HANDOUT
PowerPoint Presentation

STRATEGIC TECHNOLOGY MANAGEMENT

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Strategic Technology Management

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Presented by: Mark Scholl, Partner

Top Technology Strategic Priorities for Banks

- Improving the Digital Experience
- Enhancing Data Analytics Capabilities
- Reducing Operational Costs
Overview

- In the past few years, we have seen an incredible period in innovation
  - Internal operations
    - Fraud monitoring, virtual systems, imaging, etc.
  - Consumer products and services
    - Integration of technologies that provide communications, social media, navigation, news, music, video, gaming, and financial transactions
- Many new technologies have changed how you do business with your customers and vendors

Drive-to-Digital – Self-Service Banking

- Must satisfy Customer 3.0
  - New user-friendly products built around mobile, web, and social channels
- Banking experience has become based more on the technologies rather than the branch contact
  - Customers want anywhere, anytime access to their financial institution
    - Increase in self-service options
    - Shift from traditional web-based channels
  - Expanding beyond the close, personal customer connection
Digital Banking Trends

Consumers want banks to “show them the money” with deals, discounts, and rewards; they also value convenience and relevance.

- Banks are in the unenviable position of competing in a commoditizing industry.
- The main reason people leave their bank is for cheaper products and services.
- Consumers want banks to manage their personal data to provide more competitive prices, enable faster and easier services, offer personalized advice, and develop location-based offers.
- Differentiation is critical.

Accenture 2016 North American Consumer Digital Banking Survey
Digital Banking - Virtual Banks

- Eleven percent of consumers left their bank in the past year for Online Virtual Banks — up one percentage point from 2015
  - Switching is not an obstacle
  - The majority of consumers continue to view their banking relationships as transactional, not advice-based
  - They leave most often for cheaper products and more convenient branch locations
  - Loyalty programs, the crown jewels of efforts to prevent customer switching, are not working

Accenture 2016 North American Consumer Digital Banking Survey

Digital Banking

How often do millennials visit branches?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not visit</td>
<td>38%</td>
</tr>
<tr>
<td>Less than 1 visit per month</td>
<td>26%</td>
</tr>
<tr>
<td>1 visit per month</td>
<td>10%</td>
</tr>
<tr>
<td>2 visits per month</td>
<td>10%</td>
</tr>
<tr>
<td>3 visits per month</td>
<td>5%</td>
</tr>
<tr>
<td>4 or more visits per month</td>
<td>6%</td>
</tr>
</tbody>
</table>

Source: BI Intelligence Digital Banking Survey, Q3 2015
Digital Banking – Full-Service Options

Despite the doomsday prediction, branches still serve an important function for financial institutions.

- Branches are the top channel for gaining new customers for many banking products and services.
- Branches are the way most people open checking accounts and apply for mortgages and loans, which are important revenue drivers for banks.

Accenture 2016 North American Consumer Digital Banking Survey

Strategic Technology Planning

- Responsible Innovation
  - Growth
  - Profit

Technology Adoption Life Cycle

Groups are distinguished from each other based on their characteristic response to discontinuous innovations created by new technology.

- Innovators: 2% (Early Adopters: 13%)
- Early Majority: 34%
- Late Majority: 34%
- Laggards: 16%

Geoffrey Moore 1991: Crossing the Chasm
The Swing: 2010 to 2020

Workforce Demographics: 2010 & 2020*

*Projected data

Digital Trends

“Most people overestimate what they can do in one year and underestimate what they can do in ten years.”

Bill Gates
Stronger Authentication

- Biometric authentication
  - Fingerprint scanning
  - Voice recognition
  - Contactless palm scanning
  - Facial pattern recognition
Venmo – Send Money and Make Purchases

- Links bank checking account or debit/credit cards
- Sends transfers to individuals or merchants
- Has some social media capabilities

Digital Assistants

“Siri, where is my car?”
“Siri, get me an Uber.”

How much money do I have in my savings account?
Please transfer $500 from my savings to checking.
Digital Assistants

**Voice Vote**

In a survey of consumers who have used mobile banking, more than half of the respondents said they would likely use voice control if it were available in those apps.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Voice Control Use (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-34</td>
<td>61%</td>
</tr>
<tr>
<td>35-44</td>
<td>50%</td>
</tr>
<tr>
<td>45-54</td>
<td>49%</td>
</tr>
<tr>
<td>55-64</td>
<td>35%</td>
</tr>
<tr>
<td>65+</td>
<td>31%</td>
</tr>
</tbody>
</table>

All consumers: 50%

(Source: J.D. Power & Associates)

Digital Assistants

**Helping Hand**

Digital assistant usage by age group

- Millennials
- Gen X
- Baby Boomers

Note: 2017 and later are projections.
Source: Statista
THE WALL STREET JOURNAL

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Beacon/Location Marketing

- Almost 10% of retailers focused on location marketing strategies in 2016
- Convenience
  - Starbucks, Subway, Panera, and others are bringing mobile order and pay services into their apps
  - Hotels can send messages to delayed travelers
  - Retailers can help customers navigate the store
- Consumer privacy is primary concern (need to remove the creep factor)
Beacon/Location Marketing Advertising

- Positioning system using a newer version of Bluetooth technology (Bluetooth Low Energy – BLI)
  - Transmits unique identification number to local area
  - Integrates device with location
  - Has ability to approximate when a user has entered, exited, or lingered in a region
- Can track and understand customer buying patterns
- Triggers an action on the device such as alert apps or check-in on social media, or enables a push notification for promoting products and services

Virtual Reality

Customers can virtually access their account activity and transaction records
Data Analytics

Business Intelligence

- Provides historical, current, and predictive views of business operations
  - Data aggregation from unrelated systems (i.e., core, loan, CRM, financial systems, Google Analytics)
  - Interactive data visualization and analyzation in real-time
  - Customized dashboard, reports, queries
  - Mobile features
Dashboards

Security Information and Event Management (SIEM)

- In-house (appliances) or managed service
- Includes real-time monitoring, correlation of events, notifications, and console views
- Extended capabilities
  - Network device asset discovery and inventory
  - Threat detection (not protection)
  - Availability monitoring
  - Internal vulnerability scans
Security Information and Event Management (SIEM)

- Logging and Reporting Capabilities
  - Data aggregation and correlation
  - Alerting
  - Dashboards
  - Retention and forensic analysis
- Machine learning and AI capabilities
  - Helps establish baselines

Reducing Operational Costs
Reducing Operational Costs

- Many banks are looking to outsourcing for reducing operational costs
  - Managed services models
  - Cloud services

- Cloud service models
  - Infrastructure as a Service
  - Software as a Service
  - Platform as a Service

Managed Service Model

- Nearly all network administration tasks can be performed remotely
- Diversity in technologies makes it difficult to find attributes in a single, super IT professional
  - Difficult to maintain “deep” skills in so many areas
  - More technologies to support
  - Evolving cyber threats
  - More regulation
  - Creating skills gap
Managed Service Model

- IT roles are often shared with other responsibilities (i.e., operations)
- Many community banks are challenged to compete for talented IT professionals

Infrastructure as a Service (IaaS)

- Virtual platforms (Amazon Web Services, Microsoft Azure)
  - Operating system platforms
  - Microsoft Active Directory
  - Can include Windows 10!!
- Data storage, backup, and retention
  - Dropbox, Google Drive, OneDrive
Software as a Service (SaaS)

- Core services, imaging, EFT, and loan processing
- Office 365 – email hosting (Exchange), spam filtering, mobile device management, Skype, SharePoint, Power BI
- Payroll, human resources, and employee benefits
- Customer relationship management (CRM) system
- Social media
- Risk Assessment, vendor management tools
- Secure file transfers

Software as a Service (SaaS)

- Client software management is often reduced
  - Applications often use web-based user interface
  - Systems can be accessed from various platforms (i.e., thin clients, Macintosh, smartphone, tablet device)
- Often easier to quantify the costs (ROI)
  - No more financial black box
  - Scalable/elastic – “pay as you go”
- Often faster for system deployment
- Environmentally friendly
Cloud Services

- Can often lower capital and IT operating costs
  - Reduces hardware and associated hardware maintenance costs (hardware life cycle management)
  - Provides patch management, software updates, etc.
  - Reduces need for monitoring system capacity/utilization
  - Can reduce internal compensation, benefits, and training costs required for in-house support
  - Vendors are making pricing more attractive for outsourced systems

Cloud Services

- Allows small and medium sized businesses access to talented IT specialists and services – focus on business operations
- Enhances disaster recovery strategy
- Overall, provides better data security
- Allows access to resources from anywhere
  - Flexible customer meeting locations
  - Contributes to pandemic planning strategy
Cloud Services

- Each product/service has its own unique threats
  - System integration with other vendor systems
  - Security of customer information
  - Contract termination – recovery/migration of data
  - Service level agreements and response times
  - Fourth-party risks (vendors of vendors/subcontractors)
- Additional regulation and compliance
  - Third-party risk management and oversight responsibilities
  - Data privacy and security

Planning Ahead: What To Do Next
Planning Ahead: What To Do Next

- Branches must lead with digital – mobile-first mindset for smartphones, tablets, and wearables
  - Train your staff to help your customers make the switch; your staff must be the promoters of new channels.
  - Call center activities sometimes increase as phone support is necessary for self-service channels.
  - Will the new service pay for itself or be a loss leader? If a loss leader, where will the additional revenue come from? How do these projections fit into the overall budget?

Challenges and Pitfalls

- Determination of how to spend the IT dollars
  - You need to understand how to estimate the return on your investment
  - IT professionals should get to know the CFO
- Not recognizing areas where there are IT skill gaps
- Resistance to change
- Territorial IT professionals
Other Key Banking Strategic Priorities

- Mitigate cyber threats
- Meet regulatory and compliance requirements
- Recruit and retrain talent
- Improve business processes
- Partner with FinTech providers

You've got to start with the customer experience and work back toward the technology - not the other way around.

(Steve Jobs)

izquotes.com
Questions

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