

## The Importance of Leveraging Data to Build a Framework for Growth

Lew Sanborne, PhD; Robert P. Tallerico; Jason Langdon





#### **Build a Framework for Growth**





# Practical Insights

# Storytelling with data

Using data to tell a compelling story involves transforming raw data into a narrative that engages your audience, conveys insights, and supports decision-making. Here's a step-by-step guide on how to effectively use data to tell a story

# The goal of using data to tell a story is to engage, inform, and inspire action.







#### Start with Good Data – Data Steward

| Data Access - Ensure there<br>are documented and<br>published processes for<br>granting system access and<br>privileges in the business<br>area.  | Data Classification - Ensure<br>that data is classified as<br>restricted, regulated or public<br>as it relates to the<br>distribution of the data.             | Data Quality – Ensure data is<br>deemed fit for purpose by<br>developing data quality rules<br>and regularly auditing data.<br>Log data issues and work<br>towards the resolution of<br>data issues. |  |  |
|---|--|--|--|--|
| Data Policies – Participate in<br>the development of data<br>polices including data<br>retention, data privacy, data<br>use and data regulations. | Data Sharing – Review data<br>sharing requests and approve<br>or reject.   | Reference and Master Data -<br>Define and review code<br>values / code lists and<br>identify sources of master<br>data.  |  |  |
| Metadata – Define and review<br>business terms and<br>associated attributes<br>including calculations,<br>business rules,                         | Data Stewardship Group<br>Participation - Attend<br>stewardship group meetings<br>and participate in working<br>groups as needed.<br>Subject Mater Expertise - | Data Certification – Review<br>reports and visualization to<br>ensure they are performing<br>as expected and meeting the<br>needs of the business<br>ensuring the data is viewed<br>as trusted.      |  |  |



Subject Mater Expertise -Provide guidance, testing support and validation as data assets, dashboards and reports are built for their area to ensure that they conform to business processes.

## **Future Consideration**

## **Artificial Intelligence**

The impact of AI (Artificial Intelligence) on data analytics has been profound and transformative. AI technologies have revolutionized the way data is collected, processed, analyzed, and interpreted, enabling businesses and organizations to derive deeper insights and make more informed decisions. Here are some key ways AI has influenced data analytics.

RNI



As AI technology continues to evolve, its impact on data analytics is likely to expand further, offering even more powerful tools for businesses and industries to thrive in the data-driven era.

### **Artificial Intelligence**

# Art of the Possible



Automated Data Processing: AI-powered algorithms can automate data collection, cleaning, and integration processes, reducing manual errors and saving time.

Improved Data Analysis: Machine learning algorithms can identify patterns, trends, and correlations in vast amounts of data that might be challenging for humans to detect.

Personalization and Recommendation Systems: AI-driven recommendation engines analyze user behavior and preferences to deliver personalized recommendations.

Natural Language Processing (NLP): NLP enables machines to understand and interpret human language, making it easier to process unstructured data like text documents, social media posts, and customer feedback.

Real-Time Analytics: AI-powered analytics tools can process data in real-time, enabling businesses to respond swiftly to changing trends and make data-driven decisions on the spot.

Automated Insights Generation: AI-generated insights can automatically highlight the most critical findings and present them in a human-readable format, simplifying the decision-making process for non-technical users.

Anomaly Detection: AI algorithms can quickly identify unusual patterns or anomalies in data, which is especially valuable in fraud detection, cybersecurity, and predictive maintenance.

Predictive Modeling: AI can create sophisticated predictive models that forecast future trends, demand, and customer behavior, enabling businesses to proactively plan for challenges and opportunities.

# Developing the right metrics

# 66 We should measure what we value; not value what we can measure.

Author unknown



# 66 What gets measured gets done.

Michael Porter, Harvard University



# Picking the right Data

#### What are the key performance indicators (KPIs)



#### **Key Performance Indicator**

KPIs are commonly acknowledged measurements that are directly related and critical to the mission and fiscal health of the institution. (Large items such as enrollment or student quality



#### **Performance Indicators**

PIs are important measurements that are indirectly related to the mission and support key performance indicators. (Specific items such as applicants or yield.)



#### **KPIs drive strategic enrollment management**

Institution-specific, data-derived measurements that are the foundation for determining the current state of the institution and, when matched with historical comparisons, are relevant for the creation of the situation (SWOT) analyses and overall strategic planning

Reflect effectiveness of broad, cross-departmental cooperation

Are often the most complex, reflecting strategic actions that take considerable time to evolve

Are supported by and dependent on multiple PIs



#### The interplay between KPIs and PIs

KPI: Enrollment – Headcount, FTE, online, transfers, undergraduate, graduate, fulltime, part-time, geographic origin of students, retention and graduation rates.

KPI: Student Quality – Average ACT / SAT scores (and  $25^{\rm th}$  –  $75^{\rm th}$  percentile), average high school GPA, average college GPA, rank in class; first gen, Pell eligible

KPI: Program Quality – NSSE or SSI results, student outcomes, capstone course results, placement or licensure exam results, program retention and graduation rates, average class size, undergraduate and graduate research, alumni survey results data

KPI: Market Position – Program awareness, web site traffic, name recognition, market penetration analyses, institutional image studies, employer survey data

KPI: Fiscal Health & Student Finance– Gross and net operating revenues, auxiliary income, expenditures by broad category, net tuition by student and program, registration holds, default rate





## **DO operationalize**

#### DON'T reinvent the wheel



- If your system has performance funding metrics...
- If your institutional strategic plan has already defined broad KPIs...
- Determine leading Performance Indicators (PIs)...
- Place current metrics into historical and comparator contexts...



## The Ansoff growth strategy matrix as frame

|                  | Existing<br>Programs/Services | New<br>Programs/Services |
|------------------|-------------------------------|--------------------------|
| Existing Markets | Market<br>Penetration         | Program<br>Development   |
| New Markets      | Market<br>Development         | Diversification          |

Ansoff, I.: Strategies for Diversification, Harvard Business Review, Vol. 35 Issue 5, Sep-Oct 1957, pp. 113-124



#### In program development, strive for the sweet spot



## For academic and co-curricular programs, know which programs are in which quadrant

|   | Net Operating Income Per Student |                      |  |
|---|----------------------------------|----------------------|--|
| Enrollment<br>as Percent<br>of Capacity | Manage                           | Sustain or<br>Expand |  |
|   | Reduce<br>or Eliminate           | Grow                 |  |



# A rubric for classifying academic program demand and market share





# 66 In God we trust; all others bring data.

W. Edwards Deming



#### Using KPIs to create meaningful metrics

# How do metrics fit in?

**Metric**: a measure of quantitative assessment commonly used for assessing, comparing, and tracking performance or production

#### KPIs

- A type of metric but the ones that have the most impact on your institution
- Typically measures the major goals; an end in itself
- Ask: where do we want to end up?



To

#### **Metrics**

Measure ongoing business processes Hitting metrics are not the goal in themselves Ask: are we making progress towards the goals? Metrics are like gauges on a dashboard



# Characteristics of good metrics:

#### **Relevant**:

- A good metric should directly lead to the KPI it is being used to measure
- Yield rate and enrollment

#### Measurable/Quantifiable:

- A metric should be easy to measure numerically.
- Quantitative vs. Qualitative

#### Understandable:

• The metric should be easy for anyone to understand and see how it relates to the KPI

#### Agreed Upon:

• There should be broad consensus that a metric makes sense and can be measured based on current business practices



# How do we identify meaningful metrics?

Metrics measure the success of whether our standard business practices move us towards our defined KPIs:



#### Metrics can help:

Determine whether an activity gets us closer to achieving KPIs

Provide goalposts along the way towards achieving the overall KPI

Provide information on how to adjust business practices to better achieve KPIs



## **Questions to ask:**

#### Start with the KPI

Connect a KPI with business processes (the daily/weekly things we do):

- Events
- Recruitment activities
- Outreach/Communications
- Application processing

What is the goal (KPI)?

What business processes/activities relate to the goal?

How does each activity relate to the goal?

What are the key components of each activity?

What are the measurable mileposts for each activity component?

Does each metric help determine if we're making progress towards the goal?



KPI: New Student Enrollment Metrics: The enrollment funnel

#### Metrics:

- # of prospects
- Inquiry Conversion Rate
- # of Inquiries
- Applicant Rate
- # Applicants
- Admit Rate
- # of Admits
- Yield Rate
- # of Deposits
- Melt Rate





#### **KPI: New Student Enrollment**



#### Metrics: Email marketing metrics

#### Metrics:

- Delivery Rate
- Open Rate
- Click Rate
- Bounce Rate
- Conversion Rate



Note: None of these are ends in themselves. They measure progress towards the ultimate goal.



#### RNL Engagement Campaign Report

| Folder        | RNL                          |
|---------------|------------------------------|
| Current as of | 10/24/2022 at 05:36:25 PM ET |
| Status        | Completed successfully.      |

**Delivery Summary** 



| Metric                            | Total Sent | Bounces | Unique Opens | Open Rate | Unique Clicks | Click Rate | Opt-Outs |  |
|-----------------------------------|------------|---------|--------------|-----------|---------------|------------|----------|--|
| Application Generation Campaig    | IN         |         |              |           |               |            |          |  |
| RNL Apply 01: E1: Thank you/Wel   | 981        | 132     | 446          | 45%       | 41            | 4%         | 11       |  |
| RNL Apply 02: T1: Apply           | 248        | 33      |              | 96        |               | 96         |          |  |
| RNL Apply 03: E2: All about MTU   | 918        | 133     | 369          | 40%       | 19            | 296        | 8        |  |
| RNL Apply 05: E3: Goals           | 893        | 135     | 350          | 39%       | 15            | 2%         | 10       |  |
| RNL Apply 09: E4: Advancement     | 840        | 130     | 328          | 39%       | 17            | 2%         | 3        |  |
| RNL Apply 12: E5: Financial Aid   | 835        | 132     | 253          | 30%       | 7             | 196        | 7        |  |
| RNL Apply 20: E6: Quality and Co  | 796        | 132     | 226          | 28%       | 3             | 96         | 6        |  |
| RNL Apply 25: E7: Job Outlook     | 770        | 131     | 296          | 38%       | 9             | 196        | 4        |  |
| RNL Apply 27: T2: Apply           | 154        | 22      |              | 96        |               | 96         |          |  |
| RNL Apply 30: E8: Start your app  | 754        | 127     | 245          | 32%       | 8             | 1%         | 3        |  |
| RNL Apply 40: E9: Request for Co  | 656        | 95      | 207          | 32%       | 6             | 196        | 4        |  |
| RNL Apply 45: E10: Request for C  | 627        | 86      | 159          | 25%       | 4             | 196        | 4        |  |
| RNL Apply 60: E11: Request for C  | 539        | 67      | 141          | 26%       | 2             | 96         | 2        |  |
| Total                             | 9011       | 1355    | 3020         | 34%       | 131           | 196        | 62       |  |
| Application Completion Campaig    | jn         |         |              |           |               |            |          |  |
| RNL Complete 01: E01 Applicatio   | 12         |         | 6            | 50%       | 1             | 896        |          |  |
| RNL Complete 01: T01 Confirmati   | 67         | 1       |              | 96        |               | 96         |          |  |
| RNL Complete 03: E2 Tuition and   | 67         |         | 36           | 54%       | 10            | 15%        |          |  |
| RNL Complete 05: E3 Job Outlook   | 63         |         | 43           | 68%       | 11            | 17%        |          |  |
| RNL Complete 09: E4 Time Com      | 52         |         | 27           | 52%       | 5             | 1096       |          |  |
| RNL Complete 12: E5 The MTU Di    | 47         |         | 32           | 68%       | 6             | 13%        |          |  |
| RNL Complete 20: E6 Stuck         | 41         |         | 26           | 63%       | 6             | 15%        |          |  |
| RNL Complete 30: E7 Financial Aid | 38         |         | 14           | 37%       | 1             | 3%         |          |  |



# Questions?

Lewis Sanborne Lewis.Sanborne@ruffalonl.com Robert P. Tallerico Robert.Tallerico@ruffalonl.com Jason Langdon Jason.Langdon@ruffalonl.com