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Steve Hong, CEO, and Tony Lim, vice president & COO of Lemon Healthcare, lift the lid on the new streamlined hospital data services they are offering, and the benefits to speed and cost effectiveness that they will bring to healthcare providers and patients. Lim also reveals his strategy to expand these solutions outside of Korea, with South East Asia as his next frontier.

What opportunities is digitalisation creating in healthcare?

IT is being introduced ever more into the medical world, with more thought going into how medical data can be leveraged for the good of the patient. This is not only healthcare data but with new forms of data and services such as blockchain. We are exchanging customer data everywhere. Estimates suggest that by 2020, the mobile health (mHealth) industry will reach USD 58.8 million globally.

In the past, PHR data was only archived inside the medical centre. Today this is beginning to be swapped and creating a new value. Korea calls itself the healthcare platform provider, but it is still within the early stages. As of a new law enacted last year, 85 percent of the available information in hospitals is permitted to be stored in the cloud. We already have three hospitals using this system, with another in the migration process.

What is the service Lemon Healthcare is offering?

Korean healthcare differs from that of other countries in terms of appointment lengths. Appointments can last as little as 3-5 minutes, with patients moving like a conveyor belt. For the largest five hospitals, they see 10,000 patients per day. The pinpoint is waiting time. This is where Lemon Healthcare comes in. We are developing an M-care Platform. The typical process is to send an SMS message to the patient several days before the appointment as a reminder. This message can be downloaded into a smartphone. Once the patient has arrived into the hospital, the hospital's Bluetooth system will detect the smartphone and recognise that the patient has arrived for the appointment. This will trigger another SMS welcoming the patient to the hospital with information about the waiting time and the number of patients to be seen before them.

Moreover, we are designing a system which sends an automatic message about how much the patient is required to pay; the patient is able to simply click the link and pay automatically using their smartphone. The system is designed to cover the whole hospital process, so it can send a prescription directly to the pharmacy and also sends claims directly to the insurance provider for purposes of reimbursement.

What are the main hospitals you are targeting with your technology?

We were able to sign 30 hospitals in the last two years, including four of the five largest hospitals. Our ambition is to reach 50 hospitals by the end of this year.

April 1st will be the launch date for our collaboration with Seoul National University Hospital, the largest hospital in Korea. No other software will be required for pharmacies or insurers. They can simply plug into M-Care and play to gain the necessary data.

There are 42 hospitals in Korea that are recognised as top-tier, whose combined expenses are USD 7.2 billion. I want to reach 40 of these top tier hospitals by the end of this year. Because of the size of the top tier hospitals, the total expenditure of the general hospitals, the second- tier, is similar, at USD 6.7 billion, despite there being 294 general hospitals. This is why we are targeting the first 43 initially.

In the next class, there are 300 hospitals which we want to reach by next year. We will have to employ a different approach based on each category. In the top tier, Lemon Healthcare will have to

employ one person to oversee each hospital. However, in the second tier, we can have one head for multiple hospitals, connecting perhaps 23 hospitals.

How did you convince the stakeholders of the value added by adopting this new technology?

Most importantly, we reduce administration costs in the hospital. Secondly, we do not charge the hospital, but the credit card companies, the pharmacies and the insurance companies. This is because we are a direct interface with the insurance company's data and make it available directly. All things considered, the streamlining of our data service reduces the cost for insurance companies too. National insurance in Korea is mandatory. However, almost all Koreans also have their own private insurance. This is because the out of pocket payments are still too high, so most Koreans take out another insurance to limit those costs. There are 35 million subscribers to private insurance in Korea with Samsung the leading insurance provider with 13 percent of the market share. In the past, there were usually 2-3 pieces of paper per patient that was sent to the insurance company at a cost of USD 3 dollars. In contrast, we charge less than 1/2 of the current cost. Given the number of people with private insurance, the total savings are substantial.

What further offerings are you seeking to provide in the field of healthcare data?

Lemon Healthcare wants to be the platform of the healthcare industry. We are working with Samsung Galaxy Watch teams who want to be the gateway for personal wellness data. They have already connected 75 devices. A patient may only spend one hour in the hospital but will need to be monitored for the other 23 hours in the day. Once we go to the hospital, the doctors can click on two sets of data, one from the HIS or EMR data. At the same time, they can click on the EWR, the wearable data and can combine them together to have a complete picture of the patient's condition

Moreover, Lemon Healthcare a DNA analysis company and organ ageing analysis company. After we provide the data to that company, they can detect the age of the organs and the damage.

How competitive is the landscape for your technology?

We anticipate fast followers to appear shortly. That is the nature of the market. In the domestic market, I am already pushing my team to secure more patents to keep our offering as advanced as possible. So far, we have local patents only but are planning to expand to overseas patents.

Thus far, we have developed 60 functions and have initiated a practice of constant innovation. Upgrades for new versions are offered free of charge to our customers, which is the lock-in effect for our clients. We have the benefit of being a first mover in the market.

One such competitor is Health Connect Inc. This was set up as a joint venture between SK Telecom and Seoul National University Hospital. Interestingly, while Seoul National University Hospital is the largest shareholder of Health Connect, they still chose Lemon Healthcare as their Patient care Platform provider.

In terms of regulation, how favourable is the environment?

From next month, we are still working with the government to receive a special permit for the regulatory free zones which act as a testbed for this software. In these areas, all of the medical information stored in the hospitals can go outside – the exception to the rule. We also received a request from the Ministry of IT and the Ministry of Health for remote drug delivery solutions, as Amazon does in the US. We currently cannot send medicine directly to the patient, not only because the patient may need advice from the pharmacist regarding dosage, but also because it threatens the job security of the pharmacist. However, we found these solutions where we send these solutions to the pharmacy, and the pharmacy will deliver to the patients' homes. The government is strongly supporting these moves, particularly in the regulatory free zones.

What are the next goals for Lemon Healthcare?

Internationalisation will be our next major target. We are currently in discussions with a US-based company, and in the second half of this year, I hope to open a branch in Silicon Valley.

I have visited Taiwan, Malaysia, Singapore, and even Brunei, where the medical systems are similar to Korea's. They share the concerns vis a vis administration costs and possess a willingness to adopt these 4th industrial technologies and innovations. Some of them have already visited Korea to observe how the Severance hospital is treating 10,000 patients per day.

Moreover, we have signed MoUs with the Singaporean and Taiwanese Healthcare IT companies. We also signed partnerships with local companies in Indonesia and Malaysia to expand into those markets. We require a partner because we do not have the expertise with regard to their regulation. We devote ourselves to developing the software and strengthening the M-Care Platform; they handle the installation and customer service. All things considered, South East Asia is definitely our next target.

Notwithstanding this, we are just two years old and hire 50 people. We must deploy our technology and prove ourselves successful in Korea before expanding. It is important not to try and run before we can walk.

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