

# The Link Among Faculty Purposes of Reading, Information Seeking Patterns, Aspects of Use, Value and the ROI in Journal Collections

Donald W. King, *Adjunct Professor*  
University of Tennessee  
*Distinguished Research Professor*  
Bryant University

Carol Tenopir  
University of Tennessee  
*Chancellor's Professor*  
*Director of Research*  
*Director of the Center for Information  
& Communication Studies*

Library Assessment Conference  
Baltimore, MD  
October 25-27, 2010



# Topics Covered In the Presentation

- Data collection methods
- Contexts for assessing academic journal collections
- The path to assessing the collection value and return-on-investment
- Examples of the power of the critical incident method

# Data Collection Methods

- Surveys of users of potential users to establish value
- In-depth cost analysis of library resources

## Survey Methods

- IMLS sponsored surveys of five US university faculty and students
- Faculty surveyed by a web-based method ( $n = 1,307$ )
- Students surveyed by asking sampled faculty to distribute a questionnaire and also web-based (not covered here)
- Some topics covered
  - Number of articles read in past month
  - Critical incident of last reading
  - How initially found out about article (time spent)
  - Source of article read (time spent)
  - Purpose of reading
  - Format of article
  - Outcome from reading

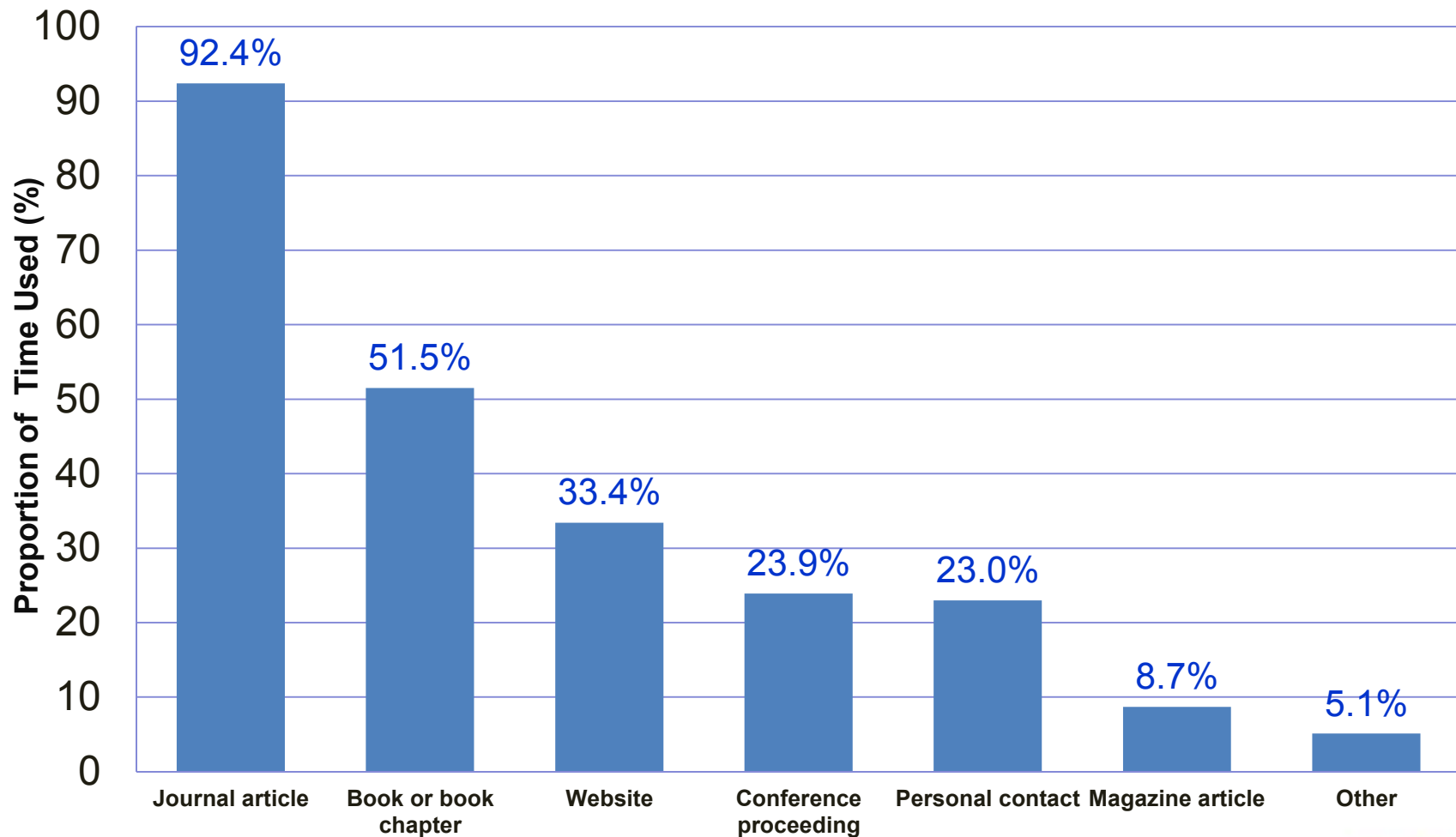
## In-depth Cost Study

- Conducted at the University of Pittsburgh
- Also done at ten other universities (Ithaca-Schonfeld, et al.)
- Examined cost of five journal collection services:
  - Access to the electronic collection
  - Access to the current periodicals collection
  - Access to the in-library shelved collection
  - Access to the off-site collection
  - Interlibrary lending and borrowing
- Allocated resources to 67 activities: staff, space, shelving, workstations, systems, equipment, etc.

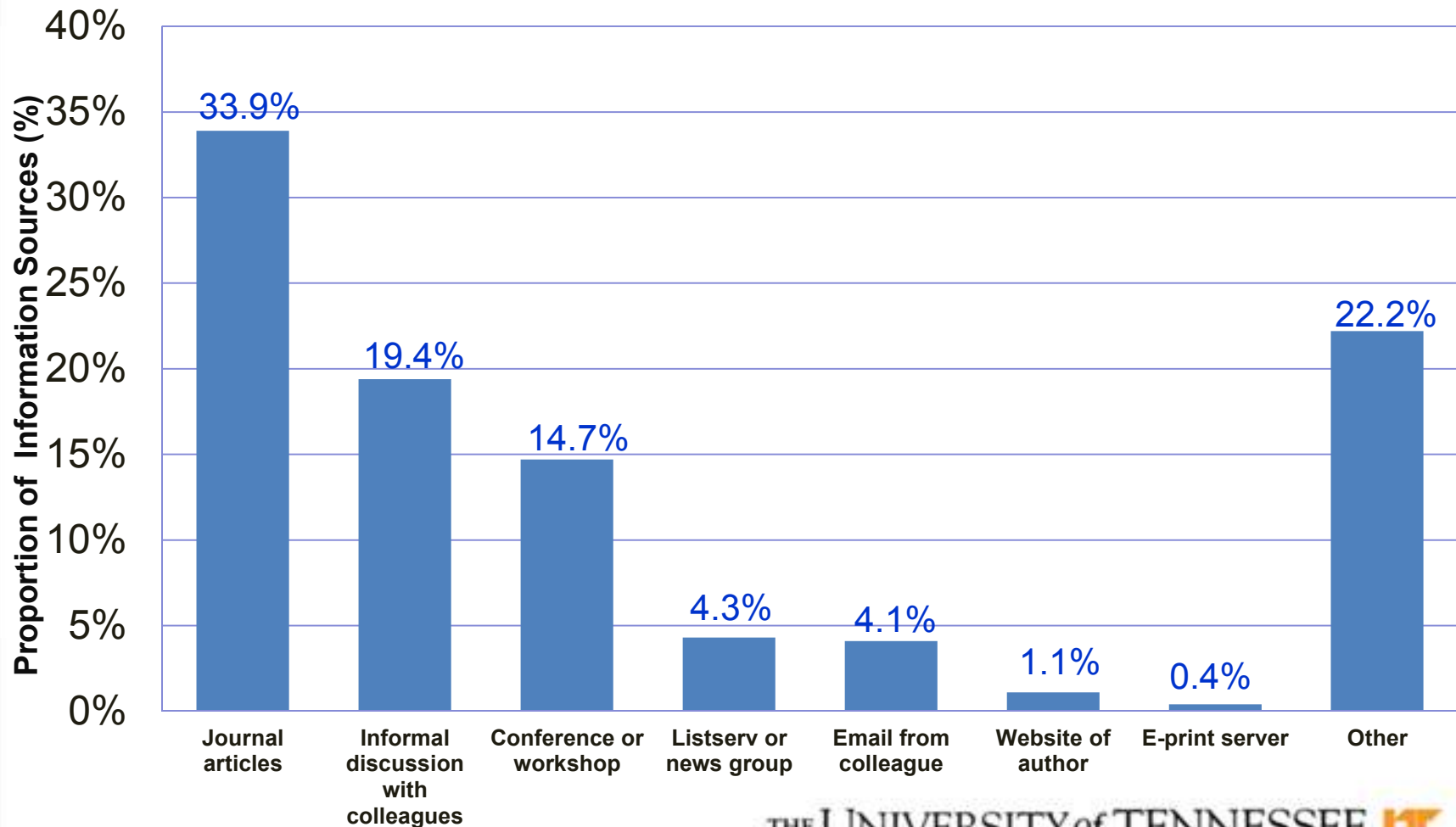
# Contexts For Assessing Academic Journal Collections

- What sources did you use for the last substantive piece of information you used for work?
- Prior to your first reading of this article, did you know the information reported or discussed in this article?
- If yes, how did you first find out about the information?
- From what source did you read this article?

# Information sources used

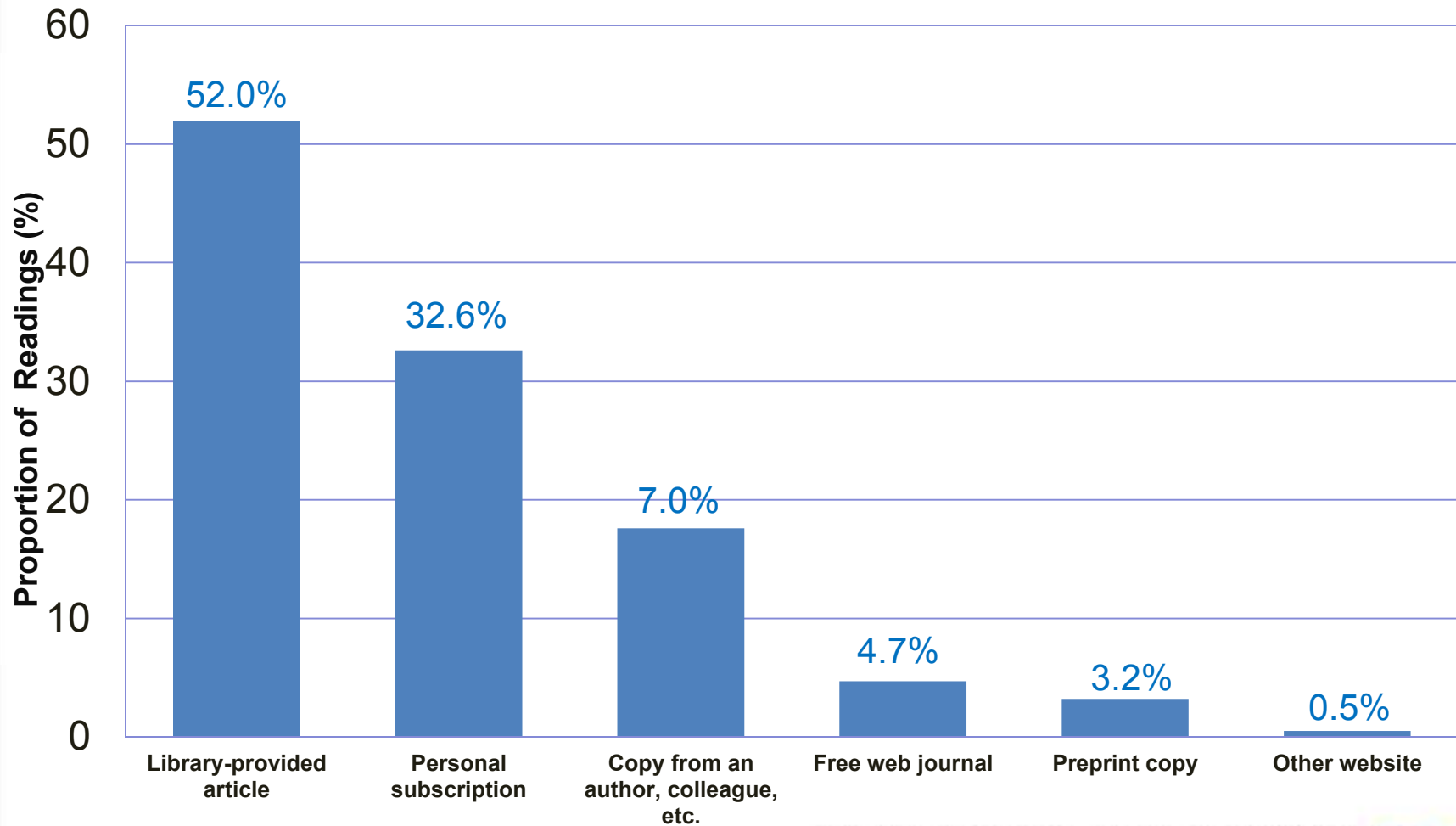


# How faculty first became aware of information found in articles





# Where articles are obtained

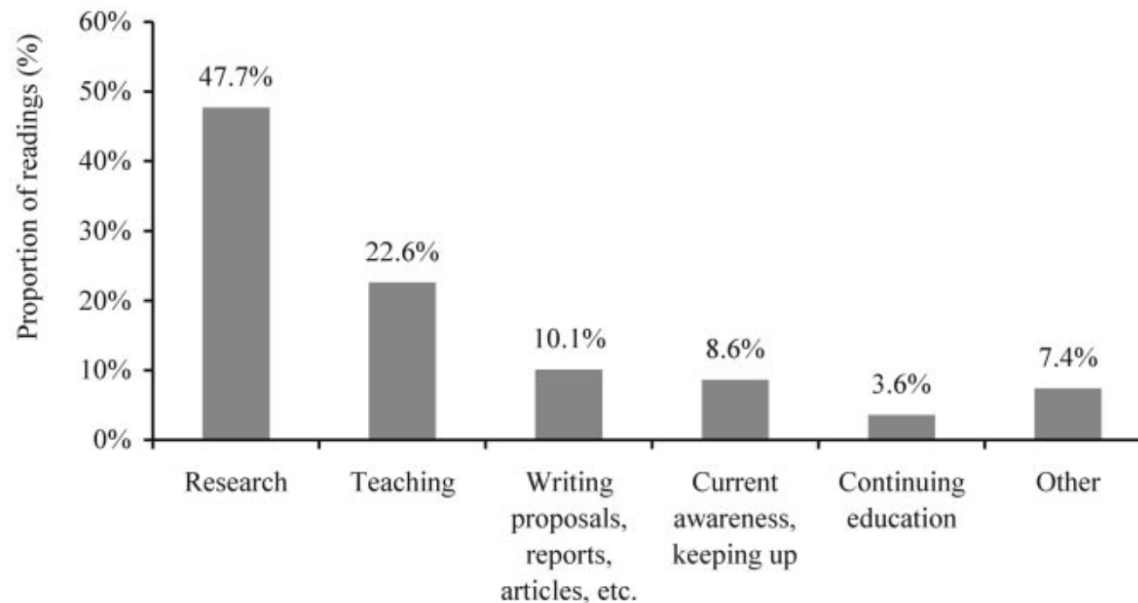


## The Path To The Outcomes Or Value From Using The Library Journal Collections

- Purposes or reasons for reading articles (e.g., research, teaching, current awareness)
- ↓
- Information seeking behavior (e.g, identifying articles, obtaining them, choosing the format)
- ↓
- Article use (e.g., how much reading, time spent reading, age of articles read)
- ↓
- Outcomes/value of reading (e.g., inspire new thinking/ideas, increased productivity, achievers read more, contingent valuation)

↓  
Return component of ROI

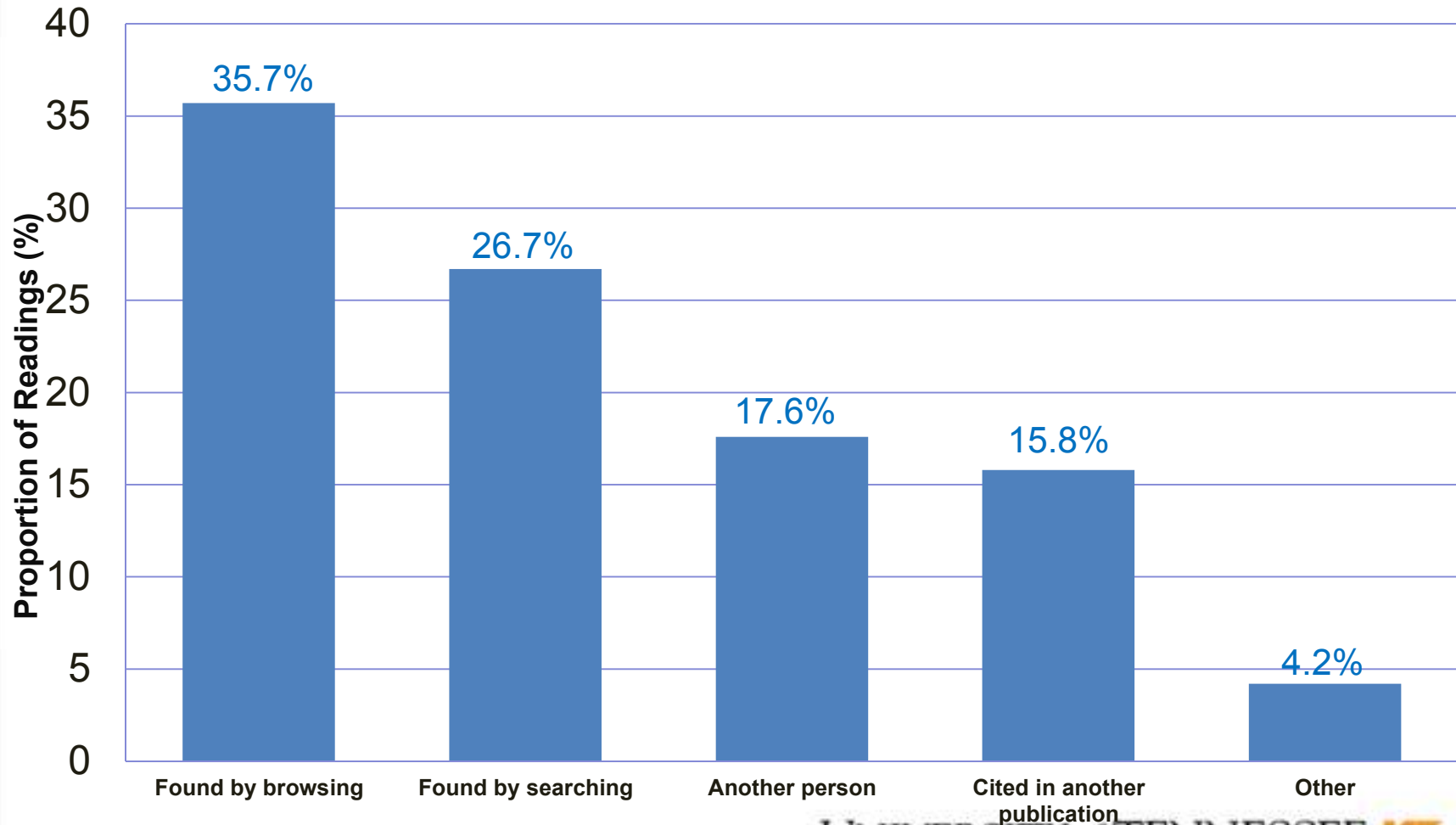
## Principal purpose of reading the last article ( $n = 1,062$ )



# Researcher information seeking behavior involves...

- Choosing from among information sources
- Establishing ways in which journal information is identified
- Choosing online search sources
- Determining where to obtain articles
- Choosing a format of articles read

# Ways in which journal information is identified





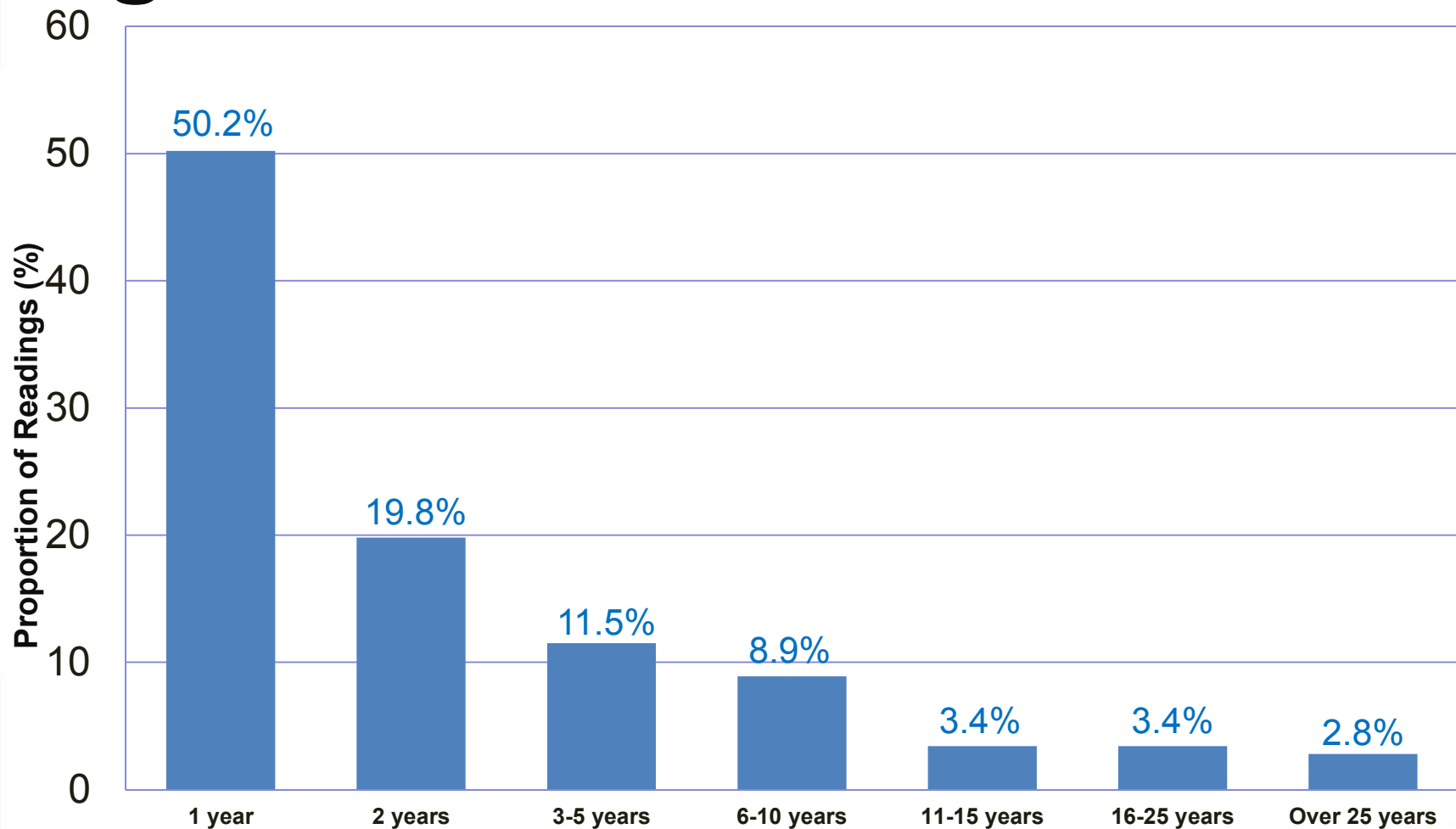
# Format of articles read

	<b>Electronic (54%)</b>	<b>Print (46%)</b>
<b>Personal subscription</b>	<b>9%</b>	<b>91%</b>
<b>Library</b>	<b>70%</b>	<b>30%</b>
<b>Other</b>	<b>95%</b>	<b>5%</b>

## Aspects of Article Use

- Amount of reading: 240 annual readings per faculty
- Time spent reading: 132 hours per faculty
- Age of articles read: 4.1 years old
- Leads to outcomes of reading/value

# Age of articles read





# Two types of value of articles

- **Purchase value:** what researchers are willing to pay for article content in their time and/or money
- **Use value:** the favorable outcomes derived from use of article content

# Purchase value

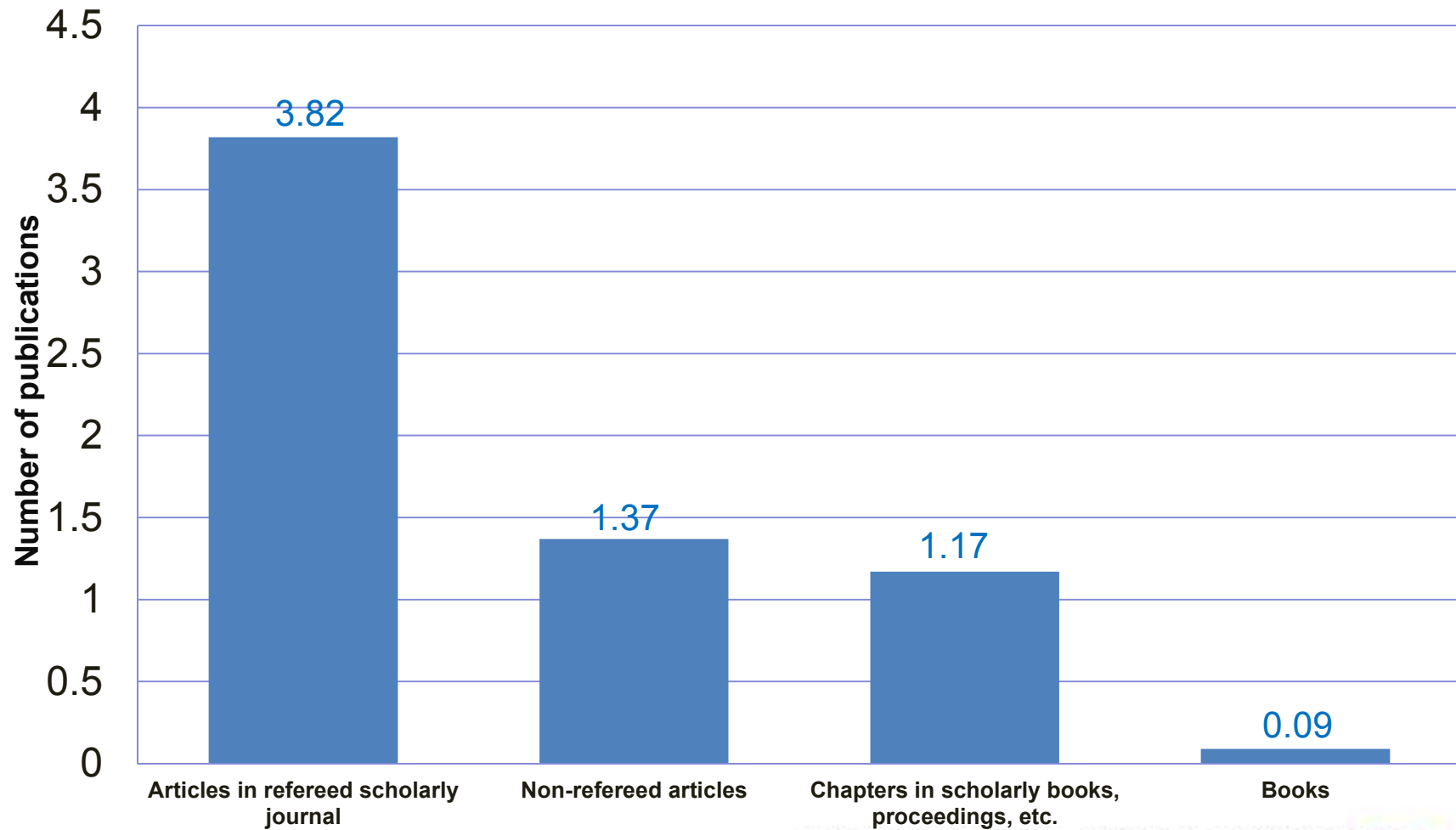
- Average time spent per reading
  - 6.9 minutes per reading spent browsing
  - 5.3 minutes per reading spent searching
  - 33.1 minutes per reading
- Average about 148 hours per year
  - 10 hours spent browsing
  - 6 hours spent searching
  - 132 hours spent reading
- Unknown dollars spent on subscriptions, etc

# Use value of reading

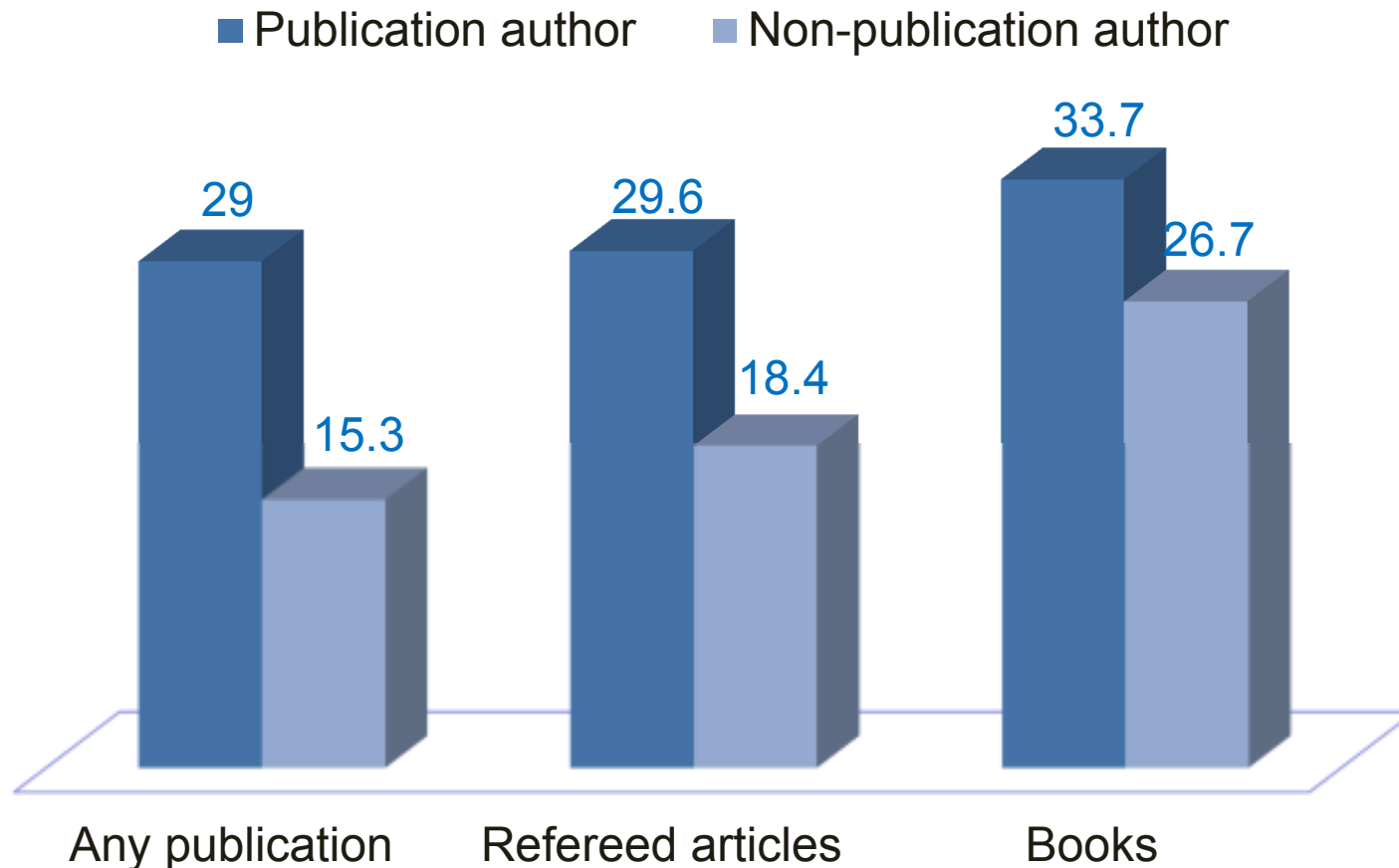
(Faculty in US, n=880)

Inspired new thinking/ideas	(55%)
Improved results	(40%)
Changed focus	(27%)
Resolved technical problems	(12%)
Saved time	(12%)
Faster completion	( 7% )
Collaboration	( 6% )
Wasted my time	(<1%)

# Indicator of faculty productivity



## Faculty who publish more tend to read more per month (i.e., be more productive)



# Achievers read more

- Number of readings: achievers (276 readings), non-achievers (222 readings)
- Hours spent reading: achievers (159 hours), non-achievers (119 hours)
- Time per reading: achievers (35 minutes), non-achievers (32 minutes)

# Contingent Valuation

- Contingent valuation is an economic method used to assess the benefits of non-priced goods and services, by examining the implications of not having that product or service
- In this case the service is access to the library journal collection

## Contingent Valuation Question

- Thinking back to the source of the last read article [here only library-provided articles], where would you obtain the information if that source [library collection] were not available?
  - (a) I would not bother getting the information.
  - (b) I would obtain the information from another source.  
Please specify the source \_\_\_\_\_
- If (b) is checked:  
In order to obtain the same information, if this source were not available, I would expect to spend \_\_\_\_\_ minutes of my time and/or \$ \_\_\_\_\_. (If the answer is zero, please enter “0” instead of leaving blank



## Survey Results (University of Pittsburgh)

- 125 readings from library-provided articles
- Faculty indicated that they would look for another source for 99 of these readings
- They spend 3.0 hours per year searching, 3.4 hours browsing, and 6.4 hours in obtaining useful citations as well as, photocopying, downloading and printing articles (12.8 hours total)

## Survey Results (University of Pittsburgh) (cont.)

- At an average of \$55 per hour in salaries and benefits, etc. the current cost to faculty is \$704 and it costs the university about \$65 per faculty in photocopying, downloading and printing (\$769 total)
- The cost of obtaining alternative sources of information is 59 hours in time (\$3,245) and \$990 in subscriptions, travel, communications, etc
- The net benefit is \$2,541 in time and \$925 in other costs or \$3,466 per faculty member

# Return-on-Investment in Library Journal Collections

- Return:
  - Favorable outcomes
  - Saves faculty \$3,466 annually per faculty
- Investment:
  - \$283 per faculty cost to the library
  - \$704 per faculty in obtaining articles
  - \$65 in other university costs
  - \$1,052 per faculty total
- Return-on-Investment:
  - $\$3,466 \div \$1,052$
  - 3.3 to one

# Advantage of the Critical Incident Method

- Typical question
  - Rate your satisfaction with online searches
  - Problem is that each search is different and this gets lost
- Allows one to combine answers through cross-analysis:
  - Can establish age of articles read from library versus personal subscription that are read for research or to keep up
  - Can establish time spent reading for research versus teaching from library versus personal subscription (thus providing indicators of value for library-provided readings)

## Examples of Critical Incident of Library-Provided Articles

- Library-provided readings: 125
- Purpose of reading:
  - Research: 64.5%
  - Teaching: 47.2%
  - Current awareness: 37.8%
- Means of identification:
  - Browse: 37.6%
  - Search: 74.8%
  - Citation: 61.9%
- Time spent reading: 35.4 minutes vs. 30.4
- Age of articles read: 4.8 years vs. 3.0

## An Example of Critical Incident Detailed Cross-Classification

- Total annual readings per faculty: 240
- Readings for research: 47.7% or 114
- Readings for research found by searching: 29.7% of 114 or 34
- Readings for research found by searching and obtained from the library: 76.9% of 34 or 26

## Other Results of Readings for Research Found by Searching and obtained from the library

- Average age: 6.2 years vs. 4.0 for the rest
- Electronic format: 76.0% vs. 51.5%
- Time spent reading: 39.1 minutes vs. 32.4 minutes
- Use value examples:
  - Inspired new thinking: 59.3% vs. 54.7%
  - Improved result: 46.1% vs. 40.0%
  - Faster completion: 13.0% vs. 6.89
  - Contingent value: \$42 per reading vs. \$28
- ROI: 3.6 to one vs. 3.3 to one

**Donald W. King**  
**Adjunct Professor**  
**University of Tennessee**  
**Distinguished Research Professor**  
**Bryant University**  
**[donaldwking@gmail.com](mailto:donaldwking@gmail.com)**