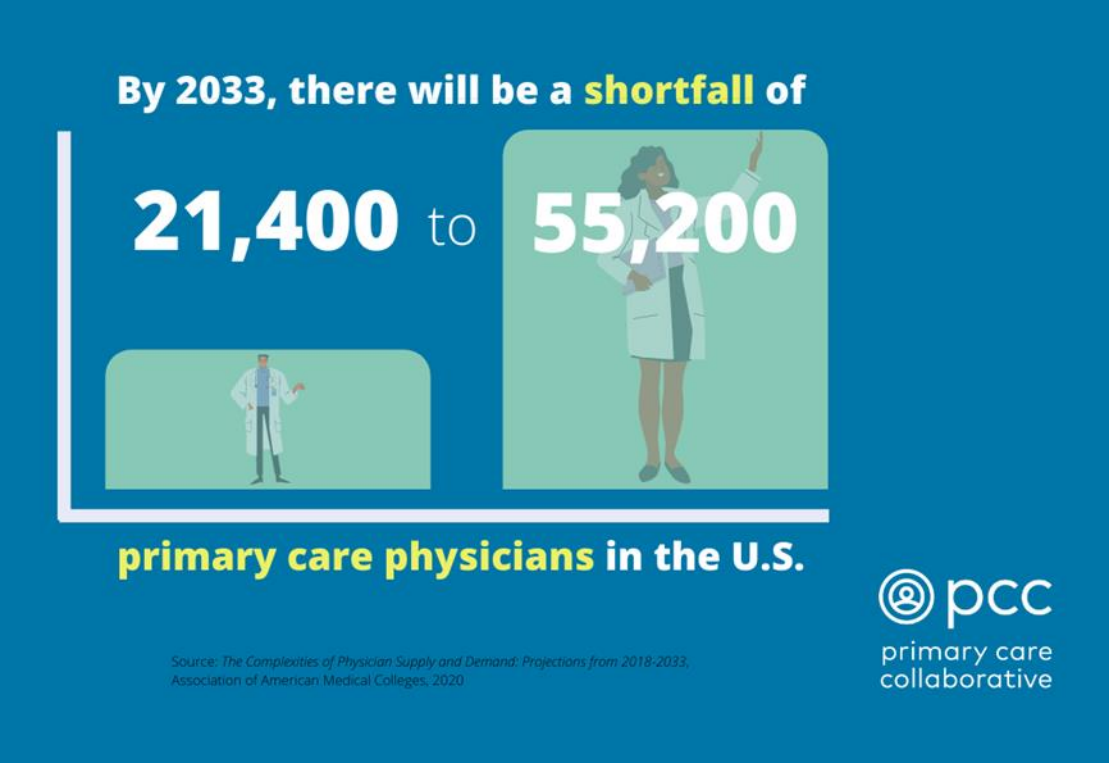
Rating of selected U.S. professions in terms of honesty and ethical standards in 2018.



Forbes statista

N = 1,025 U.S. adults; Source: Gallup

Projected Physician Shortages by 2033



	Nonprimary care specialties Between 33,700 and 86,700 physicians
	Surgical specialties Between 17,100 and 28,700 physicians
	Medical specialties Between 9,300 and 17,800 physicians
	Other specialties (i.e., pathology, radiology, psychiatry) Between 17,100 and 41,900 physicians

Healthcare professionals (HCPs) are in an existential crisis; strategies to attract and retain HCPs is quickly becoming mission critical for health systems.

A View into the Crystal Ball; Leading Practices in 2022 and Beyond



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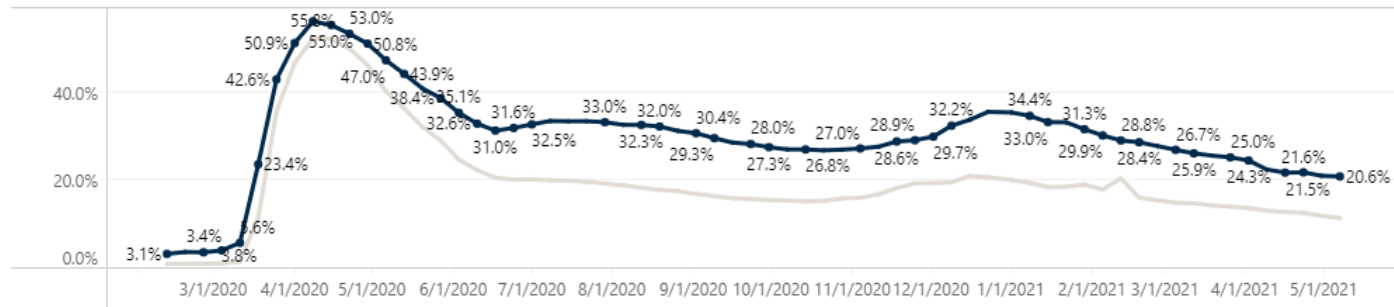


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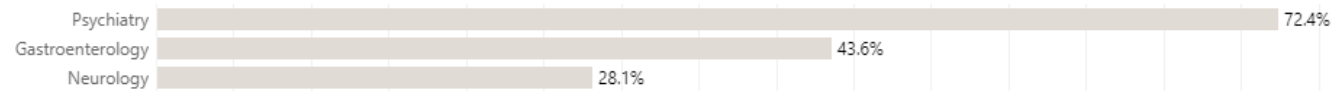
A View into the
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Welcome to Digital First Healthcare

% Telehealth for All Specialties - California



% Telehealth by Physician Specialty - California - Week of 5/7/2021



Digital First

The Health Journey



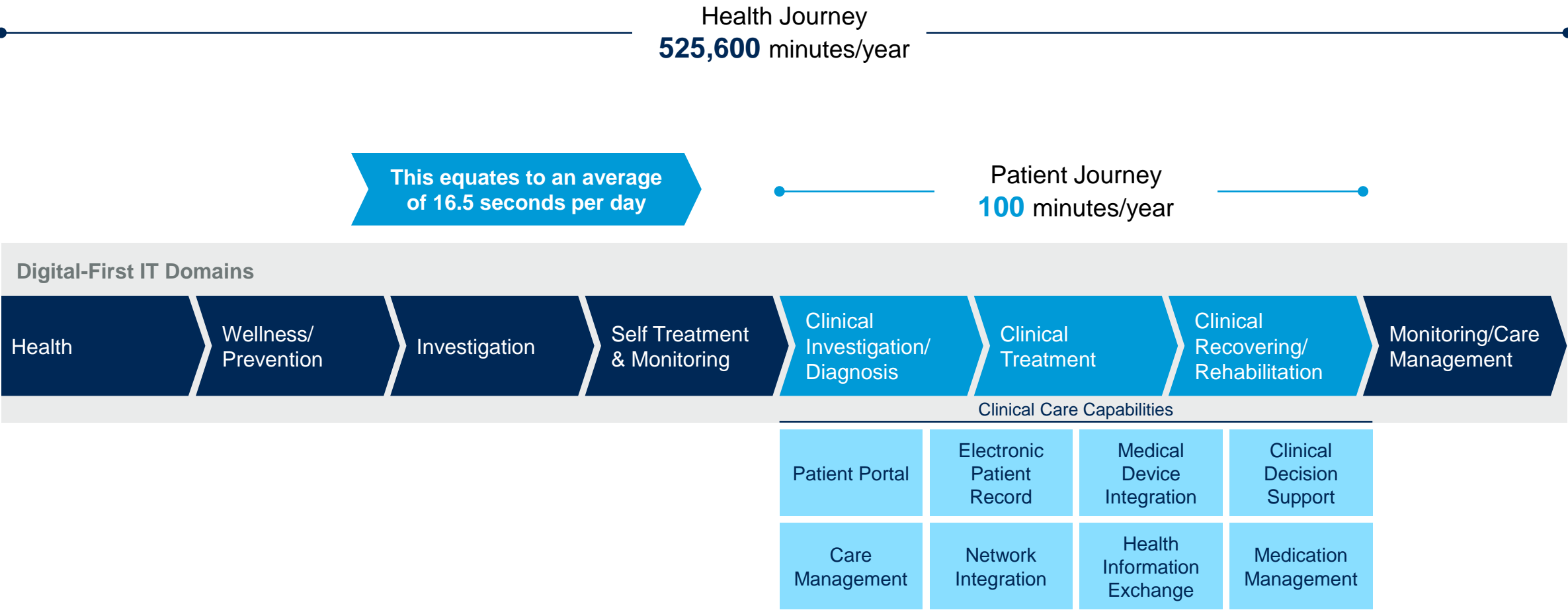
Digital Front Door

“

A digital-first engagement strategy seeks to systemically flip today's in-person-centric health and healthcare delivery business model into one that prioritizes digital engagement and the use of digital interactions products and services throughout the entirety of an individual's journey through health, wellness and illness.

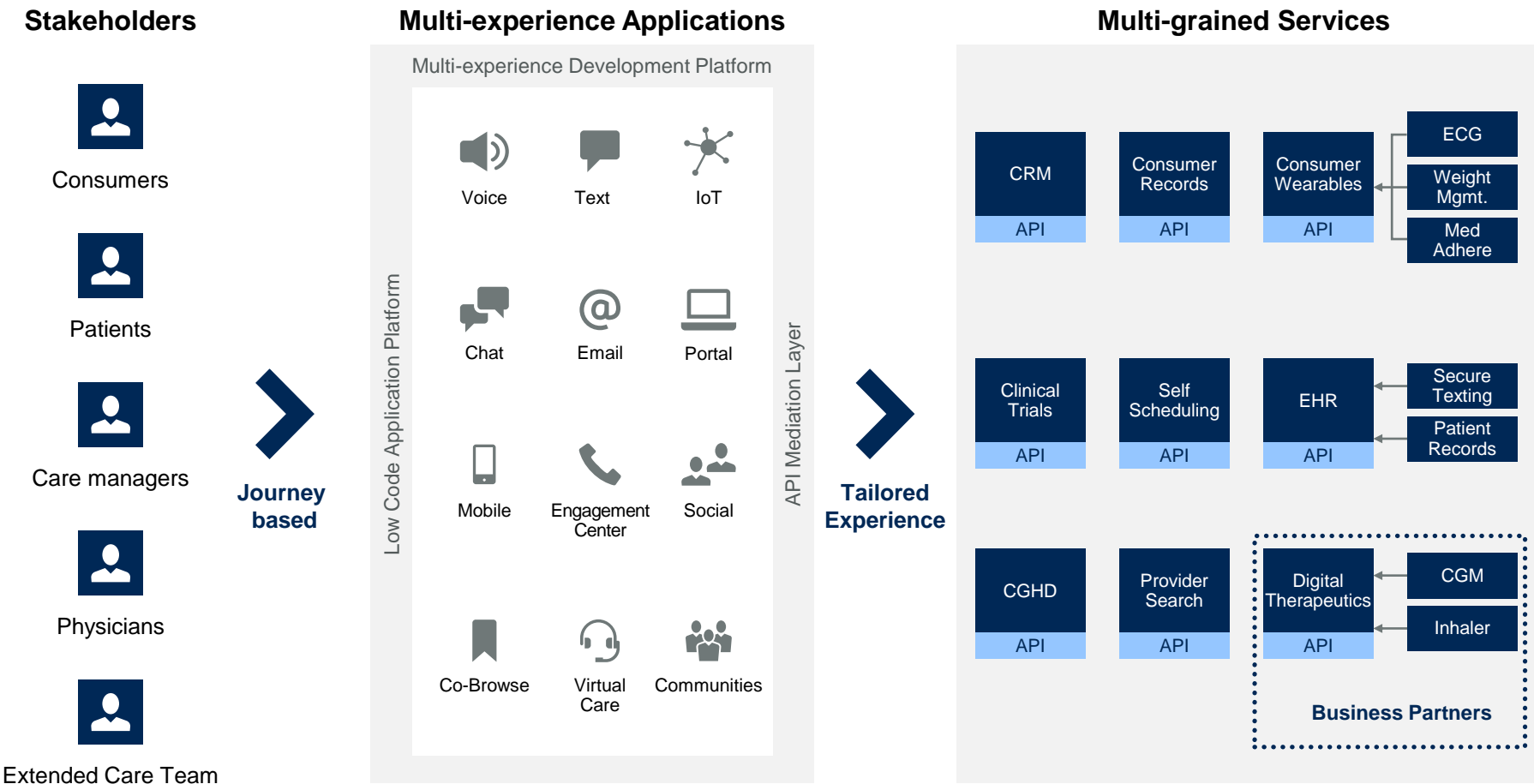
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The Health Journey

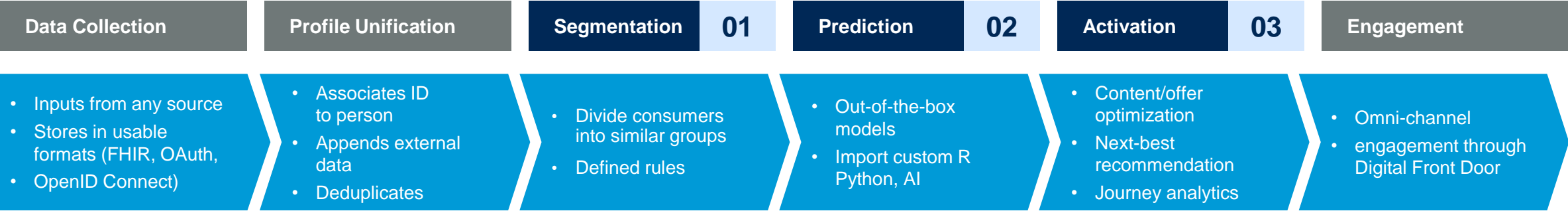


Create Digital Journeys with a Digital Front Door 2.0

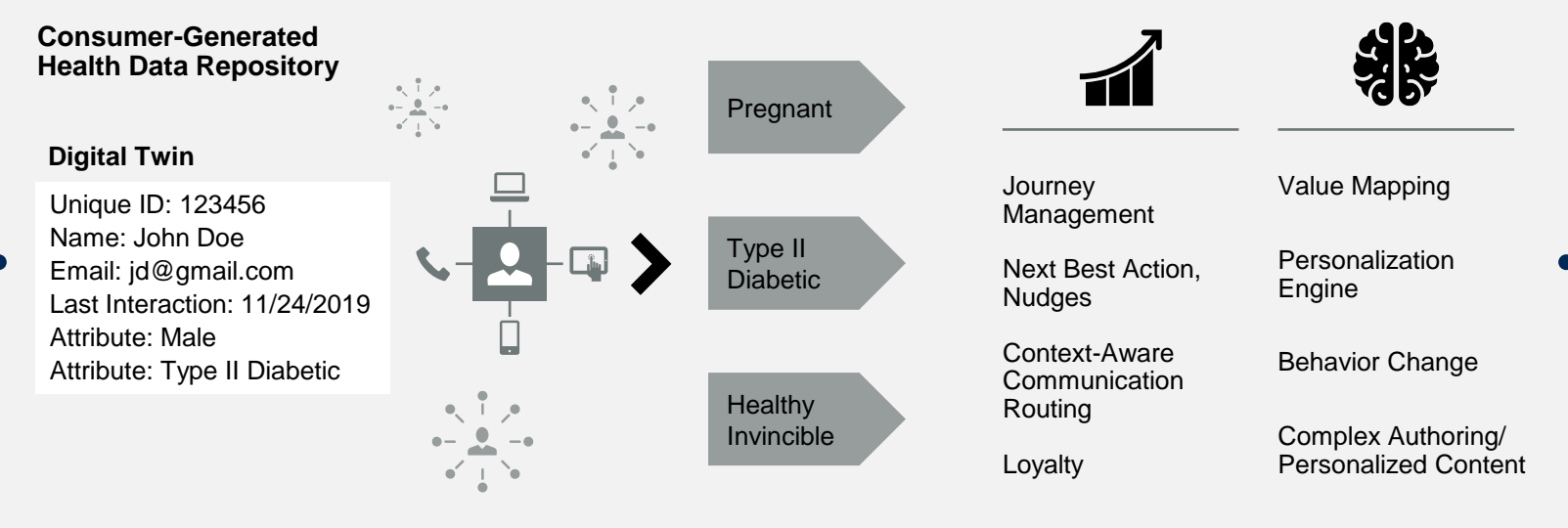
Create highly personalized digital journeys that transcend multiple communications channels



Engage and Activate Healthcare Consumers



- AR/VR
- Text or Email
- IoT
- Portal
- Mobile
- Contact/Engagement Center Agent IVR, ACD, Video
- Social
- Virtual Care
- Co-Browse
- Communities

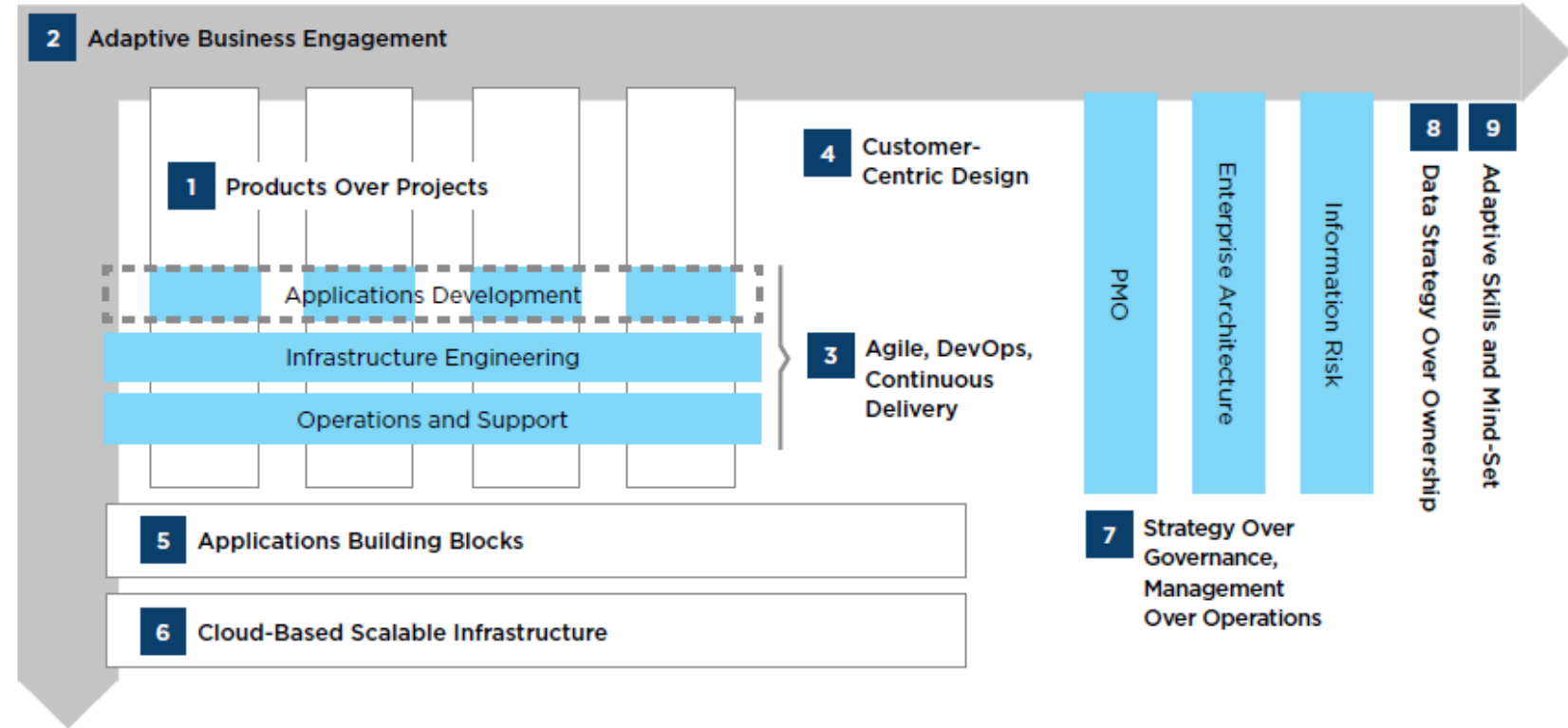


- AR/VR
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- Communities



The New Digital Operating Model

- Progressive IT leaders are making IT more adaptive. An adaptive IT organization accelerates the rest of the business rather than hindering it.
- The best way to become adaptive is to change IT's operating model. We have identified nine features of the new operating model that will position IT teams for digital success.



1 Products Over Projects: Priorities and budgets are set for business capabilities and products, not projects.

2 Adaptive Business Engagement: Business engagement approach flexes based on business context.

3 Agile, DevOps, Continuous Delivery: Integrated delivery, engineering, and support boost responsiveness and output.

4 Customer-Centric Design: Customer-journey mapping is used to guide design.

5 Applications Building Blocks: APIs, platforms, data, and reusable services reduce effort and accelerate delivery.

6 Cloud-Based Scalable Infrastructure: IT automation and cloud platforms cuts time to scale.

7 Strategy Over Governance, Management Over Operations: Central groups refocus on facilitating strategy, innovation, change, and enterprise data.

8 Data Strategy Over Ownership: Coherent strategy and guidelines around data allow for rapid exploitation by distributed teams.

9 Adaptive Skills and Mind-Set: Staff become technically versatile, collaborative, and open to innovation.

Ask your questions



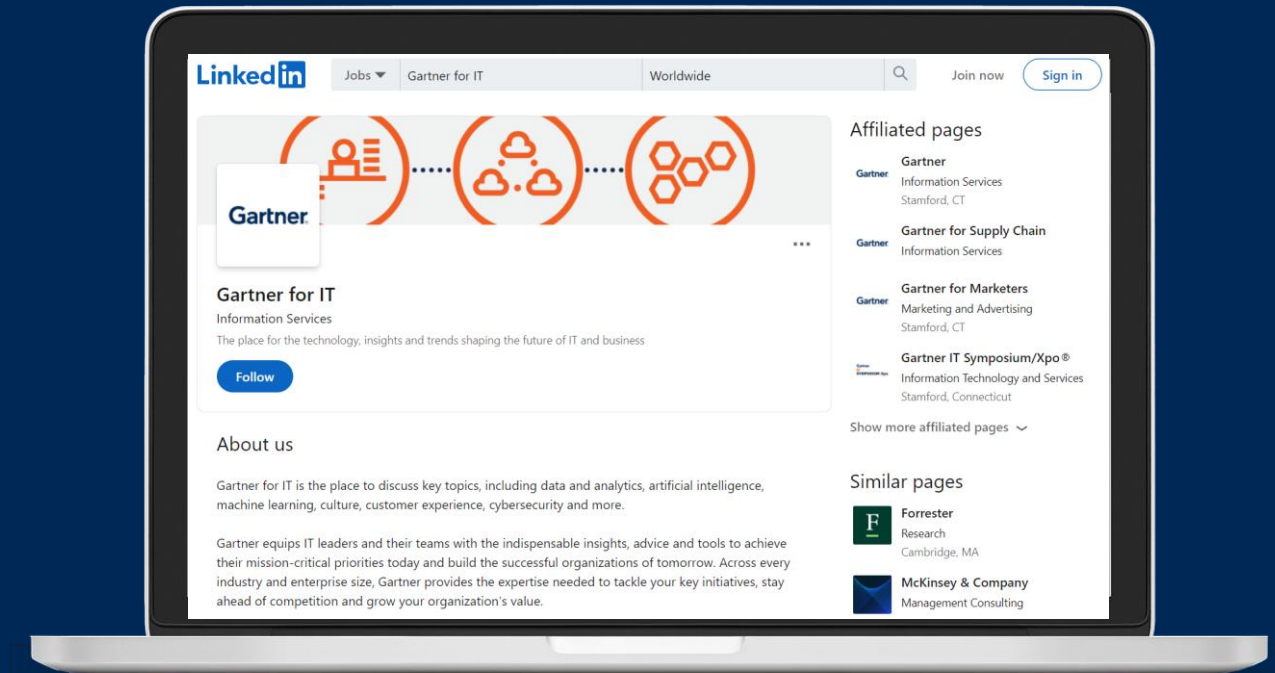
The image shows a web interface for asking questions. At the top, there is a horizontal navigation bar with four tabs: 'Ask a question', 'Attachments', 'Rate this', and 'Details'. The 'Ask a question' tab is highlighted with an orange border, and an orange arrow points to it from the left. Below the tabs, the heading 'Ask a question' is displayed. Underneath is a large text input area with a placeholder text 'Type your question here...'. At the bottom right of the form, there is a 'Send Question' button, which is also highlighted with an orange border and an orange arrow points to it from the left.

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