



8th Annual Super Conference

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Leading the Way

Surveying the Audit Landscape

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My Background

- Director, Center for Internal Auditing Excellence, UTD
- 15+ years Internal Audit experience
- Public Accounting / Industry
- MBA (Cohort) and MS, Accounting – UT Dallas
- BA, History, Minor: Int'l Relations – Lehigh University
- Dallas IIA Chapter Involvement – Officer / Governor
- Dallas IIA Super Conference Chair (2016 – present)
- Fraud Summit Chair (2016-present)
- IIA International: CREA Committee (2017-2019)
- Gleim National CIA Instructor

Objectives

- Develop an understanding of how internal control questionnaires can be used to learn more about your client's internal control environment.
- Identify effective survey techniques for use in implementing an internal control questionnaire.
- Gain an understanding of how to generate insights from your internal control survey responses.

Internal Control Questionnaires

What is an internal control questionnaire (ICQ)?

“An internal control questionnaire is a document which an auditor provides to employees of a company before performing an audit. The questionnaire is useful to determine which areas the audit should focus on.”

<https://bizfluent.com/list-6789730-benefits-internal-control-questionnaire-.html>

INTERNAL CONTROLS QUESTIONNAIRE: GENERAL CONTROL STRUCTURE

CONTROL ASSESSMENT INSTRUCTIONS

THE PURPOSE OF THIS ASSESSMENT

- This assessment is designed to help you assess your company's general controls and your internal controls. Each question addresses global internal controls at a high level. Specific internal control detail will be reviewed during site visits.
- As a result of completing this questionnaire, internal audit can use the information provided in validation of the internal control environment and development of control areas. Each response should be **objective**, therefore respondents should be requested to provide the most accurate information possible that truly reflects current business processes and controls.

HOW TO COMPLETE THIS ASSESSMENT

- The first section allows you to assess your company's general controls. In this section, a general control statement is made. Then for each business process indicated, determine to what extent that control exists (low to high) and mark your response. Then determine to what extent that control is followed, mark your response. If you feel your company has world-class controls in that area, mark the box on the far right side.
- The second section allows you to assess your company's internal controls by business process. Processes are divided by business cycle (e.g., Expenditure cycle, revenue cycle, etc.). For each cycle, several processes are listed with approximately 4-6 statements each. For each statement, determine the level of internal control in that area (low to high), then evaluate the effectiveness and efficiency of that control (low to high). If you feel your company has world-class controls in any of these areas, mark the box on the far right side.
- The last section provides an opportunity for you to identify your top 5 concerns related to internal control weaknesses, and an opportunity to assess this internal control assessment.

HELP?

- For further understanding on specific questions, please contact (insert Contact information).
- Fax or mail completed assessment to (insert Contact information).

GENERAL CONTROLS

The following pages contain general control questions for the areas listed below:

Policies & Procedures
Segregation of Duties
Performance Measures
Management Reporting

For each business process listed, on the following pages:

- Evaluate the extent to which controls exist for each area by marking the corresponding rating scale.

1 Source: www.knowledgeleader.com

<https://knowledgeleader.com>

Internal Control Questionnaires

What is the purpose of using ICQs, i.e. surveys?

- Gain an understanding of the business environment
- Gain an understanding of the client's controls
- Gain an understanding of the client's risks
- Develop efficiencies for audit planning purposes

Internal Control Questionnaires

Form and Function

- A series of questions about internal controls and their application to groups of accounts and cycles.
- Typically a yes, no, "n/a" format
- Questionnaire design facilitates assessment of "no" responses as weaknesses in internal control
- May be administered electronically, paper-based, or through interviews

Internal Control Questionnaires

Advantages

- Quickly isolate potential areas of concern for planning
- Standardized approach across processes
- Can be tailored to specific circumstances
- Improved quality of walkthroughs and interviews

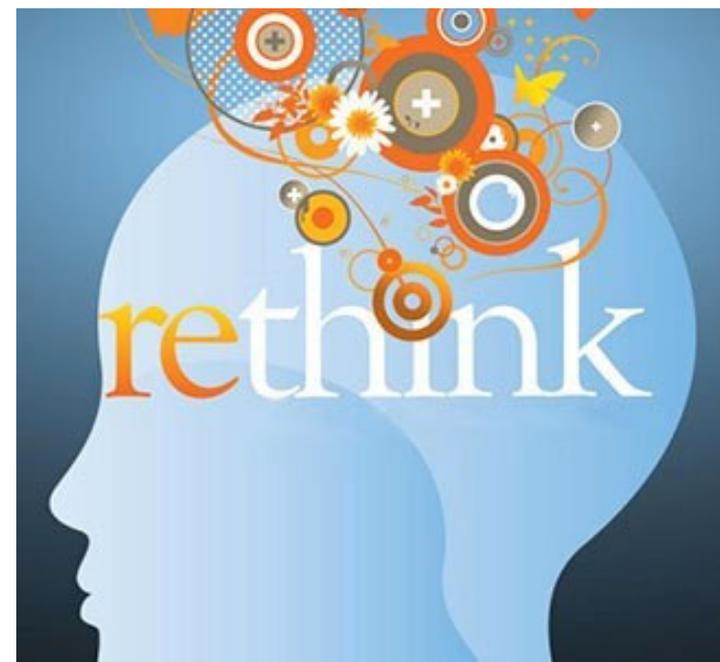
Disadvantages

- Difficult to prepare
- Time-consuming to administer
- Anticipatory responses
- Lack of truthful responses
- Hard to address totality of circumstances
- Not insightful / valuable

Internal Control Questionnaires

So how can we rethink ICQs?

- Rethink our purpose
- Assess our level of focus
- Know our audience
- Incorporate a better understanding of survey methods
- Utilize data analytics techniques



<https://hillaryhelpsulearn.com/rethink-aac-access-and-use/>

Rethinking the ICQ

What can we accomplish and how?

- Identify the purpose
 - Governance considerations
 - Risk assessment
 - Control identification
 - Compliance
- What is the goal? i.e. What is the outcome or outcomes we're trying to examine?

Rethinking the ICQ

Assess the Level of Focus

- Level of Focus
 - Enterprise-wide focus
 - Process-oriented focus
 - Customers
 - Vendors
 - Employees
- Reassess the level of focus in light of the purpose of the survey

Rethinking the ICQ

Knowing the Audience

- Survey purpose will dictate your audience or ***target population*** for ***sampling purposes***
- Potential target populations for sampling include (but are not limited to):
 - Board members
 - Employees
 - Customers
 - Vendors
 - Senior Management
 - Outsourced Services
 - Business segments
 - Business regions

Rethinking the ICQ

Rethinking Survey Methods

Generally, ICQs follow a similar generic approach.....

- Typically a yes, no, "n/a" format
- Questionnaire design facilitates assessment of "no" responses as weaknesses in internal control
- Administered electronically, paper-based, or through interviews

Rethinking the ICQ

Rethinking Survey Methods

That approach masks some challenges

- Illusion of authoritativeness due to “quantitative approach”
 - ICQs generally take an average “value” for each response, however this may not be indicative of whether that value is meaningful
 - Example: Weighted Average approach
 - Assumes validity of measures and generalizability

Weighted Average Method

$$\frac{(\sum SA)*4 + (\sum A)*3 + (\sum D)*2 + (\sum SD)*1}{(\sum SA) + (\sum A) + (\sum D) + (\sum SD)}$$

SA = the number of responses for strongly agree

A = the number of responses for agree

D = the number of responses for disagree

SD = the number of responses for strongly disagree

Rethinking the ICQ

Rethinking Survey Methods

How do we overcome these challenges? Let's reconsider the following the *qualitative* and *quantitative* factors:

- Quality of survey questions
- Question sequencing
- Levels of Measurement
- Scales of Measurement
- Execution time / effort
- Variables of interest
- Nature of inquiry (causal?)
- Descriptive / Inferential

Rethinking the ICQ

Analytical Approaches

Employ a data analytics approach depending upon the type and availability of your data...

- Simple measures of central tendency (**most common ICQ approach**)
- Descriptive statistics (**good but not great, less insight**)
- Inferential statistics (**potential for insight, i.e. value**)

Survey Methodology

Survey Development and Expectations

Considerations when developing a survey include:

- Participant time and effort for completion of survey
 - General rule of thumb: 10 minutes MAX overall
- Individual questions should be clear, concise, and not require maximum cognitive effort
 - Pay attention to the wording of questions to avoid bias
- Individual questions should not be burdensome time-wise
 - General rule of thumb: 10 to 20 seconds for each question response

Survey Methodology

Survey Development and Expectations

Question Types:

- Open ended
- Closed-ended
- Ranking
- Rating
- Likert scale
- Multiple choice
- Picture choice
- Demographic

These are the most common, however other examples may be built depending upon your survey software.

Survey Methodology

Survey Development and Expectations

Quality of Survey Questions: General Considerations

- Avoid leading questions
 - Example: “Should **concerned** control owners document their processes?”
Instead, ask it this way: Do you think control owners should be required to document their processes?
- Avoid loaded questions
 - Example: “In the past 12 months, have you considered leaving the firm?”
Instead, ask it this way: What factors would lead you to consider leaving the firm?

Survey Methodology

Survey Development and Expectations

Quality of Survey Questions: General Considerations

- Avoid double barreled questions
 - Example: How happy or unhappy are you with the rate of payroll increases and the performance compensation policy? *Instead, you could ask it this way:* How happy or unhappy are you with the rate of payroll increases? *And, next question:* What do you think of the performance compensation policy?
- Avoid the absolute question
 - Example: "Do you always review the transaction log during your shift?"
Ask it this way: How many times a week do you review the transaction log?

Survey Methodology

Survey Development and Expectations

Quality of Survey Questions: General Considerations

- Avoid “unclear” questions (iPhone vs. smart phone)
 - Example: Do you use an iPhone to receive company email? *Instead, you could ask it this way: Do you use a smart phone to receive company email?*
- Avoid the multiple answer question
 - Example: " How many times a week do you review the transaction log?" Choices include 5-6 times, 4-5 times, 3-4 times and 1-3 times. *Instead, you could offer the following choices: 6 or more times, 5 times, 4 times, 3 times, and 2 or fewer times.*

Survey Methodology

Survey Development and Expectations

Quality of Survey Questions: General Considerations

- Offer “prefer not to answer”
 - Always offer this choice if you anticipate that eliciting a response may cause the respondent to feel uncomfortable or potentially drop out of the survey
- Include all possible answers
 - Not including all possible answers also creates bias. If you are unsure of all the options, you can always add “other” as a choice.

Survey Methodology

Survey Development and Expectations

Quality of Survey Questions: General Considerations

- Use Accurate Scales
 - Example: “Please rate your customer service experience.” and the choices are as follows: Excellent, Great, and Good. *Instead, you need to offer these choices: Poor, Needs Improvement, Neutral, Good, and Excellent.*
- Survey Structure (Sequencing)
 - The way you structure your questions from one to the other can also bias respondents. Study and test your survey to root out poor structure. For example, ask your more personal or in-depth questions at the end to avoid survey dropout.

Survey Methodology

Survey Development and Expectations

Scales of Measurement

1. Dichotomous

- “Yes/No” “True/False” “Agree/Disagree”

2. Rating / Ranking Scales

- “1-10” “1-5” “Likert Scale - > “SD, DA, N, A, SA”

3. Semantic Differential Scales (sliding scales)

Inexpensive _____|_____ Expensive
Effective _____|_____ Ineffective
Useful _____|_____ Useless
Reliable _____|_____ Unreliable

Survey Methodology

Survey Development and Expectations

Levels of Measurement

- Nominal
 - Values are mutually exclusive and exhaustive categories that contain no information about order, rank, distance.
- Ordinal
 - Values are categorical, ordered, but no required metric that reflects the “distance” between the categories.

Survey Methodology

Survey Development and Expectations

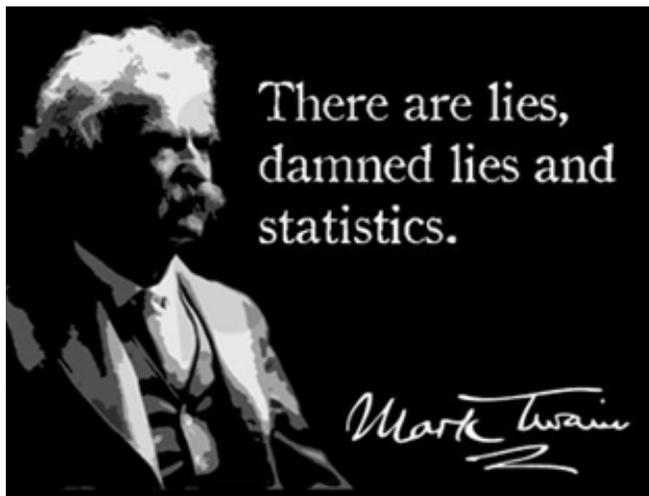
Levels of Measurement

- Interval
 - Values are ordered and with a metric that reflects “distance” between values.
- Ratio
 - Values are ordered, with a metric that reflects “distance” between values, and there exists a “true zero” where 0 means the absence of the thing being measured.

Analytics Considerations

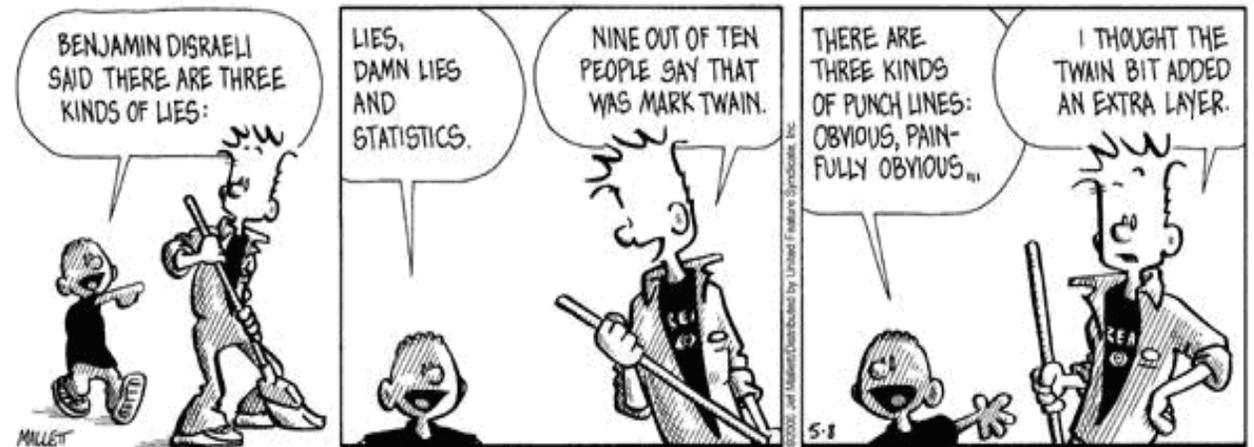
Stats 101 Refresher

Statistics is



by Jef Mallett

May 08, 2006

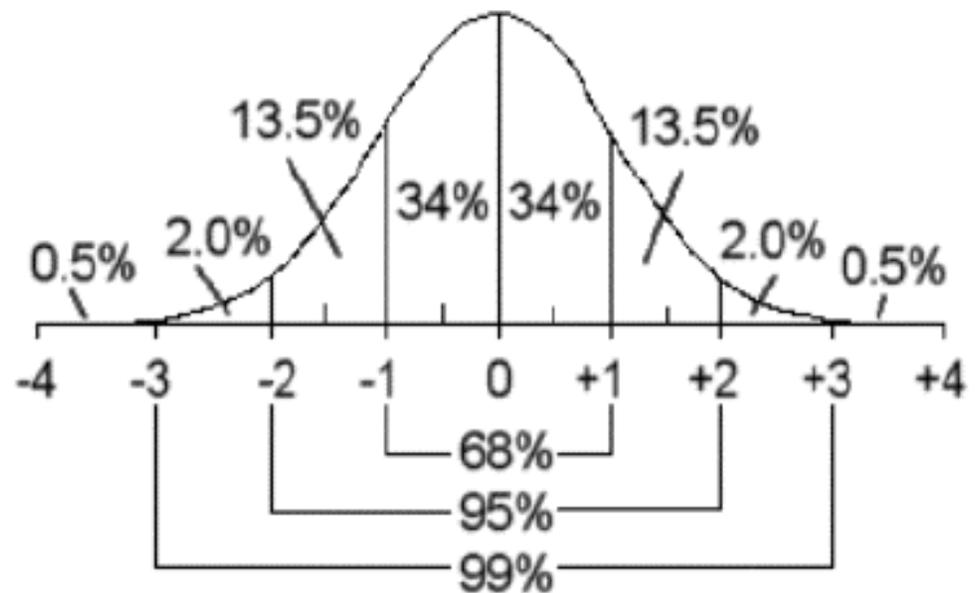


Analytics Considerations

Stats 101 Refresher

The Normal Curve (Distribution)

- The distribution is unimodal
- Symmetrical
- MCT in the same location
- Constant relationship with standard deviation
- Extends from $-\infty$ to ∞
- Total area under the curve is always 1

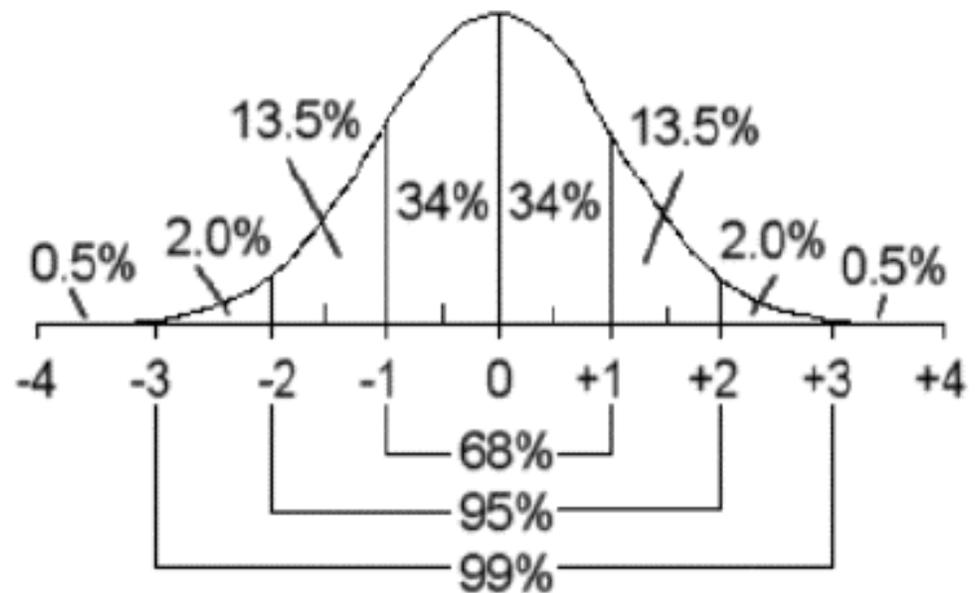


Analytics Considerations

Stats 101 Refresher

Why is the normal curve useful?

- Allows for comparisons of dissimilar quantities
- Allows for rudimentary probability statements

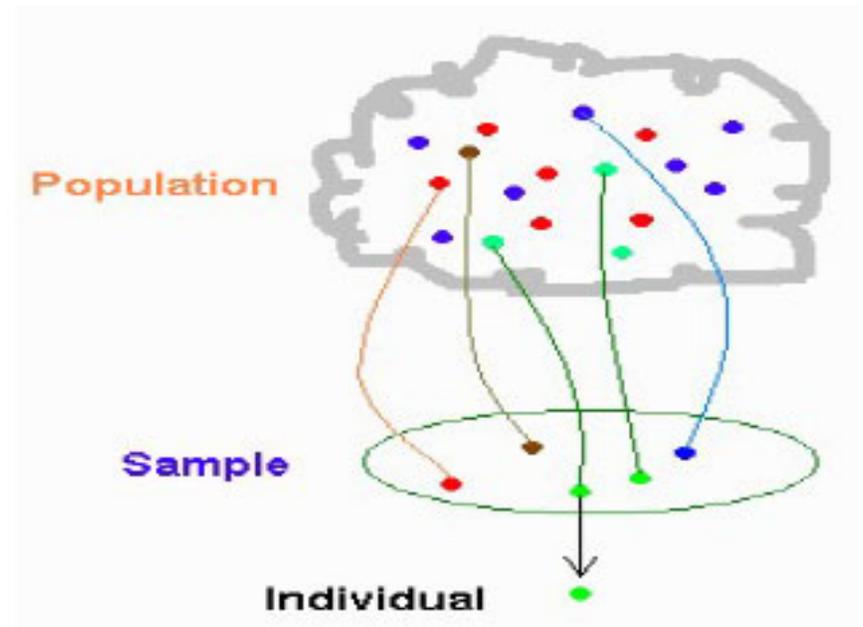


Analytics Considerations

Stats 101 Refresher

Branches of Statistics

- Descriptive
Describes your data
- Inferential
Trying to make generalizations from a sample of few to the general population



Analytics Considerations

Stats 101 Refresher

Sources of Bias for Inferential Statistics and Surveys

- Sample Selection
 - Probability issues (non-randomness)
- Measurement
 - Construct validity
 - Poorly constructed measure
 - Subjects not understanding

Analytics Considerations

Stats 101 Refresher

Beware the “Cult of Statistical Significance”

- Statistical significance doesn't say that something is important or true
- It is probabilistic, i.e. the likelihood of something occurring randomly or by chance



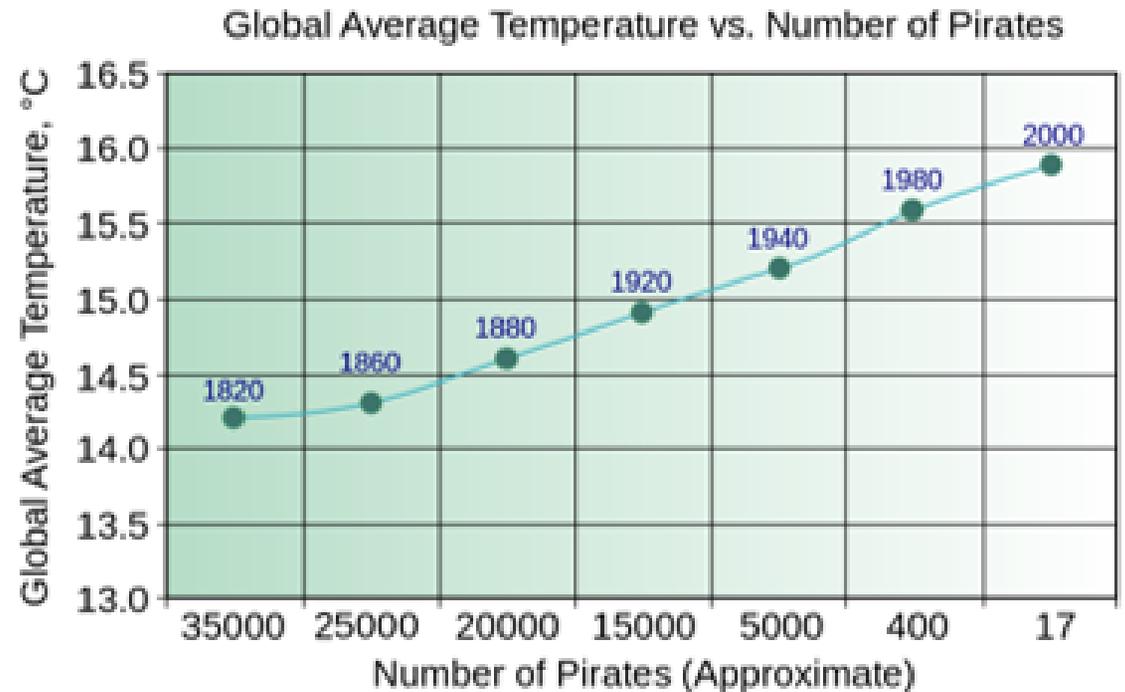
Analytics Considerations

Stats 101 Refresher

Causation vs. Correlation

Correlation is a statistical technique which tells us how strongly the pair of variables are linearly related and change together. It does not tell us the **why** and **how** behind the relationship but it just says the relationship exists.

Causation answers the why and/or how question.



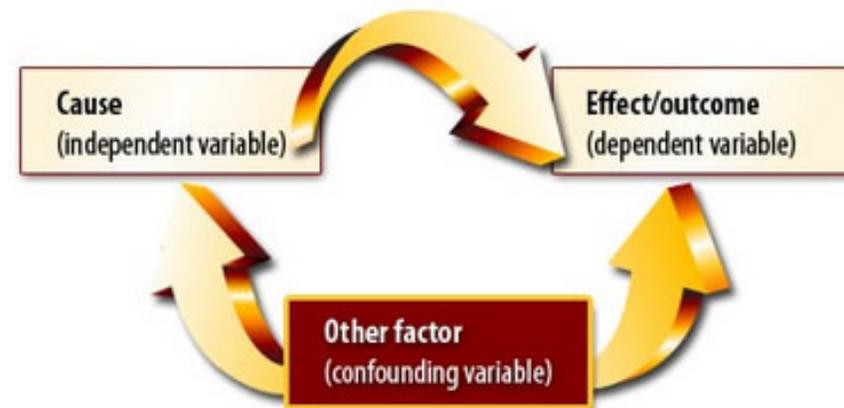
<https://en.wikipedia.org/wiki/File%3aPiratesVsTemp%28en%29.svg>

Analytics Considerations

Stats 101 Refresher

Causation and Temporal Precedence

1. Single most important tool for determining the strength of a cause and effect relationship.
2. Isolating cause occurring prior to effect
3. Ensures internal validity
4. Control for potentially confounding variables



Analytics Considerations

How will we generate insights from our internal control survey responses?

We will use “*Regression*” analysis....

- Method for investigating functional relationships among variables
- Variables:
 - Y is our dependent variable (outcome)
 - Our independent (predictor) variables are given by $X_1; X_2; \dots; X_K$.

Analytics Considerations

Regression

Provided the survey has been designed and administered appropriately, we can build a regression model and use the estimates from this model to assess:

1. The importance of a predictor variable on the DV
2. The predicted value of the DV for a given observation whether it is existing or new
3. The change in the DV as the value of a predictor changes

Analytics Considerations

Example: Internal Control Survey Analytics

Firm: Papa Razzi Ristorante Supply

Motto:

- *“Everything we supply is picture-perfect.....”*

Background:

- Supplier of Italian food staples for restaurants across the U.S.
- Financial struggles – revenues stagnant / low margins
- Employee morale is waning according to mid-level managers
- C-Suite assumes morale is waning due to either lagging compensation

Analytics Considerations

Example: Internal Control Survey Analytics

Firm: Papa Razzi Ristorante Supply

Survey Purpose: Take a COSO based approach to assess state of corporate culture and employee morale. (Governance)

Level of Focus: Employee levels below management level
(Employees enterprise-wide)

Target Population: Employees (we plan to administer electronically across the entirety of the company)

Analytics Considerations

Example: Internal Control Survey Analytics

Firm: Papa Razzi Ristorante Supply

Participants: 4,296 respondents, 26 locations

Scale: (1-5) 1 is strongly disagree and 5 is strongly agree

Questions: COSO based detail, demographic questions, and main inquiries (general).

Analytics Considerations

Example: Internal Control Survey Analytics

General Questions

Q1: How would you rate employee morale? (1-5 scale)

Q2: Am I happy with my job? (yes or no)

Q3: Gender

Q4: Age

Analytics Considerations

Example: Internal Control Survey Analytics

Control Environment

Q1: Managers and employees are sensitive to ethical considerations, the impact on and perceptions of others when making decisions or taking action (1-5 scale)

Q2: An atmosphere of mutual trust and open communication between management and employees has been established within the organization (1-5 scale)

Q3: Personnel turnover impacts my work unit's ability to effectively perform its function (yes or no)

Analytics Considerations

Example: Internal Control Survey Analytics

Risk Assessment

Q1: I have sufficient resources, tools and time to accomplish my objectives (yes or no)

Q2: The objectives and goals of my work unit are reasonable and attainable (yes or no)

Q3: Generally, I do not feel unreasonable pressure to get the job done at any expense (1-5) scale

Analytics Considerations

Example: Internal Control Survey Analytics

Control Activities

Q1: My work is adequately supervised (yes or no)

Q2: Employees who steal from the organization (physical property, money, information, time) will be discovered (1-5 scale)

Q3: My work unit has policies and procedures (yes or no)

Analytics Considerations

Example: Internal Control Survey Analytics

Information and Communication

Q1: A communication channel exists for reporting suspected improprieties (yes or no)

Q2: If I report wrongdoing to my supervisor, I am confident the wrongdoing will stop (1-5 scale)

Q3: Employees who report suspected improprieties are protected from reprisal (1-5 scale)

Analytics Considerations

Example: Internal Control Survey Analytics

Monitoring

Q1: Information reported to management reflects the actual results of operations in my work unit (1-5 scale)

Q2: I know what action to take if I become aware of unethical or fraudulent activity (1-5 scale)

Q3: I am aware that fraudulent activity is occurring within my workplace (yes or no)

Analytics Considerations

Example: Internal Control Survey Analytics

Research Questions of Interest

RQ1: What factors are driving employee morale?

RQ2: What affects job happiness?

RQ3: What's driving employee perceptions about supervisor effectiveness?

RQ4: Are employees claiming awareness of currently ongoing fraudulent activity?

Analytics Considerations

Example: Internal Control Survey Analytics

RQ1: What factors are driving employee morale?

Results:

- Personnel turnover and reasonable goals are significant drivers of employee morale
- Locations: Kansas City, Los Angeles
- Compensation is a minor negative factor
- Minor negative factors – compensation, resource sufficiency, and supervisor effectiveness

Employee Morale	
	<i>Dependent variable:</i>
	Morale of Employees
Job Satisfaction	0.067*** (0.015)
Fair Compensation	-0.094* (0.034)
Supervisor Effectiveness	-0.145* (0.032)
Kansas City office	-0.242* (0.142)
Los Angeles office	-0.308** (0.147)
Ethical Considerations	0.016 (0.020)
Personnel Turnover	1.650*** (0.104)
Sufficient Resources	-0.159* (0.082)
Reasonable Goals	-0.937*** (0.101)
Constant	2.541*** (0.167)
Observations	4,296
R ²	0.689
Adjusted R ²	0.682
Residual Std. Error	1.281 (df = 4263)
F Statistic	13.049*** (df = 32; 4263)
Note:	*p<0.1; **p<0.05; ***p<0.01

Analytics Considerations

Example: Internal Control Survey Analytics

RQ2: What affects job happiness?

Results:

- 3,453 yes, 843 no
- Locations: Houston, Cleveland, Portland
- Compensation not a factor with job happiness
- Gender / Age
- Effective supervision matters

Probit Results	
	<i>Dependent variable:</i>
	Am I Happy With My Job
gender	0.191*** (0.044)
age	-0.008*** (0.001)
Supervisor Effectiveness	0.099*** (0.036)
Fair Compensation	0.005 (0.001)
Cleveland office	-0.422** (0.165)
Houston office	-0.319** (0.161)
Portland office	-0.453*** (0.159)
Constant	0.194*** (0.149)
Observations	4,296
Log Likelihood	-2,082.697
Akaike Inf. Crit.	4,223.394

Note: *p<0.1; **p<0.05; ***p<0.01

Analytics Considerations

Example: Internal Control Survey Analytics

RQ3: What's driving employee perceptions about supervisor effectiveness?

Results:

- Locations: Boston, Chicago, Houston, and Nashville
- Adequacy of supervision not a factor for supervisor effectiveness
- Ethical considerations

Supervisor Effectiveness	
	<i>Dependent variable:</i>
	Supervisor Effectiveness
Ethical Considerations	0.048*** (0.010)
Adequacy of Supervision	0.033 (0.022)
Policies and Procedures	-0.007 (0.008)
Boston office	1.115* (0.067)
Chicago office	1.125* (0.068)
Houston office	1.143*** (0.066)
Nashville office	0.155** (0.067)
Constant	2.143*** (0.065)
Observations	4,296
R ²	0.821
Adjusted R ²	0.814
Residual Std. Error	0.603 (df = 4265)
F Statistic	2.985*** (df = 30; 4265)
Note:	*p<0.1; **p<0.05; ***p<0.01

Analytics Considerations

Example: Internal Control Survey Analytics

RQ4: Are employees claiming awareness of currently ongoing fraudulent activity?

Results:

- Locations: Boston, Brooklyn, Houston, and San Francisco
- Major factors: unreasonable pressures to perform, management sensitivity to ethical considerations, and reporting (actions to take of) of unethical / fraudulent activity

Probit Results for Potential for Currently Ongoing Fraud	
	<i>Dependent variable:</i>
	Fraud Awareness
Managers are sensitive to ethical considerations	0.187*** (0.038)
Unreasonable pressure to perform	0.132*** (0.030)
Channel exists for reporting	-4.434 (76.884)
Reprisal for reporting suspected activity	0.045 (0.037)
Reporting unethical / fraud activity	0.073** (0.032)
Boston office	-0.643** (0.306)
Brooklyn office	-0.440* (0.263)
Houston office	-0.911** (0.290)
San Francisco office	-0.941** (0.424)
Constant	2.519*** (0.228)
Observations	4,296
Log Likelihood	-755.962
Akaike Inf. Crit.	1,573.923
Note:	*p<0.1; **p<0.05; ***p<0.01

Analytics Considerations

Findings Summary for our Example Survey

- Employee morale and job happiness are not significantly impacted by compensation.
- Personnel turnover and reasonableness of goals are leading factors driving employee morale.
- Effective supervision matters. Ethics is a significant driver of this supervision perception.
- Occurrence of fraud perception driven by points 2 and 3....
- Houston.....we have a problem!

Software

- Data Analytics
 - R, Stata, Python, Excel
- Data Visualization
 - Tableau, Power BI, R, Stata
- Survey Tools
 - Qualtrics, Survey Monkey, Survey Gizmo, etc.



Value Proposition

An analytics-based approach to ICQ surveys brings insights to our results by:

- Identifying a probability based understanding of the significance of results (other than by chance)
- Isolate those factors that truly contribute to our variables of interest
- Identifies unique 'hidden' factors. (Houston we have a problem)

Questions?

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