

ARCHIVAL APPROACHES TO QUANTITATIVE RESEARCH IN STRATEGY

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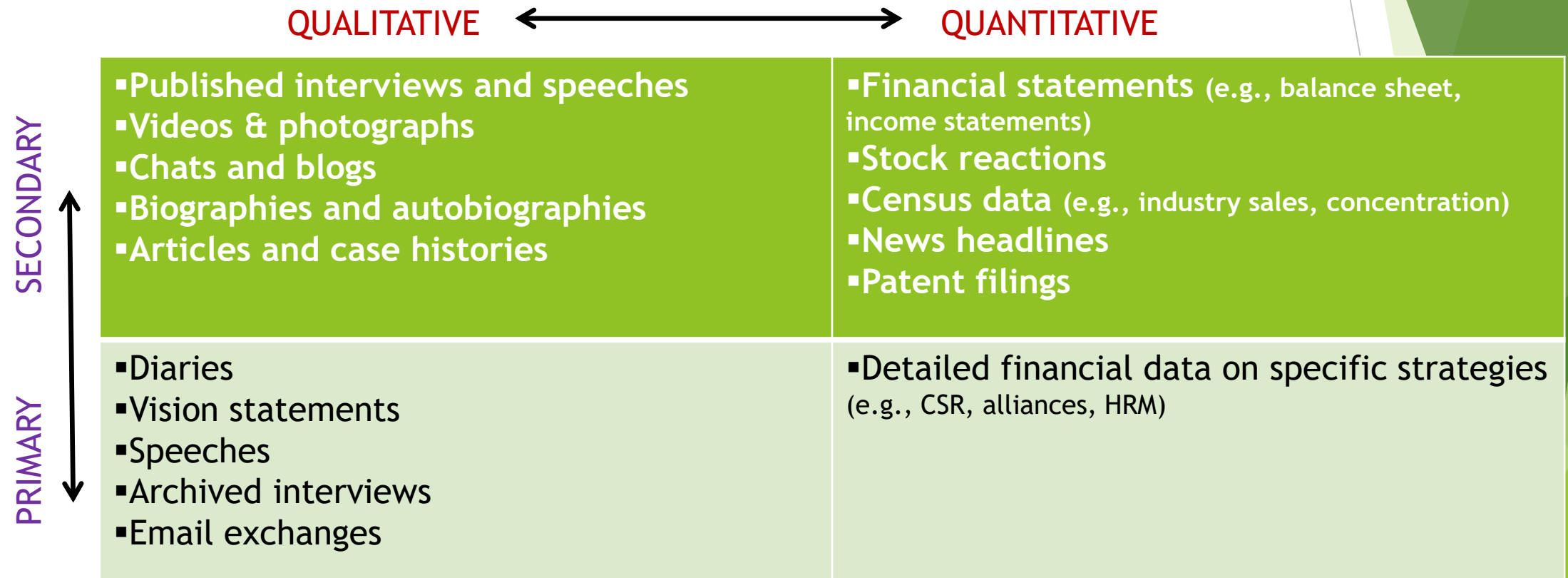
Plan of Workshop

- ▶ What are archival approaches for quantitative research?
- ▶ Why are archival approaches valuable in strategy research?
- ▶ Traditional use of archival approaches
- ▶ Emerging archival approaches: Bridging qualitative and quantitative measurement
- ▶ How can you use archival approach in your own research?



What are archival approaches?

Archival approaches involve post hoc analysis of unobtrusive documentary sources to measure established constructs in strategy



We will be focusing on “secondary” archival approaches

- ▶ **Post Hoc analysis:** “Given” to researchers
- ▶ **Unobtrusive:** No intervention by the researcher
- ▶ **Historical documentary sources:** Most available electronically

Secondary archival Sources

- ▶ Have you used secondary archival sources in your research?
- ▶ Do you plan to use secondary archival sources in your research?
- ▶ Why? or why not?

Why are secondary archival approaches valuable in strategy research?

- ▶ **Ease of access:** Low response rates for primary data(12 - 14 %)
- ▶ **Unobtrusive:** No researcher intervention in data elicitation reduces:
 - **Researcher bias:** priming and reactivity bias
 - **Respondent bias:** social desirability, incomplete memories, hindsight bias
- ▶ **Triangulation:** Use of different sources to measure the same construct to establish reliability
- ▶ **Temporal separation:** Most suitable for longitudinal and panel data designs and strengthens test for causality

Challenges in using secondary archival sources

- ▶ Strategic disclosure issues
 - Attribution bias (Salancik & Meindl, 1984)
 - Lags in reporting negative events (Nadkarni & Narayanan, 2007)
 - Bluffs (Porter, 1985)
- ▶ Media bias
- ▶ Comparability across firms
- ▶ Validity and reliability issues

Traditional use of secondary archival sources

FIRM STRATEGIC BEHAVIORS

- Competitive actions
- Innovation
- Strategic change
- Alliances
- Mergers and Acquisitions

FIRM PERFORMANCE

- ROI, ROA, ROS
 - Sales growth
 - Market share
 - Stock reactions
- Sources
- Edgar database
 - CRSP database
 - Annual reports, 10-K forms

INDUSTRY CONTEXTS

- Industry dynamism (sales uncertainty)
- Industry munificence (sales growth)
- Industry concentration (sales % of the top 4 companies)
- Industry complexity (number of market segments)
- Industry clockspeed

Illustrations of secondary archival sources

Firm behavior concepts	Approach	Potential biases	Reliability
1. Competitive actions: Speed, complexity, intensity	Structured analysis of news headlines Source: Factiva, Lexis-Nexis database	Media bias, coding bias, double-counting	Multiple coders, control for media mentions of firm, removal of duplicate headlines
2. Innovation/search behaviors: internal/external search, near/distant search	Content analysis of patent filings Source: USPTA.gov	Industry differences in patent filings	Single industry studies, endogeneity correction
3. Strategic change	Δ resource allocations: R&D intensity, adv intensity, capital intensity Source: Compustat	Missing data	Mean replacement, selection bias assessment (Heckman's two-step approach)

Emerging research in secondary content analysis: CEO psychology

- ▶ Language and visual images in qualitative narrative accounts can be content-analyzed and converted into quantitative indicators
- ▶ Self-assertions: CEOs' public assertions provide insights into their psychological orientation
- ▶ Others assertions: Others' description and evaluation of CEOs are an accurate reflections of CEOs' innate tendencies

Innovative techniques to bridge qualitative and quantitative data

Physical manifestation of personality

CEO Narcissism(Chatterjee & Hambrick 2007)

Core attributes of narcissistic people:

“I like to be the center of attention” “I am better than others”

Archival measure

Size and location of CEO photographs in Annual reports

Innovative techniques to bridge qualitative and quantitative data

Physical manifestation of personality (Chatterjee & Hambrick, 2007)

High narcissism score: 4.50%

Larry Page, CEO, Google Inc.



Low narcissism score: 0.52%

Jeff Weiner, CEO, Linked-in



Innovative techniques to bridge qualitative and quantitative data

Validity and reliability issues in narcissism measurement

- Triangulation of narcissistic measures
 - i) Photo size and location
 - ii) Use of first person singular words in public assertions
 - iii) pay difference between CEO and second highest paid executive in the firm
- Use of multiple coders to rate each indicator

Inter-rater reliability was high ($\kappa = 0.90$)

Innovative techniques to bridge qualitative and quantitative data

Physical manifestation of social identity (Pratt & Rafaeli, 1997)

Dressing style as a symbolic expression of social identity

Richard Branson, CEO, Virgin Atlantic



Tim Cook, CEO, Apple Inc.



Innovative techniques to bridge qualitative and quantitative data

Histriometrics approach

Analyses of biographical accounts of CEOs presented by third party authors (House & Spangler, 1994; Peterson et al., 2003; Resick et al., 2009; Roberts et al., 2009)

Examples:

CEO big five personality (Peterson et al., 2003): Biographical books

CEO core self evaluation (Reisck et al., 2009): Articles about CEOs of major league baseball published in sports magazines

Innovative techniques to bridge qualitative and quantitative data

Histriometrics approach: Validity & reliability issues

Step 1: Remove firm and CEO identity from the documents so as to avoid rater bias

Step 2: Creation of “adjectives” based on established scales and pre-test validity/reliability of these scales

Step 3: Coder training to establish detailed rules for coding

Step 4: Use of multiple raters and establishing inter-rater reliability

Innovative techniques to bridge qualitative and quantitative data

Psycholinguistic approach

A person's innate tendencies can be accurately evaluated based on the language he or she uses in communication (Pennebacker et al., 2001, 2007)

Analysis of key-words in first-person assertions (Pennebacker et al., 2001, 2007)

Linguistic Inquiry Word Count (LIWC): Valid and reliable dictionaries for psychological concepts

Completely automated process or create customized dictionaries

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CEO temporal focus (Nadkarni & Chen, forthcoming)

The degree to which CEOs characteristically devote attention to the past, present, and future (Shipp et al., 2009)

Data sources

i) LTS ii) published interviews, iii) speeches, iv) press releases signed by CEO

Measures

LIWC past tense, present tense, and future tense scores (Pennebaker et al., 1998, 2001)

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Past focus

“...Although the predictable volume reductions associated with such a price increase did occur, they were more than offset by significant growth in our seasonal candy business...”

-- Kenneth L. Wolfe (Hershey Co.) Letter to Shareholders 1997

Present focus

“...Our task now is to accelerate the growth of our company - and in so doing, to extend ourselves, our hopes, our dreams...” --Charles A. Heimbold (Bristol-Myers Squibb) LTS 1997

Future focus

“...we believe that the AMD-K7 processor will be the highest-performance processor for Windows computing on the market...” --W.J. Sanders III (Advanced Micro Devices) LTS 1999

Innovative techniques to bridge qualitative and quantitative data

Validity and reliability checks

- Manual checks for spurious words: Do the words in LIWC accurately capture past, present, and future focus? Only 1.2% were spurious
- Separate study of 145 MBA students to establish convergent and discriminant validity of LIWC measures: LIWC measures strongly correlated with established scale of temporal focus (Shipp et al., 2009)
- In Confirmatory factor analysis, LIWC and scale measures of past, present, and future focus loaded on the same factor

Innovative techniques to bridge qualitative and quantitative data

Textual analysis software programs

LIWC: <http://www.liwc.net/>

Yoshicoder

- ▶ Provides both excerpted text with the concept marked and
- ▶ quantitative data which is easily imported into statistical analysis packages

(<http://www.yoshikoder.org/vbpro.html>)

Concluding Thoughts

- ▶ Archival sources will continue to play an increasing role in publications
- ▶ Electronic sources have made content analysis of archival sources easy and less labor intensive
- ▶ Rich media and technology will increase the precision of our data

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QUESTIONS????

Thank you, Happy Archiving!!