Adding Value to Data through Innovation
Our Role at TPWD

- Multi-disciplinary backgrounds influence our perspective

- Technological advances are reshaping Analyst’s role into that of a Data Scientist

A Data Scientist is an expert in a primary field (such as Finance, Biology, Marketing, etc.) who also has a strong proficiency in quantitative analysis and computer science.
Funding Conservation

- Federal Funds
- Boat Registration and Titling
- Interest
- Other
- Licenses and Stamps

Total Pie Chart

Legend:
- Federal Funds
- Boat Registration and Titling
- Interest
- Other
- Licenses and Stamps
LURES
(License Utilization and Revenue Enhancement System)

**Goal:** Understand how customer relationships impact revenue

**Mechanism:** Adding value to our data
- Integrate data
- Mine data for insights
WHITBY BREADED GARLIC & GINGER PRAWNS

Large premium prawns wrapped in light, crispy breadcrumbs

250g

Serving Suggestion
Adding Value through Innovation

Identify and fix problems

- Listen to the customer, act on what they tell you
Adding Value through Innovation

**Identify and fix problems**
- Listen to the customer, act on what they tell you

**Improve access**
- Easier to use
- Customized product
- Available through multiple distribution channels
Adding Value through Innovation

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**Improve the user experience**
- Ensure quality and uniformity
- Educate consumer on use of the product
- Customer service
Adding Value through Innovation

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**Improve the user experience**
- Ensure quality and uniformity
- Educate consumer on use of the product
- **Customer service** = *Adoption*
Identify and Fix Problems

• Speed of data retrieval

• Incorrect results

• “One-size fits all” reports
Identify and Fix Problems

- **Speed of data retrieval**
  Optimized SQL queries, better faster servers, improved consumer tools

- **Incorrect results**
  Data quality tested and assured

- **“One-size fits all” reports**
  Reporting can be customized to fit user’s needs and preferences
Benefits of Fixing Problems

- Improved organizational intelligence
- More strategic about our financial reporting and reconciliation
- Better planning for data management
- Developed smart reporting
Benefits of Fixing Problems

• Improved organizational intelligence
• More strategic about our financial reporting and reconciliation
• Better planning for data management
• Developed smart reporting (automated previously manual logical processes into analytic products)
Improve Access

• Data warehoused in a central location *(One version of the truth!)*
• Data extracted and cleaned, then put into customized Data Marts optimized for use
• Data Marts accessible from Microsoft Office, ad hoc querying tools, and web-based reporting
Benefits of Improved Access

• Less time to acquire and validate data
• Users spend more time analyzing, less time preparing data for analysis
• Unified reporting tools into common toolset
• Customized reports
  (Executive Staff, Middle Management, Field Staff have different needs)
• Developed analytic content not previously available
Improve the User Experience

• Designed within familiar interface (MS Office)
• Diversified report outputs to meet user needs
• Eased user customization
• Automated user work flow
• Provide on-going training opportunities
• Provide on-going support
  (technical assistance, Help Desk, etc.)
Benefits of Improved User Experience

• Eased the learning curve
• Users are more effective and efficient with their work day
• Enhanced analytics
• Users are more sophisticated and refined in identifying reporting needs, contribute to improvements
• Morale – users tell us they actually have fun!
Overcoming Challenges

- Change resistance
- Organizational and mental silos
- Documentation
- Staff resources
- Data quality
- Security concerns
- Unrealistic expectations
Maturity Model of Organizational Intelligence

- Centralized storage
- Automated reporting
- Integrated data
- Data exploration and analysis
- Progressive analytics

Value

Investment
Maturity Model of Organizational Intelligence

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Value

Investment

Technology
Maturity Model of Organizational Intelligence

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Value

Investment

Technology

Business Knowledge
Maturity Model of Organizational Intelligence

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Value

Investment

Centralized storage

Progressive analytics

Automated reporting

Integrated data

Data exploration and analysis
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Investment vs. Value
Maturity Model of Organizational Intelligence

Centralized storage

Automated reporting

Integrated data

Data exploration and analysis

Progressive analytics

Value

Investment
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Value

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Location Analytics

![Graph showing population and index values for different locations.](image)

- **Population**: 0, 500,000, 1,000,000, 1,500,000, 2,000,000
- **Index**: 0, 50, 100, 150, 200, 250, 300

- **Areas**:
  - **Developmental**
  - **Industrious Urban Fringe**
  - **Southwestern Families**
  - **Milk & Cookies**
Data Mining

- Integrate Demographics/psychographics
- Customer lifetime value
- Forecasting
- Demand
  - Across product
  - Across place
  - Across time
Achieving Buy-In through Value

- Reliable, consistent high quality
- Differentiated, tailored products
- Ease of access and use
- Satisfying user experience

Word of mouth “Buzz”
Achieving Buy-In through Value

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Word of mouth “Buzz” = Brand Disciples
Questions?

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