# CIObrief 2.0

# Innovation Design and Development

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## Introduction

This meeting of the CIO Brief was the third of four this year that will focus on innovation and IT. A guiding theme throughout these sessions is how to create a sustainable innovation process. At the last two sessions, IT executives discussed their approaches to innovation with IT, described the challenges and opportunities they face in bringing innovation to their organizations and explored different ways to generate and evaluate innovative ideas. In this third session, The CIO Brief invited Amanda Holden of Interac and Pat Daley of Deloitte to speak about innovation design and development from an IT perspective. It also invited Noah Cowan, the Artistic Director of the Toronto International Film Festival (TIFF) to describe innovation design and development from an artistic point of view.

## Innovation in a Dynamic Industry

The retail payment industry is complex and rapidly changing. "Most people can't get through the day without making some sort of payment," said Pat, "and they don't even think about how it works." There are many players involved in every transaction: the merchant, the acquirer, the Interac network, the card issuer, and the client. Today's customers have a lot of choice about how they make payments and there are many new entrants in this field. "It's a multi-billion dollar business with billions of transactions annually," said Pat. "And it represents a significant proportion of retail banks' profitability."

Innovation is needed in this industry for many reasons. New technologies such as mobile, cloud and big data are only some of the drivers. Business models are also changing and new players are disrupting established practices. For example, there is a firm in the U.S. that is trying to provide credit card processing for free, thereby undermining the existing payments model. Customer preferences are also changing. "Convenience is very important and customers want simplicity, customizability, cost efficiency, and the ability to work across multiple devices. Non-traditional players are starting to fragment this market and create increasing competition. "Apple, the telecos, Target, Google, and Facebook are all trying to get a foothold in this space," said Pat. Security and privacy concerns are also big drivers. Criminals are becoming more sophisticated and innovation is needed to keep ahead of them. In addition, there are more and more regulations and voluntary codes and more reporting, which are driving costs up. Finally, the changing economy has increased pressure on the traditional players to do a better job and deliver more with less.

Interac is feeling all these changes and sees them as both opportunities and challenges, said Amanda. "IT is using a variety of different approaches to deliver innovation to the organization." She outlined three different initiatives and IT's role in them:

1. **Small Business Workbench.** This is a new toolset for small businesses to manage their cash and works much like iTunes. It was the first initiative developed by Interac's formal business innovation process. Its goals are to diversify revenues and expand into adjacent markets and the Workbench has already been piloted and launched in the U.S. "IT's role here was to get out of the way," explained Amanda. SBWorkbench was implemented rapidly using cloud services and outsourced, specialized, market-specific resources. However, there was also conscious engagement of IT support and ongoing IT consulting, to set standards and incorporate a strategic discussion about scale and the nature of the information collected in order to do the upfront architecture work. "This project aligned entrepreneurial necessity with structure and soundness," said Amanda. "By enabling and empowering our U.S. team, we have encouraged agility and flexibility, while still managing future growth into a large-scale service." In the near future, it hopes to expand this workbench into Canada.

2. **Canvas.** This project developed the IT vision and platform to create and deliver new payment products and was driven largely by IT. "We needed to make fundamental architectural decisions before we knew what the full product functionality would look like," said Amanda. "Therefore, we needed to rapidly explore innovative opportunities so we would not make short-sighted decisions." Here, the innovation process involved an IT-created SWAT team, lead by IT but with executive support from the president and weekly participation from senior executives. This small team undertook a broad review of possibilities and then triaged them for value and alignment with vision and strategy. From there, rapid prototypes were developed to test technology and narrow in on a few promising technologies. "This was a highly iterative, very effective, and rigorous process," said Amanda. It developed enough technology requirements to complete the architecture work to support the vision and develop a modular and scalable architecture. It also explored product feasibility and created high level requirements for prioritization for the next two years. "We learned that it was very difficult to get dedicated staff time for this," said Amanda. "We tried for 50% and got about 25%." However, it was very effective in driving executive buy-in and obtaining cross-functional alignment to a future vision for technology. Because of its intensity, this approach to innovation is best suited for short, focused periods and is not sustainable in sustained engagements.

3. **Interac Mobile.** This was an enterprise-wide mobile payments initiative with many complex dimensions that was trialed in March 2013. The technology component was developed by a small, dedicated specialized team and leveraged existing products and expert industry partnerships. "Our approach was to

pilot, learn, build, and improve," said Amanda. Phase 1 was a limited technical trial that included full functionality but with non-production security. Its goal was to understand the technology, standards, and platform and develop near production-ready applications that were device-agnostic. This phase also involved market testing with one bank and merchants. "Here, we built our core team, developed the base technology and planned the roll-out using additional teams," said Amanda. Phase 2 is a production-ready version with security that leverages what had been learned from Phase 1. For this phase, partners were carefully selected to develop code and extend the ecosystem.

Amanda concluded that innovation with technology can take more than one form. "We've learned to take multiple approaches to it, be flexible, and to leverage what we learn," she said. In addition, while it is important to consider critical success factors, it is also essential to recognize that these may be very different in the future than they have been in the past. Finally, partners and teamwork are essential. "Don't under-invest in the management of partners and vendors," she advised.

Members commented that each of these projects reflects a different approach to innovation design and development with technology. The SBWorkbench was driven by the business, while Canvas was led by IT, and mobile was an enterprise effort with a significant technology component. They asked about Interac's approach to security. Amanda explained that her organization is constantly thinking about security and that it is layered into all products and operations as a bolt-on element. "We have to balance usability and protection against fraud. Ultimately, it is the end points of the network, i.e., the banks, that make the final call in this area." Interac's goal is to keep fraud from becoming a pain point for consumers. "We're constantly learning and trying to stay ahead in this area," she said.

Members also asked about how the competitive landscape factors into innovation at Interac. "Our landscape is complicated and ever-changing," Amanda said. "We can't rest and are always looking at threats and possibly, co-opetition." Key factors include: where the competition is coming from – whether a traditional or non-traditional organization; what the economics of competition are; and what others are developing, such as virtual wallets. "Whatever we do, it's not nearly fast enough for our business. We need to implement quickly and with minimal features and build from there." Cultural change is ongoing as a result. "This is a very significant change initiative on its own," she said. Changing to compete involves culture, capabilities, and technology and the first two are the hardest.

## Innovation in an Artistic Industry

Noah Cowan then spoke about how TIFF had designed, developed, and implemented a science-fiction tribute to Canada's great filmmaker, David Cronenberg. "We had been collecting a wide variety of materials related to his films for years but we wanted to bring them all together in a non-traditional film exhibit." The central concept was to see the exhibit as a big brain that would bring an individual inside the creative process. To accomplish this goal, TIFF needed to develop multiple levels of partnership with governments, universities, colleges, film centres, and technology labs and create a value proposition that would be attractive to each of them. This will be, in addition to the exhibition itself, the creation of a permanent learning lab and virtual exhibit that will be accessible from multiple devices long after the "real" exhibit is over.

This exhibit has four key elements:

1. **A Virtual Museum** digitally cataloguing the entire Croneberg collection – including photos, costumes, posters, audio/visual clips, interviews with cast members and collaborators, computer graphics, posters, and title designs. These will be made accessible online and in a fashion that they can be explored in 3D and in detail.

2. **A Body/Mind Change Pod** that enables an individual to explore alternative evolutionary pathways using a multiplatform narrative and film. "This lets an individual explore Cronenberg's imagination," said Noah. "It assists user in building a unique 3D virtual creature and that can be made real with a 3D printer." By extracting science fiction and facts from Cronenberg's films, scenarios allow a user to identify elements of interest to them to create a new being. "This pod becomes more and more elaborate as a user goes deeper," said Noah.

3. **Interactive Apps.** These include: a map of Toronto where Cronenberg's films were shot, including pop-up images from his films; an interactive timeline with "gorgeous visual interfaces"; interviews with collaborators from both in front of and behind the camera; 3D rotatable scans to enable someone to see the detailing of a production design; and field studies on the making of each film.

4. **E-Book Teaser.** This is a virtual pamphlet with embedded video that TIFF will use as a marketing tool.

"We hope that this exhibition will go global over the next five years," Noah concluded.

Members asked if this exhibit had followed a straightforward innovation process of: ideation; development; and implementation. "When you get to the implementation stage of a project, you tend to do a bit of revisionist history," said Noah "and believe that your strategy was clear all along. In fact, it's a more complex process." He believes a successful innovation reflects the theory that "success is premised on going back in time and rewriting history correctly so that an organization can understand its strengths retrospectively." Innovation is therefore an iterative process and evolutionary in nature but based on a clear analysis of what works and what doesn't.

As a result, TIFF integrates regular post-mortem analyses of its entire operation into its practices. Although the organization used to do this with each initiative individually, more recently, its leadership has recognized that it needs metrics and assessments that encompass the entire organization. "These analyses are very painful," said Noah "and we are encouraged not to trumpet successes but to take our egos out of the picture and focus on what is not right." At a typical post-mortem, about 35 departments will briefly present their challenges and common threads will be identified. This tends to reveal about five or six root causes of problems and result in a number of issues to be addressed. "This process really helps information to flow across the organization," said Noah. "And this has been an innovation in its own right."

Although it was tough to find the right metrics for the whole organization, the effort has been rewarding. While TIFF is a non-profit entity, it must behave like a for-profit one because it has to meet the needs of its funders and provide them with metrics that describe how well their partnership with TIFF is working. In addition, TIFF has donors and members who have different needs. "Recognizing our multiple stakeholders' needs and undertaking cross-value analysis has forced us to think differently about what we do," said Noah.

In conclusion, Noah explained that at TIFF, innovation fits into three different categories: storytelling; visual form and images; and technological medium. "There's pressure for us to be technologically up-to-speed and more advanced in this area than other artistic organizations. We are always creating and always looking for the next big idea."

## Concept

The purpose is to bring together CIOs from leading edge organizations to exchange best practices concerning IT management strategy. The name "brief" reflects the focused and direct nature of the sessions.

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Membership is by invitation only. Please direct inquiries to James McKeen at jmckeen@business.queensu.ca.