



Technology can
Play a Unifying Role
to Offer Holistic
Human Experiences

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Tirupathi Karthik is Chief Executive Officer of Napier Healthcare Solutions Pte Ltd. A leader in Healthcare technology, Karthik has extensive business leadership experience across Asia, the Middle East and USA, particularly in the enterprise software space. He is a passionate advocate for the innovative use of technology that turns technology investments into competitive differentiators for their stakeholders. Napier Healthcare provides end-to-end technology platform

solutions (Hospital Information System) for healthcare providers. Since its inception 26 years ago, Napier has been enabling seamless experience for hospitals and its patients at every touch-point. Napier's customers are spread across Australia, South East Asia, India, major Gulf countries and Africa.

Digital technologies, as we know it today, are leaving a lasting impression on people's lives. Yet, this is just the beginning. AI and technologies such as cloud have the potential to redefine our lives. Nonetheless, for these technologies to thrive and reach their full potential, they must enable extraordinary human experience, more so in the healthcare sector. However, we must understand that technology is only an enabler; it is this human centric approach that will drive healthcare providers to effectively leverage technology to enhance the lives of patients, their families, employees, vendors or in short the society as a whole.

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This was best appreciated illustratively during the global covid pandemic surge when teleconsulting services offered relief and support to people around the world who were affected by lockdowns. It was in the interest of everyone, be it the overstretched frontline staff in hospitals or the visiting public as hospital visits enhanced the risk of exposure.

Healthcare is homebound

The trend of consumerism in healthcare has been growing for several years. People in general believe that since they are paying for services, they must be treated as customers, just like in any other services sector. In countries where healthcare services are provided mostly for free, for example NHS (National Health Service) in the UK, income tax payees demand superior experience citing the taxes they pay. People are increasingly demanding delivery for services where they are, rather than where hospitals are, especially when it comes to long-term care and elderly care. In acute care situations, hospitalisation is still the choice. During the pandemic, the demand for home care became urgent as elderly visits to a healthcare facility was highly risky. Many providers who understood the urgency and the need, stepped up and embraced digitalisation to offer what people wanted. Teleconsulting and telemedicine are some examples, but many forward looking organisations expanded beyond teleconsulting and telemedicine to offer a number of new home care services. Many hospitals are transforming to offer holistic healthcare services.

The demand for services is also closely linked to demographics. Asia-Pac, the Middle East and Africa, have a relatively younger population when compared with the European countries or Japan. Naturally, in these countries with younger populations, the focus of hospitals and technology vendors has been on acute care. As they encounter ailments related to the elderly, healthcare providers are focusing on both acute care and long-term-care. Napier Healthcare was initially focused on acute care for the first 15 years, but subsequently we have integrated more to offer an end-to-end platform that offers solutions for hospitals, nursing homes, home care, day care or allied services.

The barrier to adoption of these technologies is not so much about expertise but organisational culture.



Mindset Change

The service industry is intrinsically human centric. But technology adoption can take this to a different level altogether, impacting its core values in multiple ways. This would call for change in the mindset at different levels. Technology expertise is not a limiting factor here.

Holistic approach:

From an organisational perspective, offering outstanding human experience requires a holistic approach that must include patients, their families, employees, partners, suppliers and others. Technology must enable everyone who, together, can deliver their brand promise.

Various factors come into play as to how the service providers view the technology on offer. If the Singapore Health system is the reference point, being publicly funded, their requirements tend to be different from providers in South Asia such as India where 80% of healthcare providers are private. The private providers look for solutions in billing, claims, recovery of dues, inventory management etc.

Human-centric providers look at enabling their employees with tools and solutions not only to automate mundane activities but also to enhance their well-being and performance. Most providers would

want to effectively use their limited resources and staff. In a homecare scenario, if a provider has to cover four patients during the day, they have to answer questions like what consumables to carry in the ambulance, which patient should they visit first, how should patients be grouped, what resources are required, what will be the utilisation of these resources and so on. This is where they are considering AI for optimised route planning amongst other things.

There are multiple applications of AI such as predicting the length of stay in the hospital based on patient condition, predicting occupancy of beds and planning consumables, resources, support services and other capacity utilisation-related aspects.

Another example is in the area of Radiology and adopting AI to prioritise patients who need immediate care. The solution is simple as it involves feeding a certain number of images into the machine for it to learn and perform an analysis. This solution can help Radiologists highlight cases which merit their immediate attention and thus prioritise those patients.

Again, the barrier to adoption of these technologies is not so much about expertise but organisational culture. Many of our customers work with us as partners to collaboratively innovate and deliver solutions. In particular, we are seeing the emerging role of IT to play a critical

role. Healthcare providers are recruiting technology leaders from other industries who bring best practices and also transform the culture, especially by bringing in a culture of proactive measures to address a problem.

Physicians' preference:

There is also an element of mindset change for physicians. Some physicians are so busy that there is little time for them to adopt new ways of working without disrupting their practice. In such cases the adoption of technologies such as electronic medical records (EMR), online monitoring, teleconsulting etc., tend to be limited. A mindset change is required to look at overall experience from a patient's perspective who may have to travel to hospital, wait at the hospital and end up increasing their exposure to infections.

Clinical mindset:

While this is again linked to organisational values and culture, in many developed countries like Singapore certain aspects like EMR is a given. On the other hand in many South Asian countries, they are yet to adopt EMR comprehensively. A mindset that focuses on clinical excellence can leverage data and analytics to interpret disease/recovery patterns.

Technology adoption is a continuous process.



Adopting technologies to deliver outstanding human experience

When looking at technology adoption there are many factors to be considered.

Consumer perspective:

Technology must enable enhanced experience for patients, consumers and their families at every touch-point on their journey.

A hospital information system (HIS) enables hospitals to automate their core processes making it seamless for both consumers and staff to manage various processes.

Technology adoption is a continuous process that involves innovative solutions and the ability to respond to consumer needs. A model that promotes engagement with consumers and technology partners is essential to continuously identify and offer superior solutions.

Employee perspective: Technology is as important for employees as it is for consumers. Technology solutions can automate and optimise most mundane activities, provide insights from large data sets to make critical decisions, whether financial or operations related. Technology solutions can also enable staff to connect with each other, offer well-being solutions, help them plan etc.

Doctor perspective:

Data analytics and AI can play a critical role in recognising trends related to care and make important decisions about patient care and treatment.

Technology perspective:

Speed: It was most apparent during the pandemic, that the speed of response was extremely important. Organisations with legacy systems with limited capability for scaling up found it difficult to respond. Whereas others with open and cloud based systems were able to not only respond faster, but also offer newer services in shortest possible time.

Cloud: Availability without interruption, mobile access etc. are now mandatory. Most organisations are migrating to cloud based solutions. We at Napier completely re-designed our applications with a cloud architecture, to build a new platform that is aligned with current and future expectations of our customers. What used to be months for implementation and installation - provisioning of platform for customers takes only a few days now.

Flexibility and lock-in: Most customers would like to offer differentiated services and experiences to their consumers. The core systems must be flexible and offer ways to easily integrate new solutions. Also no one likes lock-in with a certain vendor or technology. We have built our platform on open source technologies.

Security: Security is an important consideration in healthcare. Privacy is a big issue and need to be managed, especially in an environment where systems are being accessed from home. Implementing security and privacy solutions at own data center may prove very expensive as compared to best in class offer by cloud providers such as Google, Amazon or Microsoft.

Healthcare providers, doctors, nurses, frontline staff are supporting us across the world. New technologies will enable them to reach millions of others who need care, contain the spread of diseases, enhance care for the elderly and most importantly offer solutions to the latest challenges without letting go of that human touch.