INTELLECT INNOVATES
7 BREAKTHROUGHS IN CONTEXTUAL BANKING

Intelect CBX-Retail
More Experiences. More Agility. More Revenue
A primer on contextual banking

The Ford Model T is among the top 10 most sold automobiles of all time. It was in production for an astounding period of time – from 1908 to 1927. It is a marvel of Design – not just of the automobile itself, but of the revolutionary automation in production.

However, from the customer’s point of view, the Model T also represents what is known as the Hobson’s Choice. Mr. Ford explained it best in his own words –

*A customer can have a car painted any colour he wants, as long as it is black.* - Henry Ford

Now, if Mr. Ford tried that monochrome approach today, would he still be able to sell as many cars as he did? Why just automobiles, if anyone in any industry tried it, would they still have customers? Does anybody remember travel agents? What shopping felt like before Amazon? Hotels before AirBnb or cabs before Uber?

Banking is no different!

**Welcome to the age of disruption**

The landscape of banking and financial services too is transforming before our eyes. The entire industry is hurtling towards the future in the most uncharacteristic manner. Not the deliberate, gradual change of the last century, but an almost desperate, reactive change.
De-Risking Architecture

A few years ago, a bank once sent us an RFI with an unusually open-ended question. The bank pondered – should we launch a digital bank, or should we apply a digital banking layer on top of our core?

This reflects the difficult choices that banks are faced with when confronted with new technology. It also stems from the fear of rip-and-replace and ineffective integration. After all, in Digital Banking, there is a large catalogue of stated needs, but the unstated needs are numerous and hard to predict.

At Intellect, we have realised that it does not have to be one or the other. Whether your transformation is channel-led, or product processor led, it should not be defined by the bank’s current technology state. We need to enable the shift from iteration to disruption. And CBX-Retail is the answer.

Design Behind the Breakthroughs

In CBX-Retail, the CBX stands for Contextual Banking Exchange. The idea is to provide the customer with an experience that doesn’t just feel good, but contextual as well, at every level. This can happen only when the theme of ‘Contextual’ is infused end-to-end. It must be powered the very architecture of the technology, and realised by every channel, seamlessly.

Orienting a product towards ‘Contextual’ opens up a world of possibilities. For instance, an intelligent data store, chat bot, next best offers, real-time credit evaluation, Augmented Reality for merchant offers, and more. It uses artificial intelligence and machine learning to solve problems such as automated chat bot, social media data mining, and defining rich segmentation and offers. Machine learning helps the bank identify and stem customer attrition, and also to augment traditional fraud management systems by early detection of anomalous patterns.

‘Contextual’ enhances each digital touch points with the customer, evoking an experience of ‘Digital Relationship Banking’. Greater the customer engagement, greater the propensity for sale and cross-sell of products.

Intelligence as a service

At the basic transaction level, for instance, a bank can attempt to do more than just facilitate the transaction. It can find the purpose of the transaction – either by providing links to a series of possible transactions, or by default take him to the most obvious next step. At the next level, once the journey has begun, we can, based on the profile and behavioural history of the customer, pre-empt and suggest. For instance, a list of ‘favourite payees’ when he chooses fund transfer.

To embed intelligence in every aspect of the process, the logical solution would be a repository of algorithms for each process. Not necessarily. And this is the breakthrough. Instead of approaching intelligence as a repository of algorithms, we infuse intelligence by applying the right set of algorithms in the right use cases!

In short, Digital must enable Contextual Banking.

Challenges Galore, and Opportunity too

The challenges are obvious. The constantly shifting customer goalposts. They want choices, they have a voice, and they will make noise for what they want! Then there’s the unyielding pressure of keeping costs down. And as technology leaps ahead without restraint, regulations scramble to catch up, adding heavy layers of operational difficulty and ambiguity.

Moving forward in this environment is pitted with great complexity.

But there’s so much opportunity, too. FinTechs are not the David to the Bank’s Goliath as the world once believed. They too are crippled by an inability to scale or to come to terms with regulations. Besides, complex though it is, they lack the treasure of customer trust, which exists in the form of customer data, with the banks.

Digital must therefore be able to –

- Help banks de-risk technology implementation
- Capture opportunities with agility
- Provide an addictive customer experience today
- It enable segmentation and acute personalisation
- Weld next-gen tools like AI, ML, Deep Learning and more

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In effect, our user-journey based approach has allowed us to walk in the shoes of the end customer, to observe his pain points and also to imagine his aspirations. The result of that exercise is that we have been able to push the limits of what is possible, when domain and technology connect.

We have been able to innovate.

CBX-Retail runs atop the Digital Bridge. With Digital Bridge, we de-risk on two fronts. On one hand, implementation and go-live will happen without undue friction. And on the other, you achieve agility to capture opportunities that might arise in the future.

This primer is a sneak peek into that innovation. It is what contextual banking looks like. In the following pages, we will attempt to showcase seven Intellect-exclusive innovations –

We hope you like going through these pages as much as we did putting it together.
Re-imagination must start at the very beginning of a customer’s journey with the bank. The high-abandonment track record of on-boarding boils down to the high degree of friction in this process. Too many forms to fill, too much paperwork, multiple systems involved, and it all just takes too much time. Most of all, the customer carries away a feeling that his bank lacks empathy.

Not anymore. The 5-Dimensional On-boarding that Intellect CBX-Retail removes friction, and makes for a conversational, simple journey which takes just 60 seconds!

With the five dimensions, a customer can now on-board himself with –

1. **A National ID** – What if, instead of keying in every detail about myself, I could simply type in my National ID number or scan the ID card? With an API to the national database, my details are automatically populated. The system reads text from the scanned image of the ID card. Automated data entry, and a frictionless first step.

2. **A Smile** – An activated selfie camera captures the customer’s image and machine learning algorithms match the real-time picture with the image registered in the ID card.

3. **A Live Conversation** – Where e-KYC is not an option, a quick skype call to the bank’s RM team enables real-time verification of submitted details. This video call integration too is embedded in the journey.

4. **A Chat** – To make the entire process conversational, a customer can go through the whole journey via a chat bot, that requests the right information at the right time and appraises the customer of progress, live.

5. **A Single Interface** – Most importantly, all of these dimensions – national database integration, live video, chatbot, are all part of one single interface with the bank.

In just 60 seconds, a customer can on-board himself and proceed to funding his account. Still a high abandonment journey? We don’t think so.
What if self-service could be baked into the system? What if banking were ‘role-aware’ across stakeholders and business functions? When the right tools reach the right hands, a single resource within the bank is able to play multiple roles. Cross-sell and up-sell are organic and smooth. And above all, the bank achieves tremendous business agility – an ability to deploy products in the market proactively, in the blink of an eye.

The Experience Design Studio is an SDK that allows users to create their own pages. How?

- **Organisms** - Designed, developed & stored as a catalogue of widgets.
- **Templates** - Workspaces created by a user easily by selecting a choice of widgets that are required to meet a particular goal.
- **Pages** - A particular instance of the template, linked to the site by the Information Architecture/ Sitemap.

Keeping both UX and UI in mind, CBX-Retail is built on design principles that reverberate throughout the product. The following principles form the foundation on which the product is built.

1. From transactions to relationship and conversation
2. From clunky to swift single clicks
3. Intelligence under the hood: Targeted marketing, recommendations
4. Different brands, single CSS: Segmentation and persona-driven

This is an innovation that puts the steering wheel into the hands of the role holder, not the technology provider.
So far, the bank bore the burden of having to be the source of all innovation. Not anymore. All it needs to do is be able to absorb innovation. Here’s where banking becomes boundary-less.

This is a re-imagining of collaborative banking. To stay ahead, you need to stay connected!

Open Banking opens up a multitude of possibilities, which align with the bank’s aspirations, no matter what they are. Whether you want to provide proprietary products like Blackrock, BNY Mellon or AXA do; whether you aspire to be product distributors like Robinhood, Merrill Edge or Fidelity Go; whether you harbour universal bank dreams like Capital One or Citigroup; whether you want to go beyond both and become a platform provider like Baidu, Alibaba and Tencent and integrate into every aspect of the customer’s lifestyle. No matter what the aspiration, an architecture that supports Open Banking will sail you through.
Digital is a journey. And on that journey, we need to be anti-fragile. This involves a degree of agility that has never been possible before. Let’s start at the top.

We can all agree that a channel can no longer be just a pretty face. But what if it could do much, much more? What if your channel could enable digital transformation in hitherto unimagined ways? With Intellect, experience design is not just skin deep. It’s all about what’s under the hood.

Digital Banking Enterprise Services (DBES) enables progressive modernisation, business agility and technology agility. Here are some of the possibilities on this revolutionary architecture:

- Digital-only Product Propositions: Launch segment-based products rapidly through digital channels, with product configurator and pricing engine bundled inside DBES.

- Minimize Integration Touch Points: Don’t stretch your core (70% workload can be managed at channel level). With comprehensive Product Processors, modernize your digital, your way.

- Open Banking Ready: Consume advanced services through 14 U.K. Open Banking compliant, monetisable APIs. Seamlessly integrate with third party ecosystems and pull from a marketplace of vendor services.

- Intelligence as a Service: You can enable contextual intelligence as a service. Recommend next best product/offers by segmentation, leading to higher digital sales and revenue generation for the bank.

- DBES is the ticket to an omni-channel set up, not just an omni-digital one. As you progresses on the digital journey, you can shift every channel on to this platform to decrease the number of siloed systems, reduce maintenance costs and progressively shrink the legacy core.
The era of analytics without conclusion is coming to an end. It is time we stopped crunching numbers and patterns for the sake of it and instead put them to work. At Intellect, we are working on a greenfield area in data which does just that. Anomalies are any deviations in expected, pre-defined patterns. So far, so simple. They are typically bundled into a collection of anti-patterns that are later studied to understand a negative outcome. But is that good enough? And is that all we can do with the rich seam of data at our disposal?

Intelligence is a bottom-up approach at Intellect, which means the question is no longer 'What happened?' but 'What is happening?'. Powerful algorithms re-imagine the application of intelligence. Let’s look at two scenarios where anomaly detection algorithms come in to play.

Protection
Typically, in an AML scenario, the traditional use of algorithms is post-facto; that is, to detect a pattern, the transaction needs to be seen through to the end. By identifying anomalies much earlier, we can move into the area of fraud detection instead. These are mechanisms that enable you to score a transaction, and provide security at the customer level. You still allow the transaction to continue, but you allow it with a fraud control mechanism baked in Intelligence.

Retention
The most elusive data stream for the bank is the customer’s intent. Does the customer like us? Will he remain with us? Does he expect more? Why does he transact the way he does? The answer to these questions, at least a guide to the answers, can be found with Anomaly Detection.

One example is the use of more advanced statistical models – like Adjusted R-Squared. Without getting too deep into the tech, a large number of variables decreases the ability of a model to predict accurately. Adjusted R-Squared, on the other hand, accounts for these variables better and provides the most accurate degree of relationship within a particular segment / population.

With the end result that you understand your customer better, serve information and offers that are more contextual, and ultimately, retain that customer.
There's this force that powers the financial world. It is a lifeline, or a launchpad, to those that need it. However, it is still remains difficult to access, even to those that are eligible for it. The challenge in issuing a loan is, of course, **Credit Decisioning**.

The concept of credit worthiness is the most evolved aspect of finance. However, evaluating credit worthiness is still a cumbersome process, and often ends in abandonment. This is true even on so-called digital channels, where conventional loan origination systems tend to be either process-heavy, or simply give up and lead to a static page with a phone number or email ID with a promise of a call back. In short, not a great experience, in this age of Amazon and Netflix.

And here's where the power of Digital comes in.

Intellect's Scoring Engine based Loan Origination (SELO) automates many cumbersome steps in the origination processes, and with the help of a robust rules engine, abstracts key computational requirements, leading to smarter, quicker credit decisioning. For instance, keying in the national ID fetches all relevant KYC information and fills in the form appropriately. The Scoring Engine is runs the numbers on credit score based on customer’s income and a few other relevant parameters. And based on this score, we arrive at the amount the customer is eligible for.

The end result is that an applicant, without currently holding an account at your bank, can avail himself of a **loan in just three minutes**!

The innovation here is not advanced technology alone, or of integration with third party systems, or even of intuitive UX. It is the timely and necessary combination of all these to enable better credit decisioning for the bank, and quicker, painless loans for the customer.
CASH FLOW PREDICTION

Banks are the largest repositories of customer data, and of a more valuable commodity – customer trust. Tremendous progress in the areas of data analytics and deep learning is still mined mostly for ‘under the hood’ utility. What if a bank chose to do more, to give more, to the customer?

When a customer logs in and studies his relationship with the bank, what if, instead of just a dashboard, he got to see something more? What if he saw a glimpse of his future? The Cash Flow Prediction from CBX Retail does just that.

Based on available data of the customer’s income and spending patterns over a period of time, the bank can now deploy advanced algorithms and predict/project a future cash flow for a certain time frame. This gives the customer some breathing room in which to plan his finances, and also gives the bank an opportunity to not just have a transactional relationship with the customer, but to contribute to his financial wellbeing.

Banks can now make personalised recommendations and predict cash flow with the advanced Cash Flow prediction. From now on, your customer's dashboard is more than just an overview. The customer not only gets information from his dashboard, but valuable insight into their financial health. Richer view, more information to enable better decisions.