

# Three Pitfalls of Technology Investment: How to maximize IMIT in your facility's redevelopment

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As healthcare organizations embrace advances in technology, they face numerous challenges as they consider how to make strategic investments. They have the opportunity to introduce new technology during a Redevelopment project, but the pace of innovation is so rapid that organizations find it difficult to keep up with changes, let alone make decisions on technologies they will need in future.

Investments in technology often require a fair amount of due diligence in order to build a case that will persuade leadership decision makers, such as clinical, finance, facility services and IT teams, to approve the purchase and implementation of a technology solution. Although this process may be painstakingly detailed, there are often questions that remain unanswered. How will the solution support a redesigned workflow today? Will the redesigned workflow be hindered or supported in the redeveloped physical spaces? How will the technology be funded? How does it fit into the hospital's long term goals? How will the new technology fit within future and existing infrastructure?

Technology is in a constant state of evolution. Where people used to access standalone systems on desktop computers, they now manage and retrieve information from complex, interconnected systems that allow remote access from virtually anywhere using a mobile device.

Infrastructure is an important consideration for any Information Management Information Technology (IMIT) investment and should not be overlooked. IMIT leaders may find themselves up at night wondering if their existing infrastructure can support today's business/strategic needs or, more importantly, if it will support the demands of the future. Thinking long-term about infrastructure is even more important than ever, due to recent investments by provincial governments in redevelopment that helps improve access to care. In light of this opportunity, organizations have the chance to optimize investment dollars for IMIT and infrastructure.

One method to ensure that investments in IMIT and infrastructure are based on sound evidence is to gather the business needs at a unit level and balance these with the goals in the organization's corporate strategy, IT strategy and clinical priorities. Aligning these strategies involves collaborative discussion with formal and informal leaders, gathering insights and opinions along the way that help inform the view of the organization 5, 10 or 15 years into the future. Through collaborative dialogue, these views help to inform the priorities for an organization-wide IMIT roadmap, which can create a visual reference that communicates the solutions planned for the years ahead. This roadmap can also be used by leadership to plan and focus their energy/resources in the right place at the right time in future.

As technology is transforming the way healthcare is delivered, it is transitioning from a reactive, paper-based environment to one that takes advantage of digital data and that proactively helps drive decisions at the point of care/operations to improve safety, quality and/or productivity.

Much of the focus for change in healthcare IMIT is on climbing the stages of the electronic medical record adoption model (EMRAM). EMRAM, however, does not fully address many operational efficiencies with solutions that can automate low value activities that take up a lot of time, e.g., Locating Systems, Asset Management, etc.

Some of the recent technology trends expanding from acute care to primary care and beyond include:

- the shift towards electronic patient records solutions and sharing clinical information between systems, providers and partners;
- the move towards mobile devices that enable access to digital information from virtually any location;
- the consolidation and analysis of enterprise data to support performance measurement and patient outcomes;
- the specialization of information systems for procedures (i.e., AVOR) or the automation of these systems (i.e., AGV, RTLS);
- patients becoming more informed and sharing their personal health information with providers via their personal record or from connected devices.

As healthcare leaders address these trends, we have observed some of the challenges the industry faces in meeting their goals:

- balancing investment in technology advances while sustaining functionality and performance levels of existing systems;
- expanding interoperability between devices/systems within the hospital and with partners to enhance efficiency, considering the limitations of proprietary rights, end of life status for systems, compatible protocols, etc.
- determining considerations for future-proofing infrastructure;
- making data and analytical power available for performance measurement and improving patient outcomes;
- doing all of this without significant increases in IMIT funding.

Underlying all of these drivers and the challenges faced by leaders is the need for a reliable and robust Infrastructure that can support investments in IMIT. Following are some common pitfalls that leaders should avoid when considering IMIT investment along with a redevelopment project.

## **Pitfall No. 1**

### **Listening to the hype rather than focusing on the business need**

With hundreds of technology solutions introduced each year, it is easy to get caught up in the excitement over an emerging technology that vendors claim has the potential to improve or solve business problems.

It is difficult to obtain accurate, vendor neutral information on new technology that is applicable to one's own workplace.

There is a plethora of sources that leaders turn to for advice, such as conferences, peer organizations, association websites, vendor sites, site visits, etc. Yet, even with all these channels of information, it is difficult to obtain accurate, vendor neutral information on new technology that is applicable to one's own workplace. Further, the market may not be mature enough for some new technologies, which makes it challenging for leaders to determine fit, estimate costs and develop a case for investment. This challenge is even more complicated by the fact that healthcare organizations typically respond to immediate IMIT needs in silos, without a complete view on the impact to the organization in future of a new technical solution, which can result in adopting a technology too rapidly or haphazardly. One way to ensure that investment in technology has a better Return on Investment (ROI) is to perform your due diligence in developing the business case with an accurate assessment of your IMIT, along with an impartial analysis of solution based on your need.

Engaging stakeholders (patients, clinical, non-clinical) early on in the assessment process (pre-business case), helps to develop an understanding of workflow. During this engagement of stakeholders, complex problems are reviewed, such as ensuring medication is ordered, delivered and administered safely, to identify redundancies, bottlenecks and constraints in the existing process and sets the stage for process redesign in the future space. Both clinical and non-clinical stakeholders should be engaged to understand challenges, not only within their service line, but across services so that business needs are identified and addressed with new processes supported by enabling IMIT; e.g., nursing and notification of housekeeping for bed turnaround.

A client who was interested in a relatively new technology for patient kiosks asked us to look into this technology and provide a neutral second opinion. Through site reviews, vendor presentations and interviews, our research showed that there was limited success in the implementation of these technologies for general purpose. Although this particular technology was considered to be a means of improving workflow, for older generations there was still a need for human support in using the technology. Moreover, it had better adoption rates for certain clinical uses over others - returning outpatient users were more likely than one-time surgical patients to make use of the kiosk. As a result, the organization deferred the investment in the technology, and instead invested in flexible infrastructure that would support future deployment of more mature devices. As well, additional work was done to determine the right future process for these technologies.

Avoiding this pitfall requires careful consideration of workflow, which helps inform high-level requirements based on real business needs identified through dialogue and validation with the stakeholders who would be using the technology. Building upon these requirements with vendor neutral advice, and guidance on measures to calculate ROI, support the business case for new technology and helps avoid falling for the hype.

## **Pitfall No. 2**

### **Not having a clearly communicated IMIT vision across the organization**

A frequent challenge is the absence of a clearly communicated IMIT vision and strategy across the organization or, in some case, lack of knowledge of its existence, particularly when redevelopment projects are on the horizon.

Successful organizations avoid this pitfall by engaging stakeholders across the organization in identifying how they envision services delivered in future.

There are many structural and operational reasons for this, but information silos force program leaders and front line staff to address IMIT issues on their own. They may not be aware of the information systems planned for implementation in coming years and often spend time trying to find IMIT solutions that meet their own needs. Operating in silos also creates missed opportunities for input and collaboration, leaving managers stuck with inefficient manual processes. Frustration often sets in, along with a lack in confidence in IMIT's ability to deliver solutions that meet front line needs. This can result in expenditures not aligned with the organization's vision as program leaders seek to address challenges independently. These expenditures decrease the value of investment funds and increase the likelihood for costly retrofits in future, when internally developed solutions are not interoperable, potentially affecting continuity of care across the organization.

Successful organizations avoid this pitfall by engaging stakeholders across the organization in identifying how they envision services delivered in future. This begins a process that helps create a cohesive vision that describes the future experience of patients, families, caregivers, staff and partners in the future. Further, exploring the role technology plays in supporting the future through collaborative dialogue helps to move the group from disparate views to one that is founded on a common vision. Underpinning the collective vision are technologies that support the achievement of strategic objectives, such as mobile devices, electronic records, integration engines, business intelligence, etc. Similarly, through the strategic evaluation of future needs, organizations have a more refined understanding of the technology solutions that meet their business goals. The benefits of the right technology are numerous: it can improve the quality of healthcare delivered to patients, it supports the delivery of services more efficiently/automatically, it enables the exchange of information with partners/providers, and it provides the capability to access clinical information in real-time from virtually any location. However, despite the many benefits, challenges still remain in the fact that technology can significantly affect the way work is performed and requires careful planning to ensure that proper supports are available before, during and after implementation.

Organizations can avoid Pitfall #1 with the identification/clarification of organization goals, strategic evaluation of IMIT needs, prioritization of IMIT solutions and the consideration of IMIT/infrastructure requirements for the future. Tools such as a strategic roadmap can help guide organizations along on the rocky path ahead, making it clearer where the organization will be making investments in IMIT. Finally, the engagement of leadership and stakeholders from across departments during and after the visioning process helps to set the stage for organizational change.

### **Pitfall No. 3**

#### **Missing opportunities to optimize investment dollars**

With recent provincial investments in hospital redevelopment projects, many organizations are finding themselves with pockets of funding available to make smart investments in IMIT. With redevelopment, hospitals have an opportunity to update infrastructure in anticipation of supporting the evolving needs of future systems, allowing them to achieve strategic goals in the future without significant new investments. However, stakeholders interested in IMIT investments may find it a challenge to navigate the redevelopment process, and could end up lumping IMIT investments into a single bucket without a clear understanding of the different system requirements within that bucket.

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The capital planning process, led by provincial bodies in Canada, is a great opportunity to refresh facilities and infrastructure in a comprehensive manner, starting by looking at population health needs, service planning and processes, and prudently building in approvals by the right stakeholders. However, due to this process, the redevelopment timeline can stretch over many years of planning and, because technology changes so rapidly, it can be a challenge to understand how IMIT investments fit into this process. Successful organizations approach capital redevelopment with planning supported by identification of longer-term IMIT requirements and with an understanding of implications to infrastructure. These organizations take their IMIT vision and carry it through the redevelopment stages, standing by the key strategic decisions in the road map to make it a reality on opening day.

Understanding the role of IMIT infrastructure in the operations and service delivery of a hospital impacts the architecture, equipment selection, and types of staff and processes. Incorporating strategic thinking about the systems and devices in advance of a redevelopment project will protect healthcare organizations from costly retrofits and infrastructure changes.

Some key considerations include:

- Where will patients register? Will they do any of this paperwork online, via mobile tools at the Hospital, or at traditional registration desks (central or decentralized)?
- What is the Hospital's strategy for medication inventory management and distribution? What tools will be available to patients at the bedside to involve them in their care?

In the ideal planning scenario, these considerations are identified and defined well before construction starts, to avoid additional costs to coordinate architectural, electrical and equipment vendors and consultants. Upgrading infrastructure once construction has already been completed and patients occupy the building can be costly, typically costing hundreds of thousands more than when the space still in the design stage.

To avoid this pitfall, one must consider both the actual business need and how proposed technology will work within existing infrastructure. Working with a vendor neutral consultant ensures that viable solutions from multiple vendors are considered. This results in the most appropriate and cost effective solution being implemented.



One of our clients had planned almost \$100 M in technology investments over 5 to 10 years. A large portion of this investment was to be implemented in parallel with a significant redevelopment project. By drawing on the experience of vendor-neutral specialists such as Angus Connect, the organization engaged in an initiative that strategically evaluated their IMIT needs and optimized their investment by approximately 20%, extending the value of their investment dollars.

#### **Delivering on the Technology Promise**

Healthcare technology holds great promise for the delivery of safe and high quality service in the upcoming decades. However, it is in a constant state of evolution and organizations can find it challenging to keep up with the latest trends in IMIT and in determining what is needed to support their transforming workforce. Some approaches that can assist with these challenges include engaging stakeholders early in the visioning process, defining clear business needs, aligning strategies across the organization, strategically evaluating IMIT needs and defining a roadmap to help communicate IMIT goals in the years ahead. Organizations that fail are often not addressing the three pitfall areas by not articulating a clear vision, falling for the hype and lumping disparate IMIT investments into one bucket. Successful organizations avoid these pitfalls by optimizing their investment IMIT dollars to future proof their infrastructure in support in meeting the needs of today and the demands of the future.

#### **ABOUT ANGUS CONNECT**

Angus Connect is a leading cross-functional healthcare technology consultancy with expertise in IMIT planning and designing. When your goals require custom solutions, fresh insight and leading practices, you need a leader in the field to provide valuable insight into current and emerging technologies. Angus Connect bases its advisory services on real world clinical experience, with a focus on creating a strategic technology vision and implementation roadmap that carefully balances your resources to achieve your goals.