NFC: The "Next Big Thing" for the Pharmaceutical Industry

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NFC and RFID technologies are already being deployed in a number of industries from logistics and manufacturing to automotive and retail. The next area to benefit from NFC technology, I believe, could be pharmaceuticals since here NFC has a growing number of profitable and sustainable use cases.

The Pharmaceuticals Industry Needs NFC

The pharmaceuticals industry or "pharma" is in a favorable financial situation with growth rates averaging 6.9% annually since 2014. Yet there are substantial challenges including a rapid growth in counterfeit products — according to the World Health Organization, already account for 8% to 15% of all pharmaceutical products sold worldwide.

That amount of counterfeiting takes its toll among patients as well with estimates suggesting one million deaths from toxic counterfeit pharmaceuticals per year. In addition, the industry must cope with increasing competition from generics, strict cost control programs from payers and providers and more empowered patients with higher expectations and demands.

NFC Provides Solution to Industry's Major Challenges

Like no other single technology, NFC enables brand protection as it effectively fights counterfeiting by providing a means of manufacturing control, product authentication and tracking and tracing of products in a reliable and secure way.

On top of that, NFC offers totally new possibilities by providing product information and, for example, patient treatment alerts that improve prescription adherence – another major "pain point". At least 20% of medication prescriptions are never filled, and 50% of medications for chronic disease are not taken as prescribed. Both factors cause massive, useless expense and hundreds of thousands of deaths and hospitalizations annually.

The Timing is Right for NFC-based Solutions

NFC tags which are IoT-ready can be used to create NFC-based solutions for everyday use by businesses, medical personnel and consumers. This is because of the existing widespread reader infrastructure of over two billion NFC-enabled smartphones in use today that can communicate with the NFC tags embedded in the packaging of pharmaceutical products.

The data gathered gets stored in secure cloud solutions that bring patients, pharma companies and physicians closer together than ever before. Consumers assume greater control over their health via apps, wearables and sensors, and physicians can access mobile data to receive patients' electronic health data streams to optimize care.

Four NFC Pharmaceutical Use Cases

By embedding NFC technology in products (devices such as blood pressure monitors or medical thermometers) or in their packaging (for medications), these products become NFC-enabled. This means they can easily and securely be authenticated by leveraging their unique ID and related cloud services and be traced from manufacturing to use or consumption. The information gathered during authentication and tracing can be shared locally or via the cloud.

Use case Number 1: Ensuring safety and integrity

NFC-enabled pharma products provide item-level product verification in near-real time (anti-counterfeiting) anywhere and at any time where smartphones and Internet access are available. Pharma companies gain visibility into illegitimate product movements (grey market control). As part of sophisticated packaging solutions, NFC technology can offer tamper evidence providing a superior answer to the European Union's "Falsified Medicines Directive (FMD)" to combat counterfeiting of drugs. This is particularly true for its regulation laying down specific safety features for medicine packaging including effective anti-tampering devices.

Use case Number 2: Building patient engagement

By leveraging NFC-enabled pharma products, suppliers can now build an unprecedented, bi-directional communication channel to guide and educate patients. They can offer easy and instant access to product information (including audio and video), provide tailored 24/7 services to help patients self-manage at any time through apps and websites, facilitate connections to doctors (phone-ins, patient forums) as well capture patient attendance.

Use case Number 3: Supporting adherence to treatment

As an important function of the NFC-enabled communication channel, patients can also receive reminders and be monitored for correct dosage. While pharma companies can receive adherence data for outcome-based care, physicians are also able to monitor the therapy and follow-up.

Use case Number 4: Fostering pharma co-vigilance

Another NFC-enabled and communication-related function allows pharma companies to inform patients about illegal channels, recalled products or expiration dates. In return, patients can report side effects immediately.

NFC Technology Also Enables Regulatory Compliance

Knecto has been leading the way toward NFC-enabled personal care product packaging for more than two years. As an industry leader, we would add an important fifth use case to Mr. Braas' article. NFC technology enables pharmaceutical companies to achieve prompt compliance with new and revised regulations, such as those recently enacted in California, without adding more fine print to the product packaging itself. Packaging is already over-taxed in terms of lists of ingredients, use instructions and other content. NFC tags on product packaging enable all required information to be delivered in virtually real time, demonstrably, by deadlines, and easily kept current. NFC technology can truly revolutionize not only the pharmaceutical industry but also the personal care, cosmetics, nutraceutical and supplements industries as well as many others.

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