Evolving Mandate of Chief Data Officer
Ramesh Nair, Partner

MIT CDO Conference
July 13, 2016
CDO’s Dual Mandate
Two concurrent agendas – growth and control – healthy tension?

**Drive growth**
1. Champion the cause -- a **data-centric** company
2. Drive evolution and **scaling** for data-driven growth
3. Facilitate **operating model** change

**Facilitate control**
1. Lead **governance** setup and execution
2. Drive X-functional and X-BU **alignment** – finance, risk, customer
3. Coordinate enterprise **reference data** programs

**Evolving mandate & the tension**
Early successes now coming in – but hard lessons over past 3-5 years

Lessons learned

• Many definitions and understanding of CDO function
• Job descriptions that just “added” to existing roles and responsibilities
• Reporting structure defined as the first step, before clarity of mandate
• Data “warrantor” and “supplier” mandates – but limited power to change anything
• Growth imperative not explicit in CDO mandate
• But now, many early successes
Considerations
Control mandate will continue and grow – even more regulations coming

### Challenges

- Regulations will continue unabated
- Regulators provide “principles” – not “to-do’s”
- How to monetize for growth – beyond regs
- Risk & finance integration – the next hurdle
- Risk/finance and Customer – the next focus

### Considerations

- **Customer Onboarding**: Client due diligence and screening against sanctions and PEP - KYC, FATCA, Common Reporting
- **Transparency**: Swap market accountability - Dodd-Frank, IHC and Reg AB2, EMIR, UCITS, AIFMD, COREP, FINREP, ACORD
- **Systemic Risk Oversight**: Threats to financial stability - BCBS, SBSG Report on Risk Appetite Frameworks and FRY-14Q, 9C
- **Capital Requirements**: Standards for capital adequacy, stress testing and liquidity risk - Basel III, CCAR, LCR and Solvency II
- **Surveillance**: Anti-money laundering (AML), sanctions, fraud, trade execution, consumer protection
- **Risk Management**: Managing enterprise risk across all areas - Credit, Operational and Market

### Data Governance Program

<table>
<thead>
<tr>
<th>Data Ownership</th>
<th>Data Defns.</th>
<th>Data Quality</th>
<th>Info-Lifecycle Mgmt.</th>
<th>Info Security</th>
<th>Program Office</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy and Standards</td>
<td>Tech &amp; Arch.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---
Governance challenge – consistently sustain over evolving drivers

Control Program
- Data Governance – “consistent sustainability”
- Disciplines:
  - Policies and standards
  - Tools
  - Architecture, etc.
- Mandates and initiatives that use disciplines
The dual mandate comes with exponentially expanding data scope

Expanding data scope

+ Regulatory data
  - Product
  - Performance
  - Account
  - Credentials
  - Credit
  - Fraud
  - Segments
  - Financial

+ Business as usual data
  - Rewards
  - Travel
  - Linkage
  - Interests
  - Spend
  - Relationships

+ “Data For Growth”
  - Intent
  - Digital Activity
  - Social
  - Mobile
  - Real time Location
  - Interests
  - Sensors
  - IoT

Increasing importance of data in driving growth – what’s your plan and strategy?

Considerations

Client data

CDO for Control  CDO for Growth
## Dual mandate – new interactions – new SLAs and metrics?

### Growth Mandate Example

<table>
<thead>
<tr>
<th>Classical focus</th>
<th>New focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Marketing Officer</td>
<td>CMO</td>
</tr>
<tr>
<td>Chief Information Officer</td>
<td>• Real time</td>
</tr>
<tr>
<td>Chief Strategy Officer</td>
<td>• Automated</td>
</tr>
<tr>
<td>Chief Analytics Officer</td>
<td>• Bi-directional</td>
</tr>
<tr>
<td>• Success metrics</td>
<td>• Dialogues</td>
</tr>
<tr>
<td>• Remit clarity</td>
<td>• 1000s of sources</td>
</tr>
<tr>
<td>• Decision rights</td>
<td>• Co-creation of products &amp; services</td>
</tr>
<tr>
<td>• Financials</td>
<td>• Real-time deployment</td>
</tr>
<tr>
<td>• SLAs</td>
<td>• Big Data management capabilities</td>
</tr>
</tbody>
</table>

- **Chief Digital Officer**
  - Consistent client experience across devices
  - Digital data and Content management

- **Chief Analytics Officer**
  - Big data analytics and data scientists
  - Correlation and Causal modeling
  - AI/ML/Cognitive
### Considerations

Others have mature org models and roles – how about CDOs?

**Currency of CDO organization: Make do with yesterday's roles?**

<table>
<thead>
<tr>
<th>Finance</th>
<th>Marketing</th>
<th>IT</th>
<th>Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>- CFOs</td>
<td>- CMOs</td>
<td>- CIOs</td>
<td>- Head of Sales</td>
</tr>
<tr>
<td>- Treasurers</td>
<td>- Marketing Scientist</td>
<td>- CSOs</td>
<td>- Country head</td>
</tr>
<tr>
<td>- Controllers</td>
<td>- Product Scientist</td>
<td>- CTOs</td>
<td>- Product Manager</td>
</tr>
<tr>
<td>- Finance analysts</td>
<td>- Content Manager</td>
<td>- Systems Administrators</td>
<td>- Regional Manager</td>
</tr>
<tr>
<td>- AR/AP</td>
<td>- Product Manager</td>
<td>- Architects</td>
<td>- District Manager</td>
</tr>
<tr>
<td></td>
<td>- Brand/Product Analyst</td>
<td>- Program Managers</td>
<td>- Salesperson</td>
</tr>
</tbody>
</table>

Mature and well defined roles with clarity of accountabilities

New roles required for new growth mandate.

### CDO

**Defined** for Steward, Owner, Custodian, etc.

**Evolving** Tech roles in Hadoop Admin, etc. More distance to go

**How about** for Growth?
- Monetization
- Partner Value Exchange
- Fintech partnerships
- Digital Partner sourcing
- Marketing Prod dev.
- X-BU prioritization
- Culture/Behavior Transf.
- CEO/exec comms & change
- Emerging techs – AI/ML, IoT data
New roles and skills in org – what’s the equivalent CDO’s talent strategy?

**Example skill requirements**

<table>
<thead>
<tr>
<th>Business roles</th>
<th>Marketer</th>
<th>Product manager</th>
<th>Servicing</th>
<th>Data scientist</th>
<th>Data engineer</th>
<th>Data architect</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical roles</strong></td>
<td><strong>Social Media Co.</strong></td>
<td><strong>Search Co.</strong></td>
<td><strong>Leading Financial Co.</strong></td>
<td><strong>Social Media Co.</strong></td>
<td><strong>Social Media Co.</strong></td>
<td><strong>Social Media Co.</strong></td>
</tr>
<tr>
<td><strong>Marketer</strong></td>
<td>Quantitative background with strong statistical modeling</td>
<td>Computer Science degree with product management experience</td>
<td>Highly analytical skills with a quantitative educational background</td>
<td>Advanced technical degrees with expert knowledge of analysis tools</td>
<td>Technical degree with experience in ETL development</td>
<td>Experience with diverse data platforms, and big data technologies</td>
</tr>
<tr>
<td><strong>Product manager</strong></td>
<td>Traditional Financial Co.</td>
<td>Business education with 5-7 years relevant experience</td>
<td>Online Retail / Market</td>
<td>Quantitative, technical background with advanced data analysis skills</td>
<td>Social Media Co.</td>
<td>Advanced technical degrees with experience in data analysis field</td>
</tr>
<tr>
<td><strong>Servicing</strong></td>
<td>Leading Financial Co.</td>
<td>Masters degree with strong analytical skills</td>
<td>Search Co.</td>
<td>Quantitative degree with Analysis experience</td>
<td>Social Media Co.</td>
<td>Bachelor’s degree with expertise in analysis technologies and scripting languages</td>
</tr>
<tr>
<td><strong>Data scientist</strong></td>
<td>Social Media Co.</td>
<td>Traditional Financial Co.</td>
<td>Online Retail / Market</td>
<td>Advanced technical degrees with expert knowledge of analysis tools</td>
<td>Social Media Co.</td>
<td>Data modeling experience, including data flows and delivery architecture</td>
</tr>
<tr>
<td><strong>Data engineer</strong></td>
<td>Search Co.</td>
<td>Bachelor’s degree with relevant technical experience</td>
<td>Social Media Co.</td>
<td>Technical background with knowledge of analytical tools and scripting languages</td>
<td>Social Media Co.</td>
<td>Bachelor’s degree with expertise in analysis technologies and scripting languages</td>
</tr>
<tr>
<td><strong>Data architect</strong></td>
<td>Leading Financial Co.</td>
<td>Social Media Co.</td>
<td>Online Retail / Market</td>
<td>Masters degree with strong analytical skills</td>
<td>Social Media Co.</td>
<td>Social Media Co.</td>
</tr>
</tbody>
</table>

**Source:** Literature review, industry interviews, PwC analysis
New data and client access models – CDOs drive value exchange

**Traditional pay-for-data model**

- Credit bureaus
- Data processors
- Business partners

**Next-era pay-for-value model**

- Analytics boutiques
- Solution providers
- Digital data owners
- Aggregators
- Social media
- Search

**Value exchange for data**

- Enterprise
  - Ops and analytics
  - Customers/prospects

**Acquire data** to predict segment-level behavior

**Acquire customer-access** to deliver targeted actions

Considerations
The dual mandate drives multiple new support requirements

**Governance & quality**

- **BAU support**
  - Historically: Business leans on CDO for data and analytics
  - Evolving: Self-service culture -- 80% of data needs

- **Special projects**
  - Historically: Heavy data access and analytics skills resident in CDO group
  - Evolving: Much D&A embedded in business

- **Production role**
  - Historically: Calendarized campaigns executed from centralized group
  - Evolving: Always-on campaigns; many through digital partners

- **Advanced analytics and modeling**
  - Historically: Data scientists reside in central group
  - Evolving: Product scientists resident in BUs
Many org models...role, profile, skill, decision rights influenced by this

**Multiple models**

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsibility within the Business line closest to generating and using data</td>
<td>Could lead to siloed data efforts across lines of business</td>
<td>Elevates the importance of data responsibilities and capabilities – similar to technology, financial and other business assets</td>
</tr>
<tr>
<td>An integrated enterprise data office with a senior reporting relationship</td>
<td>Focus of CIO, CFO, COO, etc., could have implications for CDO role</td>
<td>Requires strong commitment and executive buy-in to data at C-suite</td>
</tr>
</tbody>
</table>
It’s not just you – others have to step up too

<table>
<thead>
<tr>
<th>If reporting into...</th>
<th>Will these accountabilities be accepted?</th>
</tr>
</thead>
</table>
| **Chief Information Officer** | • Data quality and business data definitions; holding business accountable  
• Write-backs to “production” environment by end-users |
| **Chief Technology Officer** | • Less-than-production quality standards for data/analytical environment  
• Rapid-release, forever-beta paradigms required in the new model |
| **Chief Analytics Officer** | • Enterprise data quality – going well beyond requirements of analytics function  
• General end-user support and data demands |
| **Chief Digital or Strategy Officer** | • Own the data problem – quality, sourcing, throughput  
• Own analytics capability & data scientists; data sourcing from evolving sources |
| **Chief Marketing Officer** | • Own the data problem – quality, ownership, governance  
• Accountability for technical aspects and analytical function |
Execution
Structuring your roadmap – pivot Control achievements to drive Growth

1. Know what assets you have
2. Open knowledge sharing
3. “Drive” growth-oriented agenda
4. Comms, Change and Funding
5. Cross-functional proficiency

Data savviness in business and IT and vice versa
Business-friendly catalog of data assets, challenges, sources, uses
Democratized access and use of data
Not just data controls and governance, but drive the growth agenda
Lead Change, and harvest X-BU synergies

5 additional disciplines a CDO can champion
For more information

**Ramesh Nair**
Partner, PwC, Financial Services
Leader, Information Management Services
Ramesh.Nair@pwc.com
+1 (609) 577-5005