

The New Healthcare CIO

From Mountains to the Sea
How the Role of the CIO is Changing

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NORTH CAROLINA *Chapter*

Peyman Zand

pzand@pivotpointconsulting.com

919-406-4620

The New Healthcare CIO Imperatives

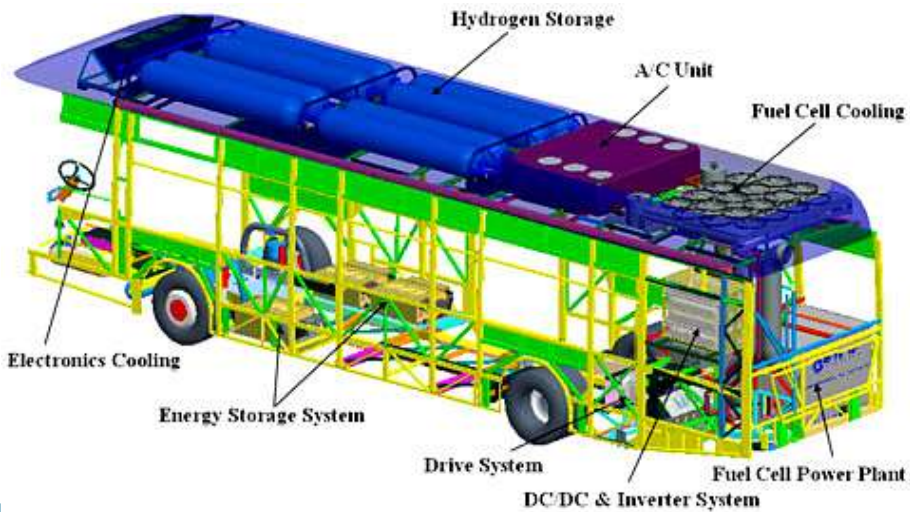
- The pace of technology development has increased dramatically in the past few years and it is accelerating.
- CIOs are being pushed to manage the complexities, risks and user confusions of these new technologies.
- New roles are being created such as Chief Innovation Officer and Chief [Digital] Transformation Officer ... and these responsibilities were normally held the CIOs.
- CIOs are at risk of being perceived as “utility providers” instead of strategic partners.



Traditional Hospitals vs New Restaurants

Our patrons have changed their behavior

Technology Touches Every Part of Our Lives



New flight controls architecture:

- Dual Hydraulic / Electric (2H/2E)
- lighter, smaller 5000psi hydraulic system
- DMC¹, reliability, redundancy benefits

Advanced materials (25% by weight):

- weight benefits
- in selected airframe areas
- fewer inspections

Cockpit:

- family cockpit, CCQ / MFF²
- meaningful innovations
- more interactive

Modular avionics:

- DMC¹ benefits
- easy upgrades

Onboard Information System (OIS / NSS):

- less paper cockpit
- improved connectivity, lower DMC¹

Engines:

- new generation design
- high by pass ratio
- low noise and emissions

Variable Frequency electrical power generation:

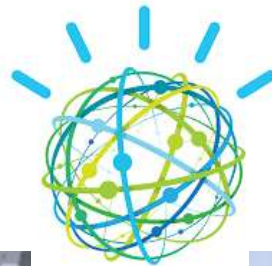
- step change in reliability
- lighter, simpler, DMC¹ benefits

State-of-the-art aerodynamics:

- lower fuel burn
- lower noise
- superior field and climb performance



Technology Touches Every Part of Our Lives



Visitor and Patient Expectations

- I shop, but I don't go to stores
- I need to manage my diabetes but I'm not sick
- I see my doctor, but I don't go to my doctor
- I don't log into any systems, but I am always connected
- I can't drive, but I drive to the hospital and clinic every week
- I don't have a computer, but I do everything online



Physician and Staff Expectations

- Doctors want all the patient information readily available during the visit
- Data analytics is built into the system to assist with treatment options
- The cost of care is automatically monitored for physicians
- Physicians and other staff members are able to provide patients real-time information
- Patients will be provided with cost of care and their insurance coverage options





Today's Workforce Requirements

- I need flexible work hours
- I want to work with the latest technologies
- I need to be able to telecommute
- I want to be connected to the world
- I need to be able to grow and learn
- I want a collaborative working environment



The Digital Transformation is Here

- Telehealth
- Precision medicine
- Blockchain
- Predictive analytics
- Population health management
- Robotics surgeries
- Machine learning
- Remote / Virtual Care
- Artificial intelligence
- ...

What Else Needs Transformation?

- Manual processes
- Closed applications and systems
- Insufficient interoperability
- Data reliability
- Stale information
- Inability to analyze data
- Inwardly focused business models



The CIO Role Has Changed

- Cost Reduction Focused
- Efficient Operator
- Examines Innovative Ideas
- Manages Change
- Consumer Focused
- Modern Architect
- Implements Innovative Technologies
- Enables Change



What Other Industries Can Teach Us

- Travel & Hospitality
- Entertainment
- Retail
- Manufacturing (auto, electronics, etc.)
- Finance
- Information Technology

They are all about the consumer.



Technology As a Strategic Play

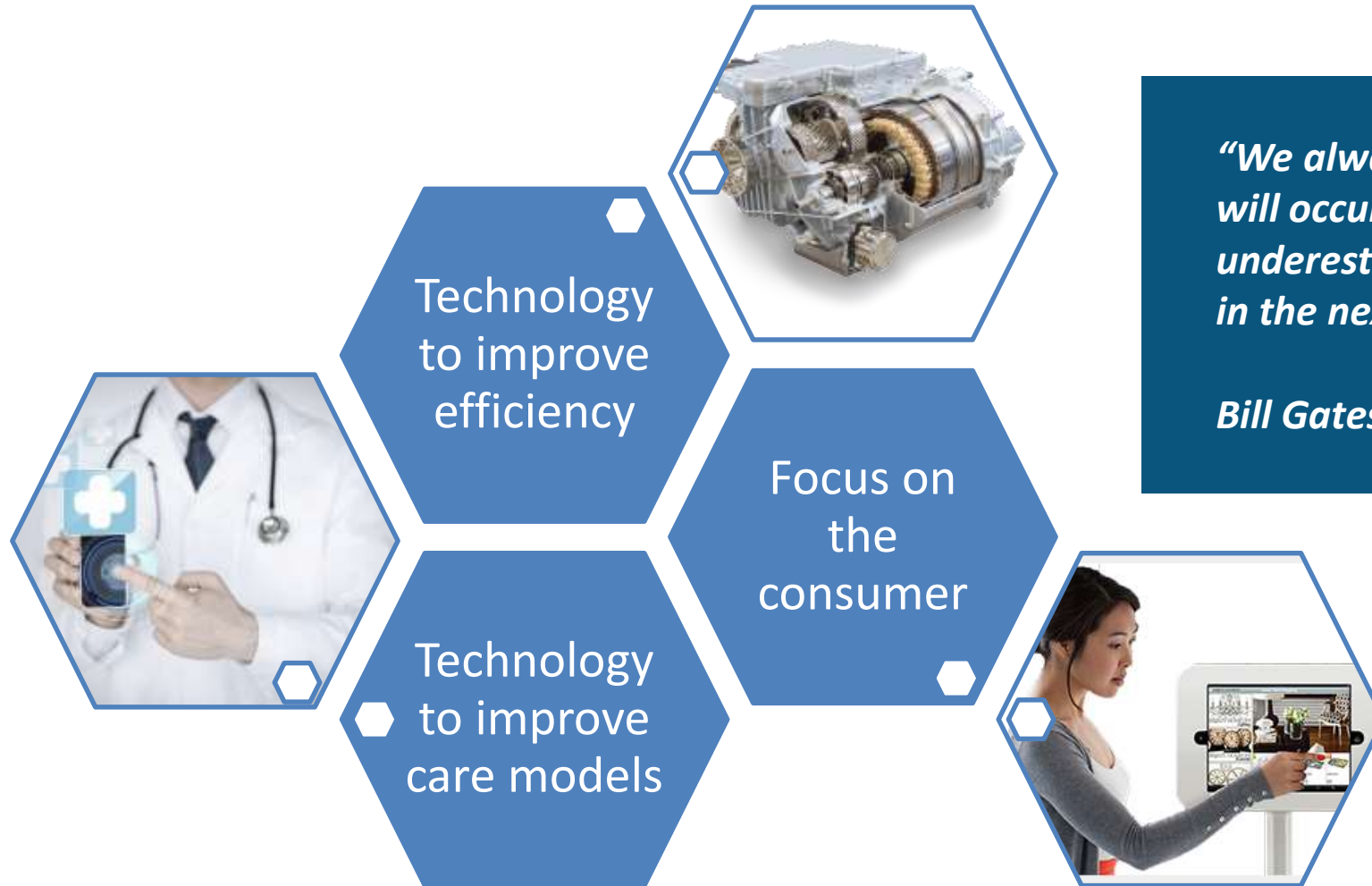
- Healthcare strategic plans look at many factors and should also include technological advantages.
- The cost of modern EHR and ERP systems is much higher than traditional estimates and should be seriously scrutinized.
- An integrated EHR system can provide access to more physicians and patients and can be an attractant for both groups.
- Better information technology systems can dramatically reduce cost and improve revenue reimbursements, not to mention improve patients' health.

Recent Innovative Examples



- Alexa used in patient rooms to replace nurse call systems
- Connected biometric devices on patients
- Tablets for visitors and in emergency room waiting area
- Contact lenses that detect diabetes or renal disease
- Rings that monitor glucose levels for diabetic patients
- Uber taking patients to and from the doctor/hospital
- Bluetooth-enabled Holter monitors for heart patients
- Fitbit to track and prevent sleep apnea

Key Areas of Concentration for New CIOs



"We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten."

Bill Gates

It has happened before...

Transform or Go Extinct



Questions & Comments

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