Digitising Maslow's Hierarchy of Needs

Digitisation has introduced massive changes to every industry and country. And the consumer is the key that unlocks success as individuals become more informed and increase their power by having more choice.

Phathizwe Malinga, managing director, SqwidNet

Companies have had to refine their offerings and make their engagements and products more relevant and personal, to capture and hold market share with these informed customers at their base.

This has, in turn, made the business data-hungry, driven by the need to reap the digital data harvest in search of insights that allow for them to make relevant improvements to their products, services, and engagements.

Yet, the healthcare industry, as much in need of the data and insights-driven by digitisation as any other industry, requires a different approach. It remains behind, for a very good reason.

“Healthcare was one of the first industries to be targeted by digitisation,” says Phathizwe Malinga, managing director, SqwidNet.

“However, it has been slow in its growth and adoption of the digital journey due to the fact that it is a delicate ecosystem that involves one very important element – life. It fundamentally affects lives which means that adoption and implementation have to be slow, steady, and precise.”

The healthcare market must be digitised at a much lower rate than other sectors and the technology needs to have a broader reach. Consider Maslow’s Hierarchy of Needs – at the bottom, there are the physiological imperatives, then safety, then love, and so the list goes on and up the pyramid. When it comes to the connected nature of technology and things, the use of the Internet of Things (IoT), the same construct can be applied.

A look at the pyramid

“At the bottom of the pyramid, there are the things we can connect for the individual’s needs such as wearables and devices that are out of the hospital,” says Malinga.

“The next would be arriving at the hospital where the patient would need a patient ID band for identification and security, then there’s the monitoring equipment that sends specific alerts or that can track patients in the building. Some can be customised to provide highly targeted patient care such as a fall alert on a patient who had a hip replacement. Finally, at the top of the hierarchy, where acuity needs are highest, are the theatre, ICU and high-care.”

The life support machines need all the technology that’s capable today to provide, not just absolute care, but actionable insight in highly sensitive situations. “Top of the pyramid” IoT implementations generate sensitive data that combines various patient metrics in a way that allows intensivists to intervene early, even proactively. These technologies exist, the potential to digitalise every part of the hierarchy exists, but it isn’t comprehensively in use.

“There are variables affecting adoption in the healthcare industry,” says Malinga.

“The cost of digitising assets is one, the other is the battery life of assets that aren’t powered – these are two of the most common problems for most healthcare assets as they add complexity and cost. Slowly, we are seeing the cost of IoT coming down as it becomes increasingly commercially available and this, at least, is resulting in more adoption and more innovation in healthcare. At SqwidNet, we operate a low-power network that has allowed us to drop the cost of IoT by 10 times the original cost, increasing battery life from days to years. This allows for richer digitalisation integration within the healthcare sector without the heavy burden on the bottom line.”

Digitisation in healthcare is slow

In South Africa, this adoption in healthcare is slow, but it is starting to change, brought on by successes in other industries. IoT presents significant benefits to long-term cost profiles, patient care, outcomes, and treatment protocols. Already, IoT has been a driving force in overcoming some of the biggest challenges South Africa has faced over the past few years – Day Zero in Cape Town and In-transit security – and it has the ability to do the same with patient care.

“There’s been an increased uptake of smart water meters that detect and alert consumers about water over-usage and possible leaks, in real-time,” concludes Malinga. “There has also been a rise in the use of stolen vehicle recovery solutions and home alarms that use IoT to provide real-time alerts and monitoring. For us, this indicates that the next shift will be into the healthcare industry where the burden of disease must be resolved to ensure equality and care for all.”

The SqwidNet network now covers over 90% of South Africa’s population, which means that any Sigfox Ready device, whether in the hospital or out in the field, can be heard when it speaks. The network also has over 90% coverage on all roads and highways – both urban and rural – which allows for real-time tracking of ambulances and personnel when they’re in the field. With this in-depth reach, healthcare services can be accessed, monitored, managed and controlled from any location, bringing high-quality healthcare to the entire population, not just those in the city.

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