

TIM Lecture Series

TELUS in Health: Improving Health Outcomes for All Canadians

Giovanni Pizzoferrato

“ *People need to communicate.
People need to connect to communicate.
And they need to share their ideas.* ”

Giovanni Pizzoferrato
Senior Manager,
Technology Strategy TELUS

Overview

The fifth TIM lecture of 2012 was presented by Giovanni Pizzoferrato, Senior Manager of Technology Strategy at TELUS (telus.com), who described the approach TELUS has taken as a telecommunications company entering the healthcare market. The event was held at Carleton University in Ottawa, Canada, on July 5th, 2012.

The TIM Lecture Series is hosted by the Technology Innovation Management program (TIM; carleton.ca/tim) at Carleton University. The lectures provide a forum to promote the transfer of knowledge from university research to technology company executives and entrepreneurs as well as research and development personnel. Readers are encouraged to share related insights or provide feedback on the presentation or the TIM Lecture Series, including recommendations of future speakers.

This report summarizes the presentation and its key messages, including the lessons learned and actions identified by audience members. The slides from his presentation are available here: tinyurl.com/dx8zaa6

Summary

Giovanni Pizzoferrato set the scene for the audience by describing the market and industry realities that TELUS must face when developing its healthcare “game plan”: many of the challenges that must be overcome are from

outside forces, that is, they are beyond TELUS’ control. Accordingly, TELUS has responded with an “outside-in” approach to innovation, which requires an outward-looking perspective where consumer trends, demands, and behaviours are carefully considered when developing internal innovation. This outside-in approach was a recurring theme throughout the presentation, as Pizzoferrato described case studies where TELUS had used this approach to innovate “on top of” existing waves of innovation to better meet the needs of its customers.

As a telecommunications company, TELUS has identified three consumer demands, which are the need to connect, communicate, and collaborate. Underpinning these three demands are the driving forces that determine the pace of evolution and define consumer needs: i) social media; ii) mobilization; iii) consumerization; and iv) hyper-connectivity.

Social media

Social media is not just about being connected, it is about making a meaningful connection. Social media is a powerful outside force that has led to non-traditional user behaviour and usage, which in turn has led to rapid growth in mobile traffic. However, in Canada, we are missing the ability to use social media to effect change in healthcare. TELUS has used the outside-in approach to assess how the behaviours and needs associated with social media can be applied to the enterprise in the healthcare market. The outside-in approach has led TELUS to change its processes and develop closer relationships with its customers.

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Mobilization

The proliferation of smartphones and mobile apps is a disturbance that enterprise cannot ignore. Current and future growth in this area is fueled by existing market bases in both e-commerce and feature-phone devices; the easy transition to m-commerce and smartphones is further accelerating the growth in mobile traffic. Although the mobile Internet is fragmented by a challenging array of app stores, application types, device capabilities, platforms, and platform versions – also known as the “splinternet” – TELUS believes that this situation can be overcome and will change if enough value can be provided to customers.

Consumerization

We are moving from a context of limited connectivity, fixed primary devices, IT-led control, and management and security inside firewalls to a context of “always on, anywhere”, mobile primary devices, user demands for agility and freedom, and boundary-less security and manageability. Thus, the consumerization of IT is fueling innovation, and this is yet another outside force. Established industry players can no longer control the sources of change and must respond to a faster pace of innovation.

Hyper-connectivity

Hyper-connectivity refers to the demand for “super-fast” Internet access that is everywhere and always on. In addition to the overall increases in demand, the patterns of usage have also changed. In the past, telecommunications companies needed to manage the “busy hour”, which refers to peak network demand; now, the increasing demands that mobile devices put on the network through signaling result in constant high levels of network traffic, even when users are asleep. TELUS, through extensive network resource planning, realizes that it takes more than “adding more pipe” to meet the needs of consumers.

Addressing Current Healthcare Challenges

Pizzoferrato next outlined the sustainability challenges of the healthcare system in Canada:

1. Increased prevalence of chronic disease (and associated management challenges)
2. Quality issues with medication errors and compliance
3. Long wait times, poor access to care, and lack of continuity of care

4. Lack of focus on prevention and self-management by patients
5. Need for performance improvements to address cost challenges

These challenges explain why TELUS has entered the healthcare market; TELUS believes that, “to support a profound healthcare transformation agenda, investment in health IT needs to focus first and foremost on providing solutions that will address these key issues in a sustainable way” and that TELUS is well positioned to provide these solutions.

Organizing information

Providers, patients, and payers require applications that will help them manage great amounts of data. Accordingly, TELUS is developing applications to manage health information and clinical workflows at various levels, such as:

1. Health regions and Hospitals: electronic health records, clinical information systems, business analytics relating to public health, medication reconciliation, integrated bedside terminals, human resources outsourcing, etc.
2. First-line care: electronic medical records, drug information systems, eReferrals, care coordination, telehealth, etc.
3. Home care and self care: remote patient monitoring, chronic disease management, personal health records, consumer applications, etc.
4. Pharmacies: pharmacy management systems, point-of-sales, consumer portals and applications, mobile applications for prescription renewal and online shopping, business analytics relating to drug prescriptions, etc.
5. Insurers and employers: claims management, provider management, business analytics relating to benefit program costs, human resources outsourcing, etc.

Moving information securely

Today, healthcare information must move securely across organizations, not reside in individual silos where it cannot be shared. TELUS develops “care continuum” solutions (e.g., portals and platforms) to connect applications for securing information sharing.

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Connecting to share information

Through its services in healthcare, TELUS is able to connect physicians, pharmacists, and allied healthcare providers, but the telecommunications company is also able to connect to its large consumer base, which includes patients. This reach enables more rapid acceptance and adoption of health IT solutions.

Making information more meaningful

Through its business intelligence tools and expertise, TELUS provides analytics and insights to help make health information meaningful.

Case Studies

In the second half of the presentation, Pizzoferrato described two case studies to illustrate the outside-in approach used by TELUS in developing their healthcare solutions: remote patient monitoring and mobility for pharmacies.

Remote patient monitoring

TELUS has developed a solution for remote patient monitoring that includes:

1. Personalized, evidence-based care plans
2. Multiple modes of communication
3. A comprehensive organizational hierarchy

This solution encourages continuity of healthcare interventions. For patients, an additional advantage to this new solution is that it does not depend on proprietary or landline technology – if they wish, patients can use their own devices, including tablets or smartphones. This point further demonstrates the outside-in approach because TELUS recognizes that patients may be more comfortable integrating the monitoring solution into the way they live their life already, with devices they are already familiar with. This solution increases compliance and gives patients the option to continue using some of the applications after the clinical intervention is over.

Mobility for pharmacies

TELUS Pharmacy integrates a pharmacy's website and mobile applications with tools and web services that provide: i) communication with healthcare professionals; ii) online prescription renewal; and iii) access to personal health data and a pharmacological profile. For

patients, medication management becomes simplified through one-click prescription refills, access to their medication history, and information about medications. For the pharmacy, their business can be enhanced with the option to add real-time product promotions, including geolocation of points of sales.

Lessons Learned

In the discussions that followed the first and second parts of the presentation, audience members shared the lessons learned they learned from the presentation and injected their own knowledge and experience into the conversation.

The audience also identified the following key takeaways from the presentation:

1. There is great value in engaging directly with customers, including observing how they work and how they use (or do not use) technology.
2. The healthcare system in Canada needs a unified platform.
3. There are huge gaps in the healthcare system, which means there are a lot of opportunities provided we can build a bridge over the conservatism of healthcare.
4. There are gaps in security, and therefore there are opportunities there.
5. Existing innovations in technology provide opportunities to make further innovations within and beyond healthcare.
6. Hospitals are very concerned with the bottom line.
7. Good information saves lives and reduces costs.
8. Consumers highly value recommendations from other consumers. This has implications for opportunities and it suggests that word-of-mouth marketing lends itself to mobile applications and connectivity.
9. Despite recent innovations in wireless and mobile, the healthcare system still has low-tech dependencies (e.g., some home care solutions still depend on landlines).

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10. There are a number of different providers that control various pieces of data about us, but we are not taking ownership of that data.
11. We are seeing the democratization of product development.
12. The focus is on outcomes, not technology.
13. It is important to be “device agnostic” wherever possible.
14. There are many opportunities to create applications for individual and personal care, not just hospital systems.
15. The remote-patient monitoring solution has been well thought out.
16. The outside-in approach has great potential for developing great patient health records.
17. TELUS works with incubators and startups – this can be a way for small startups to build relationships and access the healthcare market.

Complementary Presentations

Following Giovanni Pizzoferrato’s presentation, brief presentations from entrepreneurs in the Lead to Win ([leadtoWin](#)) program provided a glimpse into some healthcare-related opportunities:

Fitminds ([fitminds.ca](#)) by Nicole Scheidl

- *Cognitive care solutions for professional and family caregivers*

InstantSI ([instantsi.com](#)) by Maciek Kozlowski

- *Remote simultaneous interpretation applications in healthcare*

GreenSignatures ([greensignatures.com](#)) by Jane He

- *Secure online document signing*

About the Speaker

Giovanni Pizzoferrato is a seasoned telecom leader with over 10 years of experience building Wire Line and Wireless Networks across Canada. Giovanni is currently focusing on the mHealth application platforms at TELUS to enable mobile health in Canada. Giovanni also has built and led numerous successful engineering teams at TELUS. Giovanni was also responsible for the TELUS National Labs team, which built national standard development environments for all of TELUS products and services. Giovanni was also an influential leader in the Innovation Centre Program and the Graduate Engineering Program at TELUS.

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