

Nonprofits' Public Relations Measurement and Evaluation

Jungkyu Rhys Lim
University of Maryland
jklm@umd.edu



Introduction



**What is the current state of nonprofits' public relations measurement and evaluation?
How can we better measure and evaluate communication as well as better use findings?**

**This paper provides an accessible, yet comprehensive introduction
to the current state of nonprofit communication evaluation for professionals and scholars.**

Since the 1970s, the measurement and evaluation of public relations have been one of the top research priorities (Watson, 2008; Volk, 2016). However, despite extensive research and industry best practices, many organizations still have not systematically evaluated their communication activities. For example, researchers today examining measurement and evaluation practices refer to the status of public relations measurement as “stasis” (Macnamara & Zerfass, 2017, p. 319) or “deadlock” (Macnamara, 2015, p. 371), and Pavlik described effective public relations measurement as “finding the Holy Grail” in 1987 (p. 65). The difficulty in measurement and evaluation also applies to nonprofits. Unfortunately, a systematic review of 40 years of academic research found that scholars have been less interested in professional topics, such as practical measurement methods, but more interested in public relations’ overall value and outcomes on relationships and reputation (Volk, 2016).

Nevertheless, the field of nonprofit communication evaluation is well underway. For example, a group of funders, including The Annie E. Casey Foundation, The Atlantic Philanthropies, and The California Endowment, has supported the evaluation of advocacy strategies since 2005 (Morariu & Brennan, 2009). Some researchers and professionals have attempted to employ new methods to measure the economic impacts of nonprofit communication, such as econometric model or marketing mix modeling. Still, despite practical and theoretical importance, the such new communication measurement methods remain little discussed.

This study examines the current state of nonprofit communication measurement as well as use of nonprofits’ measurement data to improve its impacts. First, this paper examines the current state of nonprofit communication measurement by synthesizing existing findings from five recent surveys and a content analysis of 15 years of nonprofits’ reports. Second, this paper explores how the nonprofits can measure their impacts of communication and use measurement data to improve their communication practices. Researchers and professionals have continued their endeavors to develop methods to prove the value of public relations and to improve public relations. By reviewing literature and best practices, the paper offers ways to measure nonprofits’ public relations impacts. Lastly, caveats, debates, and future directions surrounding public relations measurement will be discussed.

Nonprofits' Public Relations Measurement and Evaluation

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Background

Public relations develops beneficial long-term relationships between the organizations and its publics, creating tangible and intangible values (Grunig, 1992, 2006). Research on public relations measurement and evaluation traced back to the late 1950s when Cutlip and Center added evaluation as the fourth step in public relations process, following fact-finding, planning, and communicating, in their second edition of *Effective Public Relations* (1958) (Hallahan, 1993).

In the United States, academia started to pay attention to measurement and evaluation from a conference at the University of Maryland chaired by J. Grunig and Public Relations Review's special issue on "Measuring the effectiveness of public relations" in 1977 (Likely & Watson, 2013). In Europe, Swedish Public Relations Association (SPRA) developed the return on communication model in 1996, yet academics become interested later (Zerfass, 2010).

However, despite interests and importance of measuring and evaluating communication's contribution to the organizational success in practice, a recent systematic review of 40 years of academic research found that scholars have been less interested in professional topics, such as practical measurement methods, but more interested in public relations' overall value and outcomes on relationships and reputation (Volk, 2016).

In this Background, we will review the models and guidance that public relations professionals and researchers can use for their measurement and evaluation.

Background (Cont'd)

1. Identify Key Stages and Multiples Effects - Using Measurement Models

Scholars and professionals developed models of public relations evaluation (Cutlip, Center, & Broom, 1985; Macnamara, 1999, 2012; Noble & Watson, 1999; Watson & Noble, 2007, 2014). All these models identified key stages of measurement and evaluation, drawing from the theory of change and logic models that are widely used in evaluation in other fields (Clark & Taplin, 2012; W. K. Kellogg Foundation, 2006; Knowlton & Phillips, 2013).

In particular, leading professional Walter Lindemann (1993)'s *PR effectiveness yardstick* is especially noteworthy. Lindemann depicted the three stages

- Output: target audience reach, impressions, media placement
- Outtakes: retention, comprehension, awareness, reception
- Outcomes: behavior change, attitude change, opinion change

These three stages are now commonly used (Watson, 2012), while Lindemann omitted input, organizational impact or business results.

Another widely known model is *DPRG/ICV framework*, jointly developed by professionals and scholars from the German Public Relations Society (GPRG) and the International Controller Association (ICV). The DPRG/ICV framework depicts more comprehensive levels of communication effects on stages: input, output, outcome, outflow, and organizational impact or business results. Note that the DPRG/ICV framework includes input and organizational impact of communication.

Identifying multiple effect levels for public relations measurement is important.

Background (Cont'd)

2. Follow Guidelines - Growing Interests in Nonprofits' Communication Evaluation Practice

Public relations professionals interested in measurement and evaluation established measurement initiatives, such as the International Association for Measurement and Evaluation of Communication (AMEC) and the Measurement Commission at the Institute for Public Relations (IPR).

Such organizations also have produced manuals and guides on M&E. For example, The Association for Measurement and Evaluation of Communication (AMEC) developed The Barcelona Principles in 2010, later updated in 2015. The IPR Measurement Commission provides a large literature on the measurement and evaluation (e.g., Carroll & Stacks, 2004).

For the nonprofit sector, recent initiatives have also been undertaken on the specificities of communication evaluation in the non-profit sector. Communication professionals in the AMEC formed the AMEC Non-Profit Group in 2013. The Communications Consortium Media Center (CCMC, 2004) provided guidelines for evaluating nonprofit communication efforts.



The Barcelona Principles is a set of seven guiding principles endorsed by professional organizations worldwide.

1. Goal Setting and Measurement are Fundamental to Communication and Public Relations
2. Measuring Communication Outcome is Recommended Versus Only Measuring Outputs
3. The Effect on Organizational Performance Can and Should Be Measured Where Possible
4. Measurement and Evaluation Require Both Qualitative and Quantitative Methods
5. Advertising Value Equivalents (AVEs) are not the Value of Communications
6. Social Media Can and Should be Measured Consistently with Other Media Channels
7. Measurement and Evaluation Should be Transparent, Consistent, and Valid

Background (Cont'd)

3. Link Communication to Business Outcomes

Public relations researchers and professionals have attempted to apply measurement and evaluation methods and link communication efforts to business results. They suggested two ways of linking communication efforts with financial and strategic outcomes. One is the logical link and the other is the numerical and statistical link.

Logically linking communication efforts with financial and strategic outcomes can be done by measuring each stage. For example, the communication performance management approach (Zerfass, 2010) depicts the stages using the *balanced scorecard (BSC)*. The model sets each stage, sets up key performance indicators (KPI) for each stage, and bridges communication process and business results by logically illustrating the link between the stages.

On the other hand, communication efforts can be numerically or statistically linked to financial and strategic outcomes. Examples are return on investment (ROI) measurement of media-based public relations (Likely, Rockland, & Weiner, 2006) and marketing mix modelling (Weiner, Arnordottir, Lang, & Smith, 2010). These approaches can examine economic impacts of communication and show better use of communication messages and channels, which will be explored more.

**Nonprofits’
Public Relations
Measurement and
Evaluation**

04 Background

08 State of Nonprofits’ Public Relations Measurement

29 Measuring Public Relations’ Impacts

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State of Nonprofits’ Public Relations Measurement and Evaluation

Background

This paper examines the current state of nonprofit communication measurement by synthesizing existing findings from five recent surveys and a content analysis of 15 years of nonprofits’ reports. This synthesis provides a bird-eye view on the current state of nonprofits’ public relations measurement.

Methodology

Synthesizing 3 published surveys, 2 proprietary surveys from Association for Measurement and Evaluation of Communication (AMEC), and a content analysis of 15 years of nonprofits’ reports.

2016 AMEC Nonprofits survey

2017 AMEC Nonprofits survey

2016 State of Evaluation (SoE)

(Morariu, Athanasiades, Pankaj, & Grodzicki, 2016)

2015-2016 Asia Pacific Communication Monitor

(Macnamara, Lwin, Adi, & Zerfass, 2015)

2015 European Communication Monitor

(Zerfass, Vercic, Verhoeven, Moreno, & Tench, 2015)

Communication Evaluation in International Organisations: Methodology, Influence and Use

(O’Neil, 2015)

Online survey

10-to-15 minute
From March 14, 2016 through April 18, 2016
Braun Research

10-to-15 minute
From March 14, 2017 through April 26, 2017
Braun Research

June 13, 2016 through August 6, 2016
Innovation Network

August, 2015
Through Asia-Pacific Association of Communication Directors (APACD) and other professional associations

March, 2015
Through European Association of Communication Directors (EACD) and other professional associations

Content Analysis

Reports published between January 1995 to December 2010.

339 communication professionals in nonprofits

Responsible for communications, measurement, media/public relations or reputation/public image management
The US (62%), The UK (10%), rest of Europe (10%), and all outside of Europe or the US (18%)

323 communications professionals in nonprofits

Responsible for communications, measurement, media/public relations or reputation/public image management
Asia-Pacific (32%), Europe (28%), North America (21%), Latin America and the Caribbean (18%) and Middle East-Africa (2%)

1,124 501(c)3 organizations in the United States

that updated their IRS Form 990 in 2013 or more recently and provided an email address in the IRS Form 990. The team sent invitation to 37,440 organizations and received 1,125 responses. Response rate is 3.0% and the adjusted response rate for the survey is 8.35%.

1,200 communication professionals from 23 countries in Asia-Pacific

working in corporations, non-profits, governmental organizations and communication agencies in Asia-Pacific

2,253 communication professionals from 41 countries in Europe

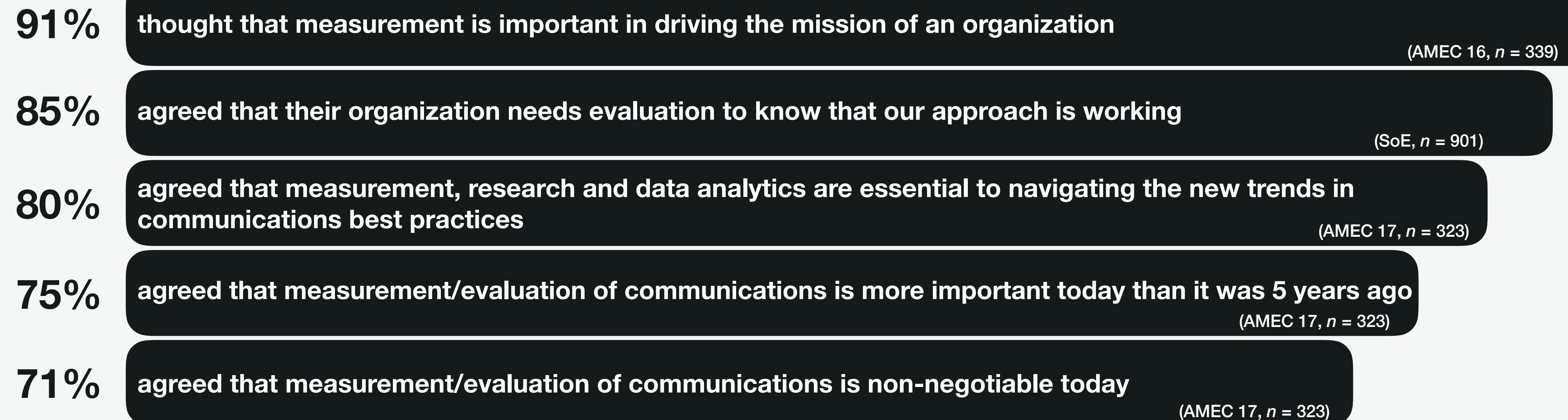
working in corporations, non-profits, governmental organizations and communication agencies

230 international and non-governmental organizations

Final samples include **46 reports** on 46 distinct communication activities of 22 organizations and four coalitions

1. Importance of Measurement and Evaluation

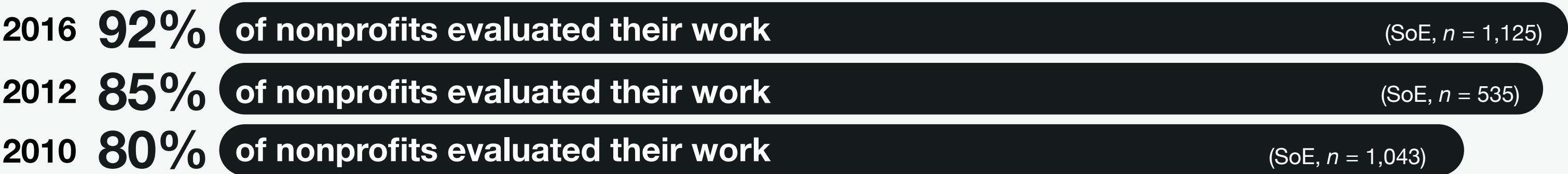
Most nonprofit organizations and nonprofits' communication professionals value measurement and evaluation.



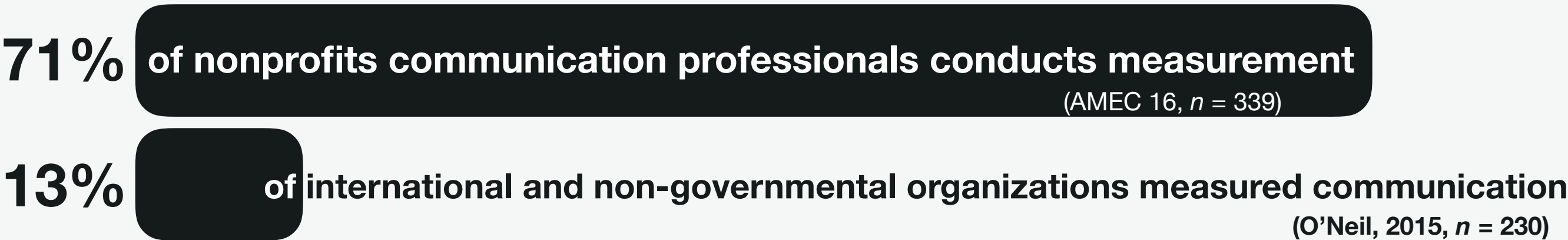
2. Communication Measurement and Evaluation

Most nonprofits measure their work.
However, fewer nonprofits measure their communications.

Nonprofits



Nonprofits' Communication



Interestingly, the survey and content analysis results showed mixed findings for nonprofits' communication measurement. The mixed results may indicate a gap between nonprofits public relations professionals' perceptions and their practices in public relations measurement and evaluation.

Note that the evaluation reports mostly focused on program-level assessment. The results may also indicate that communication measurement may be conducted differently at the program level and at the organizational level. Still, the number is surprisingly low given that these organizations are relatively well-funded and large sized ones, such as *European Union*, *United Nations*, *CARE*, and *Oxfam*.

3. What to Measure

3.1. Nonprofits.

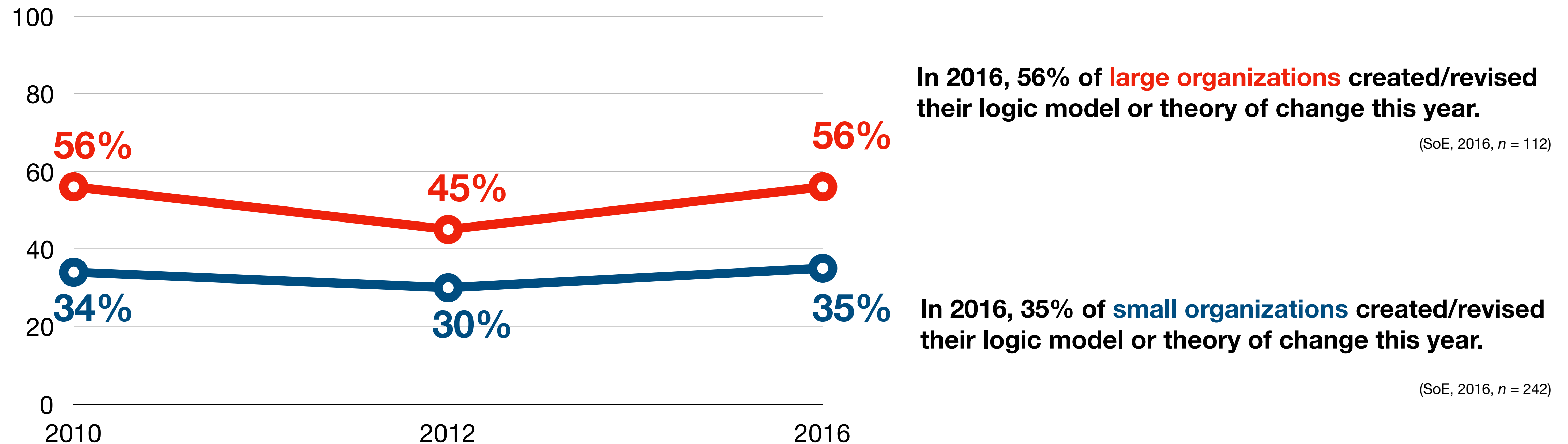
About half of nonprofits designed logic models.

Logic models and theories of change are common tools used by organizations to guide evaluation design and practice.

Since 2010, more large organizations have created or revised their logic model/theory of change.

58% of organizations have a logic model/theory of change.

44% of organizations have created or revised a logic model/theory of change in the past year. (SoE, $n = 812$)



3. What to Measure

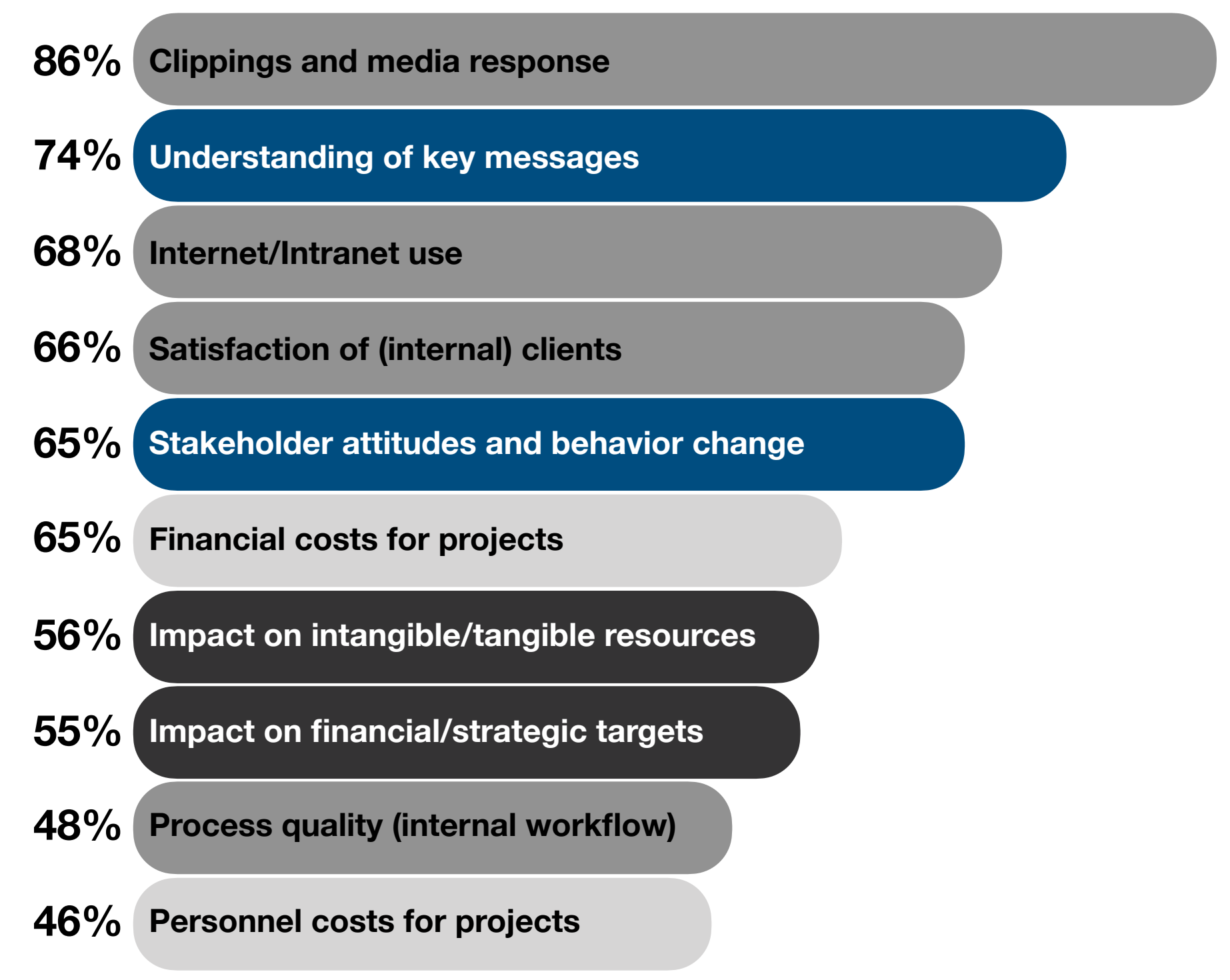
3.2. Communication

Communication professionals mostly measured metrics focusing on output, or how many mentions they achieved. On the other hand, attitude change or financial and strategic impacts were less measured.

- Input
- Output
- Outcome
- Outflow

Items monitored or measured to assess the effectiveness of communication management

Asia Pacific



(AP, 2015, n = 847 PR professionals in communication departments).

Europe

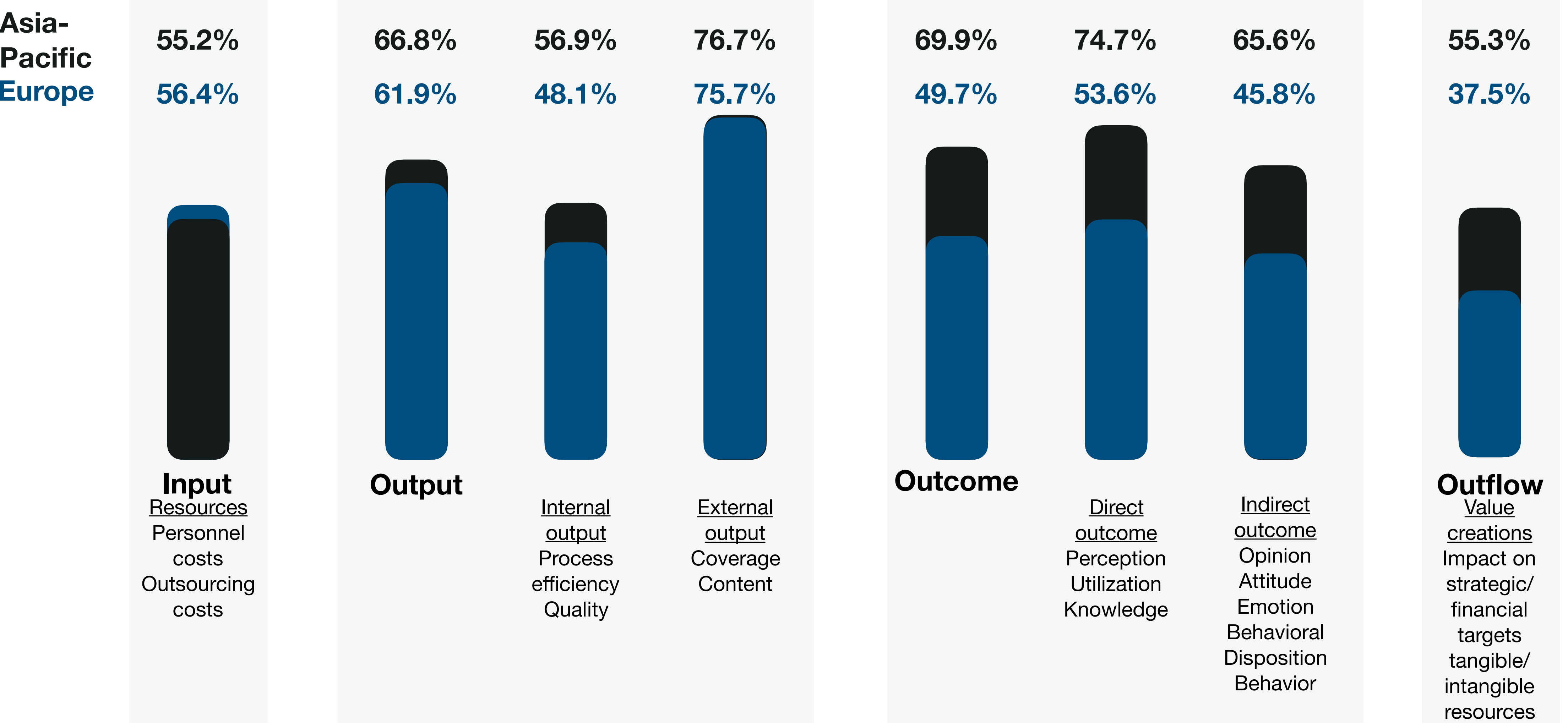


(EU, 2015, n = 1,496 PR professionals in communication departments).

3. What to Measure

3.2. Communication

Both Asia-Pacific and Europe regions showed strong focus on external output.
Still, communication professionals in Asia-Pacific regions measured more attitude change as well as financial and strategic impacts than in Europe.

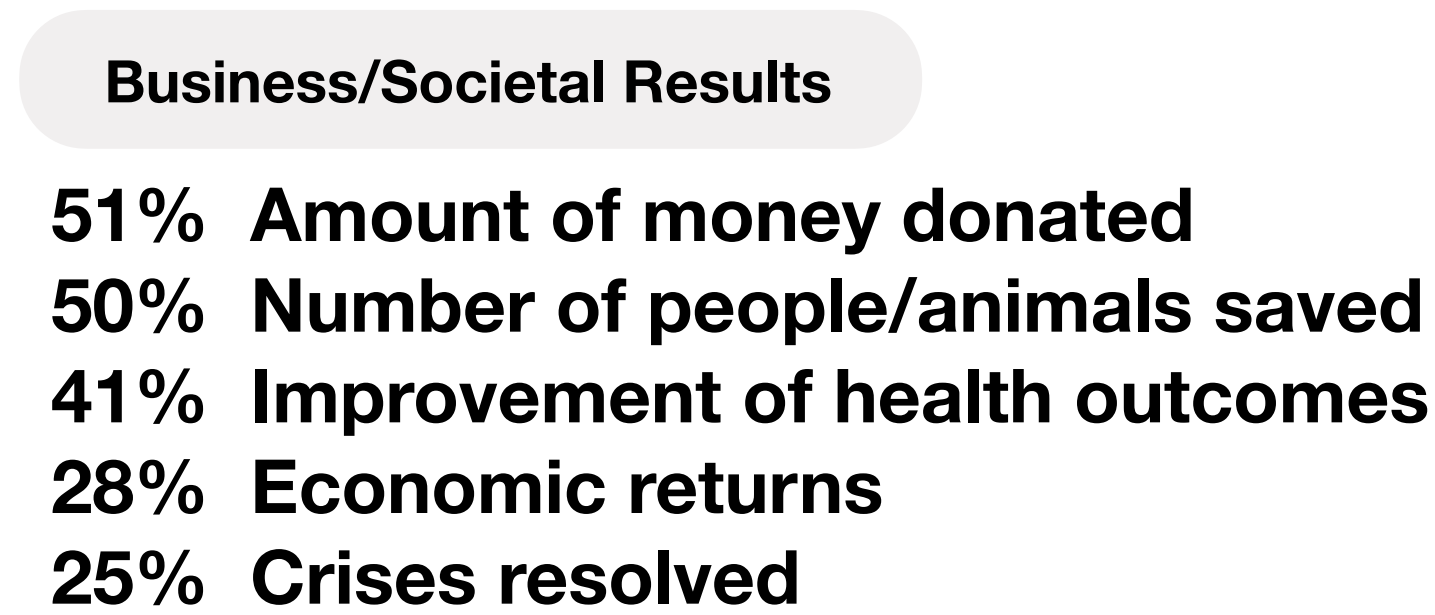


3. What to Measure

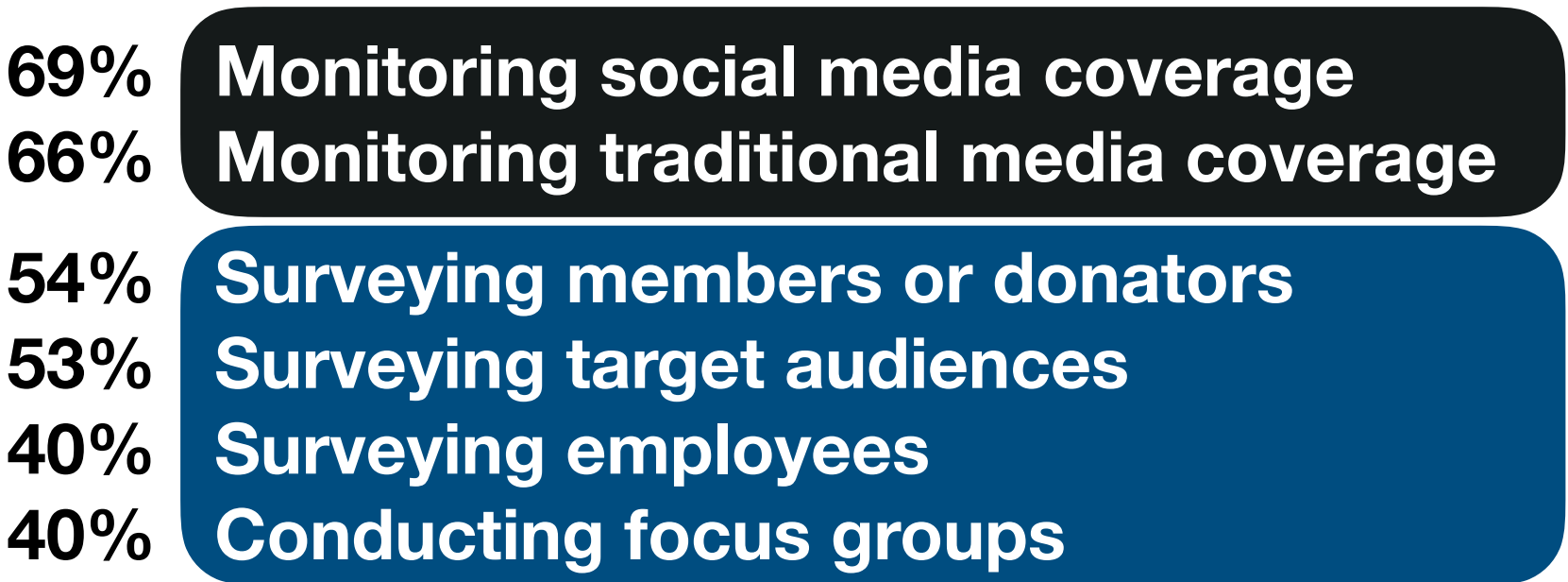
3.3. Nonprofits communication

When asked specifically about the metrics they track in 2017, only half or less nonprofits communication professionals say they track key specific metrics.

In 2016, more nonprofit communication professionals mentioned what they measured, while measuring more outputs (traditional and social media coverage) than outcomes (attitude/perception changes).



(2017 AMEC, n = 323)



(AMEC 16, n = 339)

When asked what they measure only to those who are measuring communications efforts:



(2016 AMEC, reduced sample, among those who measure communication efforts, n = 239)

3. What to Measure

3.3. International organizations' communication

Different from private sectors and other types of nonprofit organizations, the international organizations and nongovernmental organizations focused measuring program level, and measured outputs and outcome simultaneously. The content analysis on 46 international organizations' reports found:

- **67% measured more than one level of effects (e.g., input, outputs, outcome, and outflow).**
- **60% measured outputs and outcome simultaneously.**
- **71% included outcome evaluation.**
- **Output evaluation focused more on questions on efficiency and processes (41%) rather than media coverage (17%).**
- **Only one evaluation assessed media sentiment (tone of coverage).**

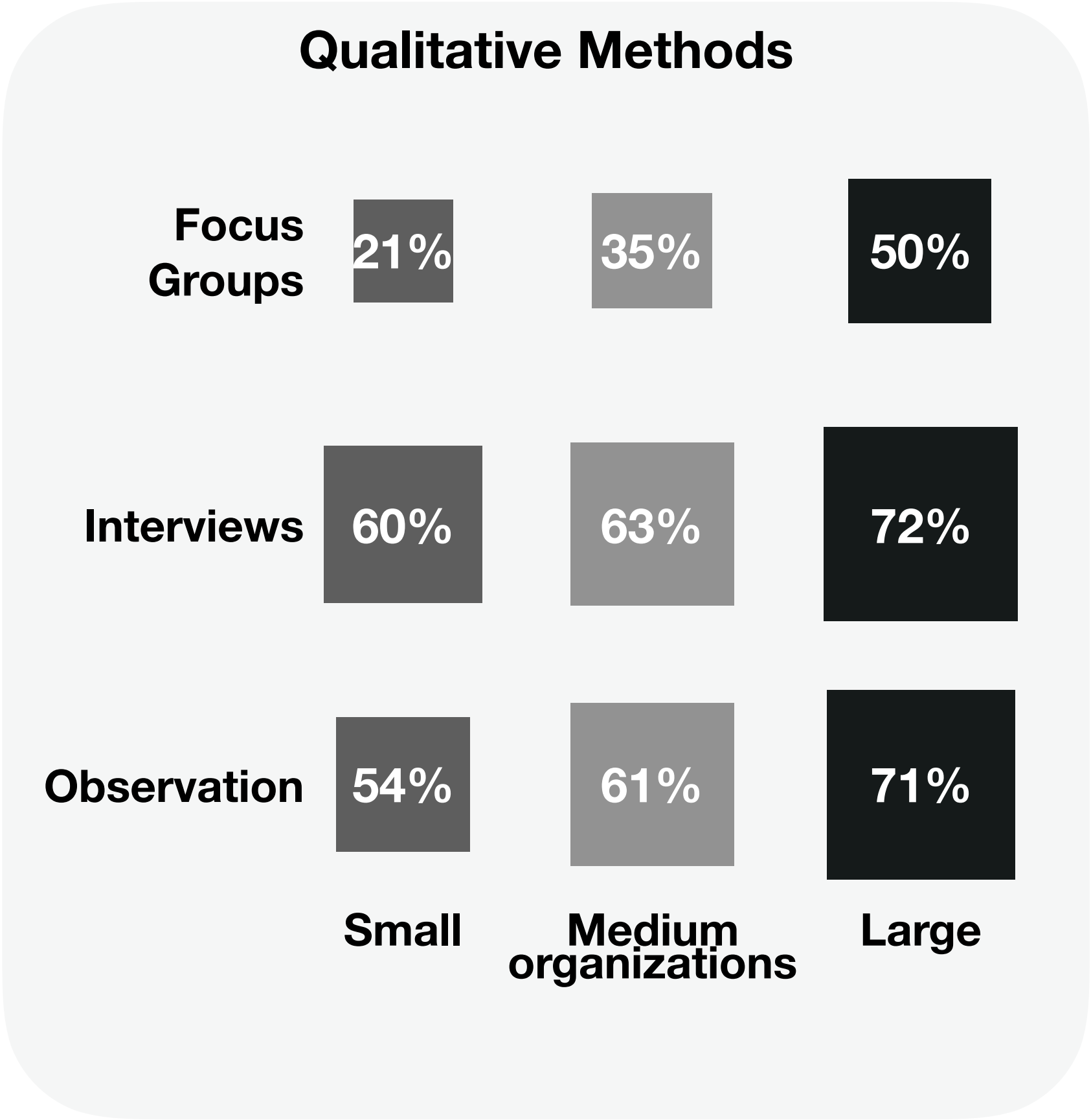
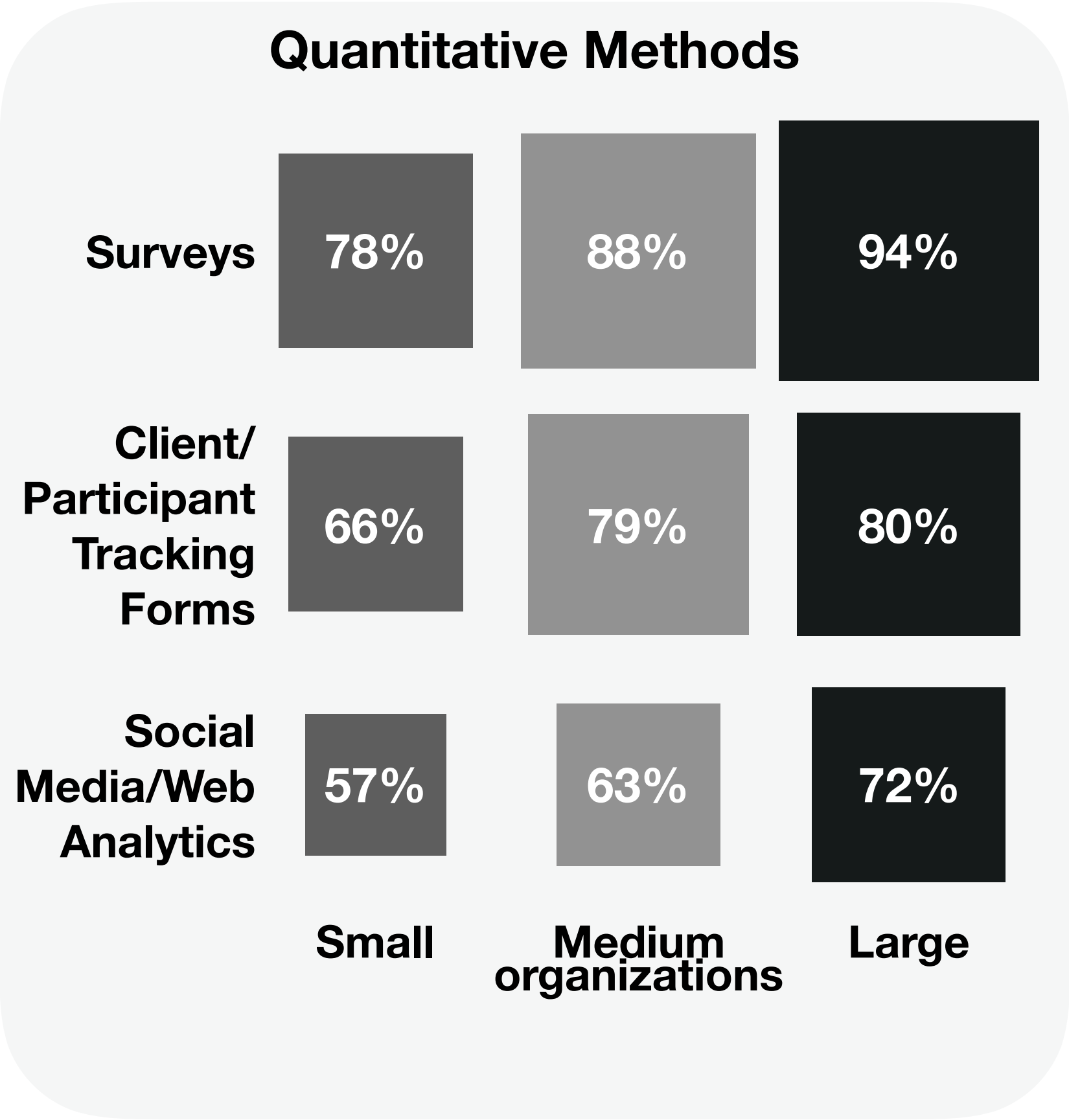
(O'Neil, 2015, 46 international organization evaluation reports)

4. How to measure

4.1. Nonprofits

Nonprofits conduct more quantitative research than qualitative research.

The bigger the organization is (annual budgets of \$5M+), the more quantitative and qualitative research the organization conducts.



"Small (n = 235~241) <\$50K" "Medium (n = 370~380) >\$50K, <\$5M" "Large (n = 110~112) >\$5M" (SoE)

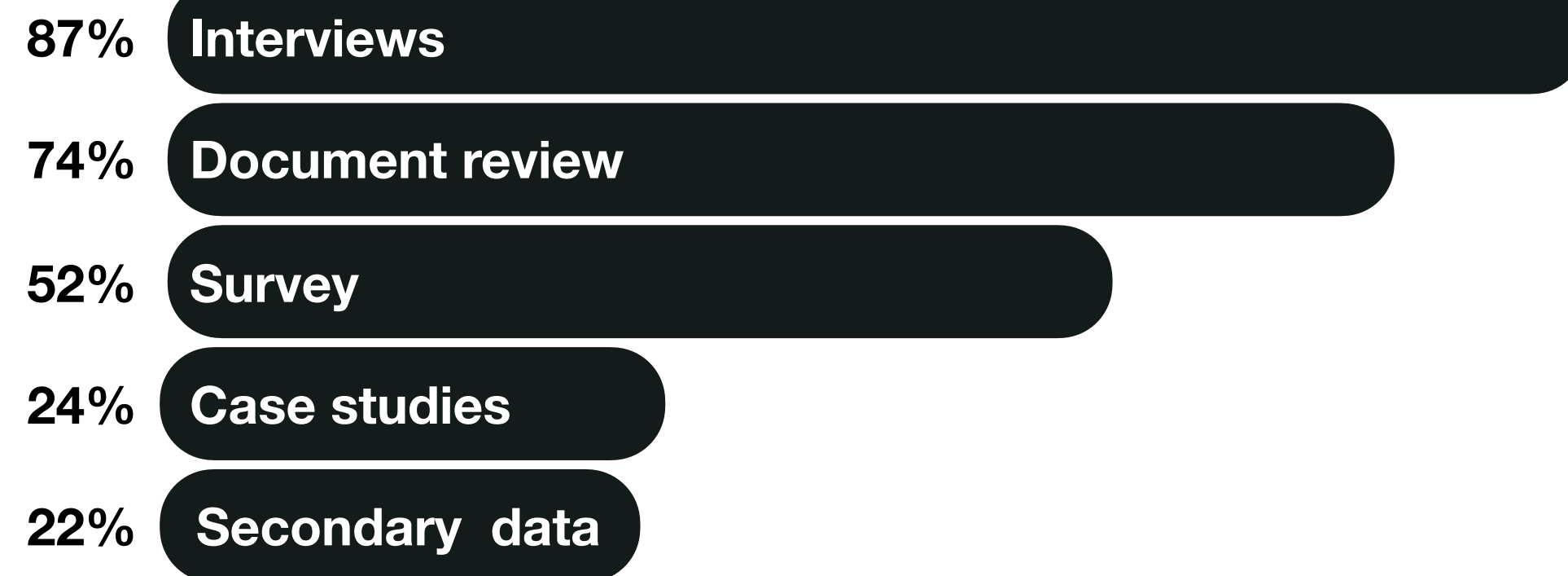
4. How to measure

4.2. International Organizations' Communication

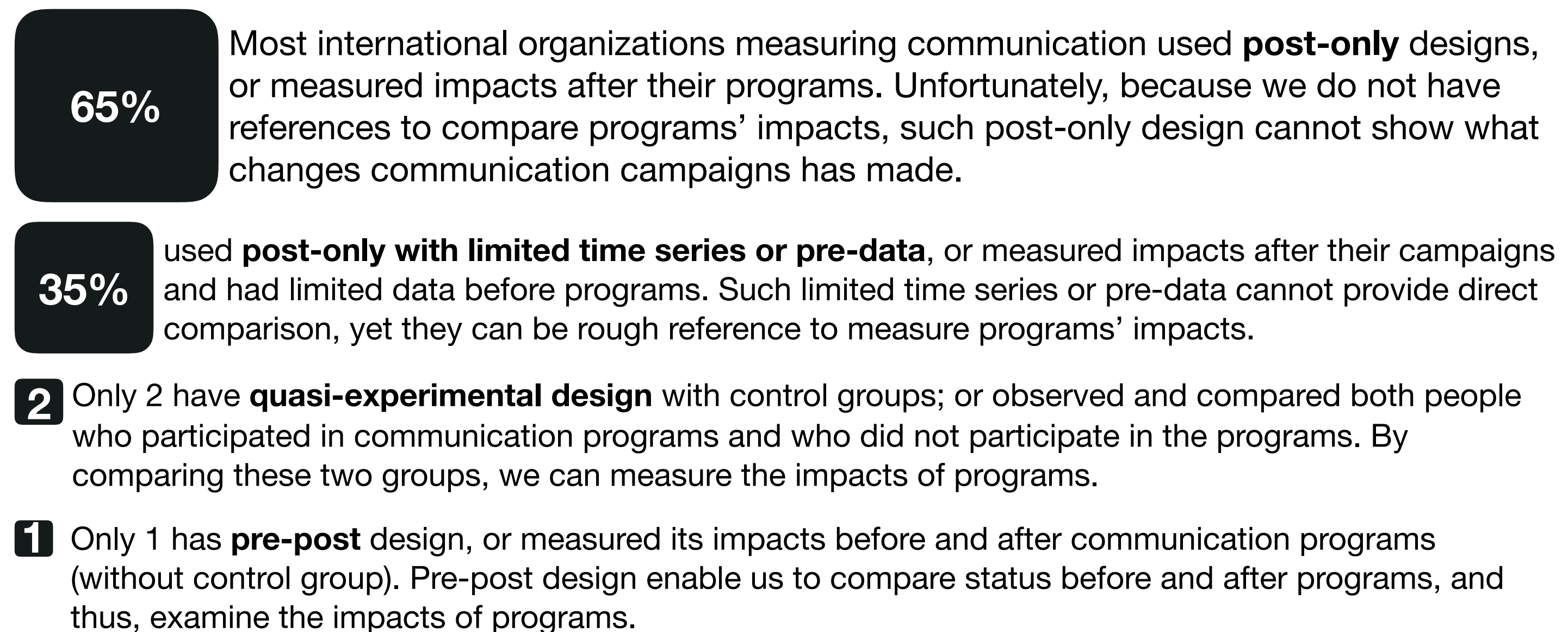
91% of international organizations measuring communication used more than one evaluation methods.

However, according to rigorous research design standards (Guba & Lincoln, 1989), only over half of the evaluations were considered rigorous research designs that compared different sources of evidence to justify their conclusions.

Top 5 evaluation methods used were:



Research design



5. Why Measure/How to Use

5.1. Nonprofits

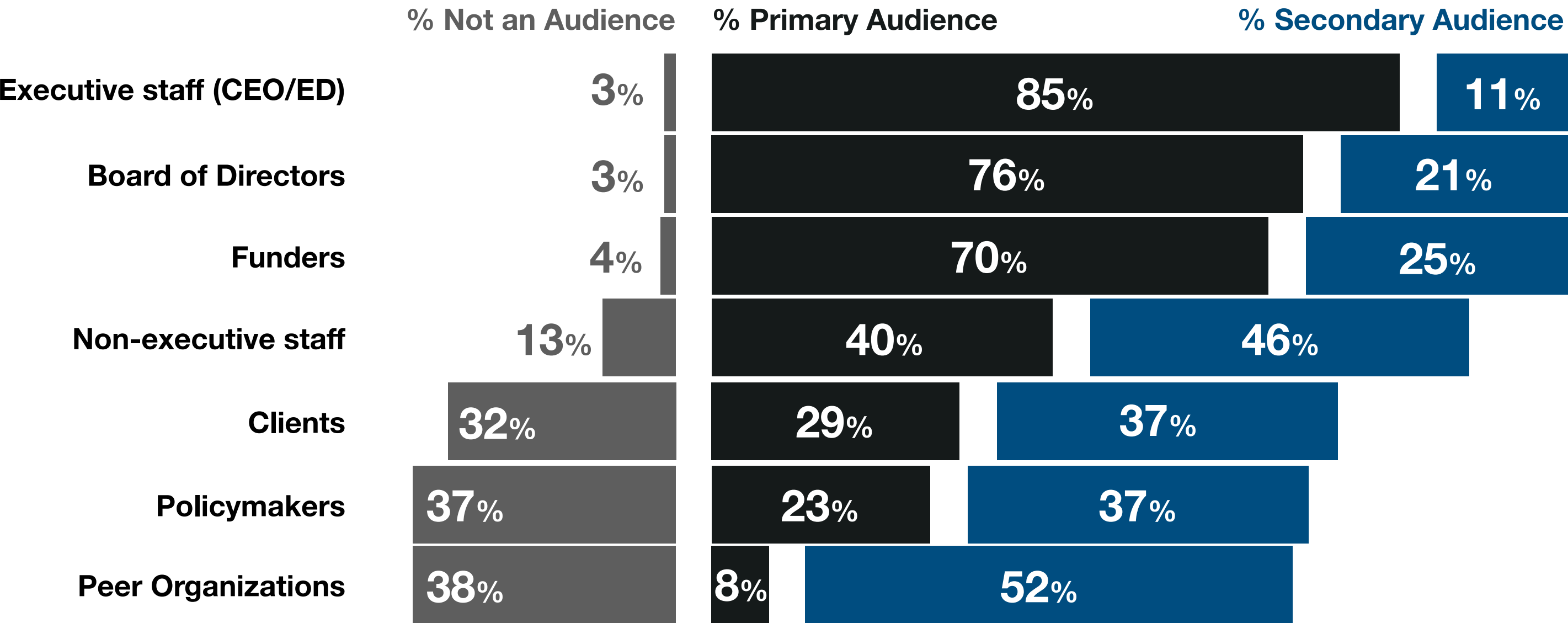
Nonprofit organizations primarily use M&E results for internal and external uses; to report to board of directors (94%) and funders (93%), as well as to plan/revise initiatives (91%) and strategies (86%).



5. Why Measure/How to Use

5.1. Nonprofits

The primary audience for evaluation were executive staff (CEO or ED), Board of Directors, and Funders. In 2016, 85% of nonprofit organizations reported that executive staff were the primary audience for evaluation, a 10% decrease from 2012.



5. Why Measure/How to Use

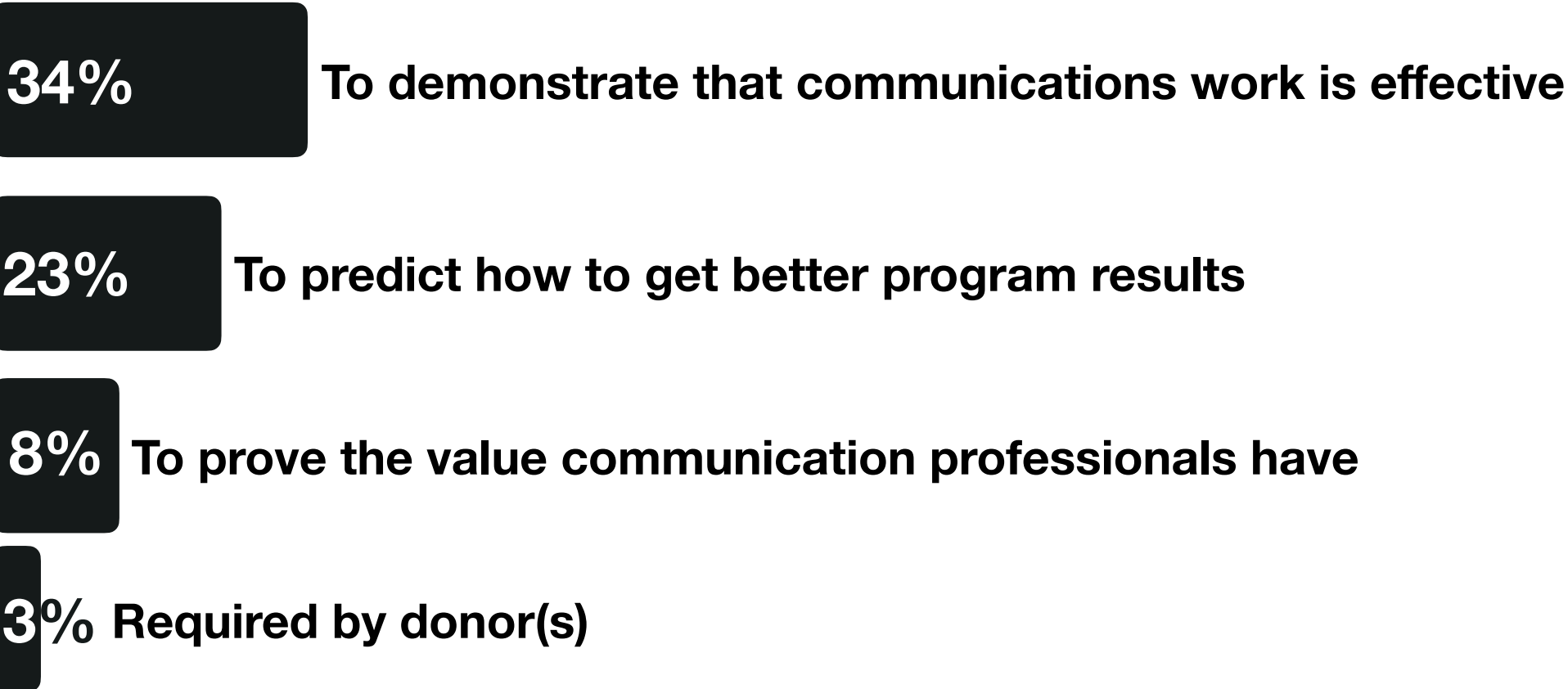
5.2. Communication and nonprofits

Organizations use communication measurement to evaluate the success of communication activities more than to reflect goals and directions of communication strategies. Nonprofits also measure communications to demonstrate the effectiveness rather than to improve their program.



EU (N = 1,601 PR professionals in communication departments),
AP (N = 901 PR professionals in communication departments)

Why do nonprofit organizations measures/evaluates your communications efforts?

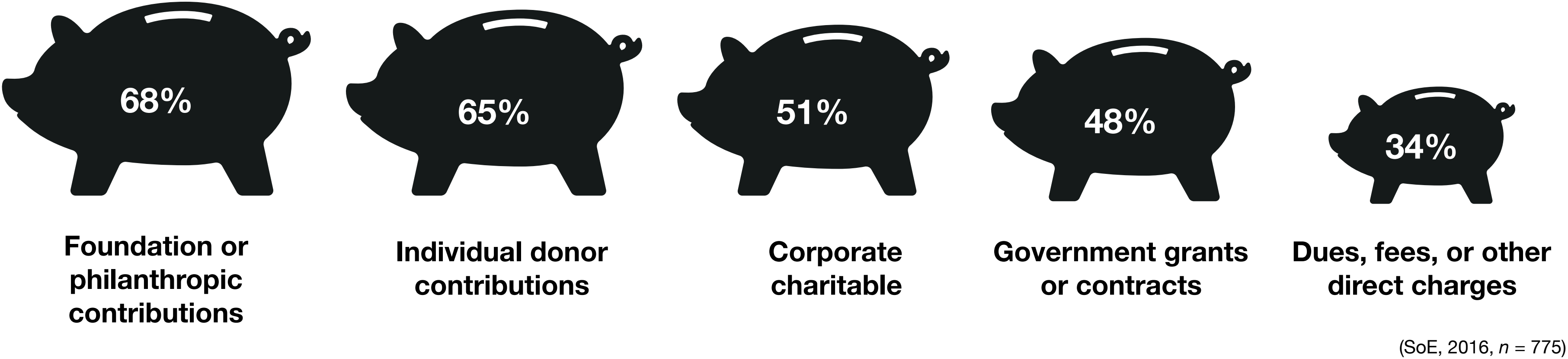


(AMEC 2016, Reduced sample: among those are measuring communications efforts, n = 239)

6. Funding/budget for evaluation

Funding for evaluation

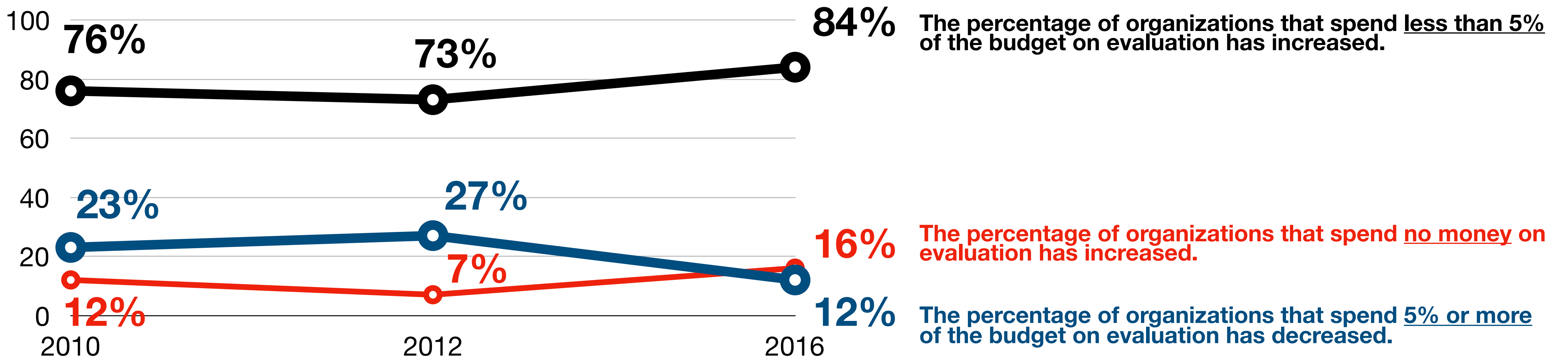
92% of organizations identified at least one source of funding for evaluation.
Nonprofit organizations funded by philanthropy were more likely to measure outcomes.



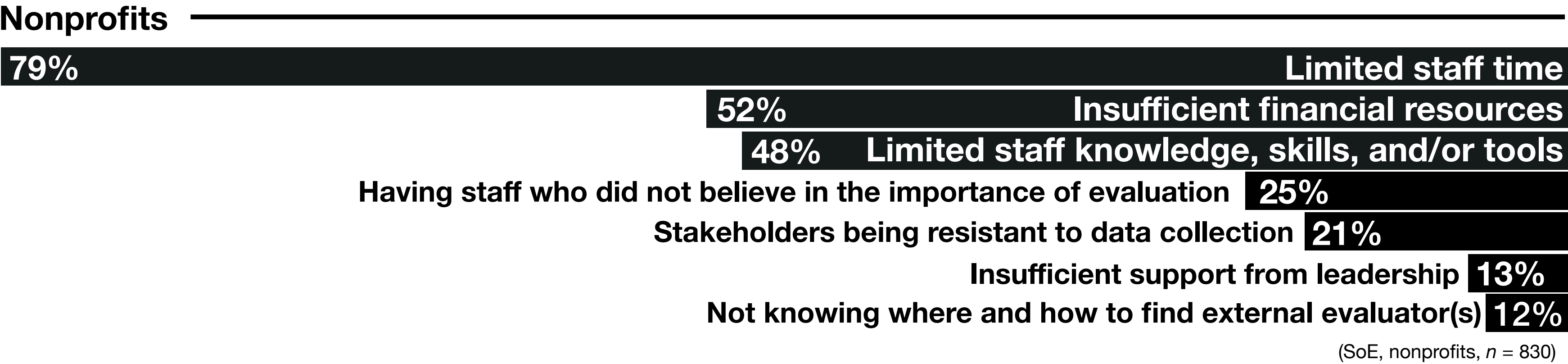
6. Funding/budget for evaluation

Budgeting for evaluation

A majority of organizations spend less than the recommended amount on evaluation. Contrary to recommendation that organizations allocate 5% to 10% of organization budgets to evaluation, 84% of the organization spent less than the recommended amount (5%) on evaluation.



7. Barriers/challenges



The top 3 barriers in evaluating nonprofits’ work are: *Limited staff time, insufficient financial resources, and limited staff expertise in evaluation.*



Nonprofits communication professionals also pointed out lack of *staff, budget, time* as the top challenges.



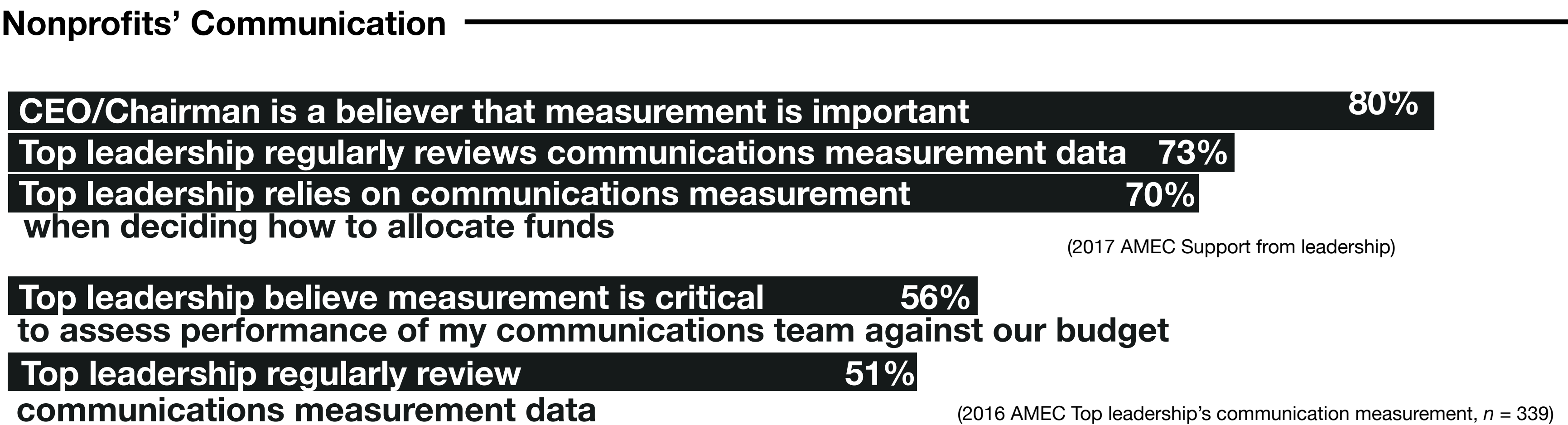
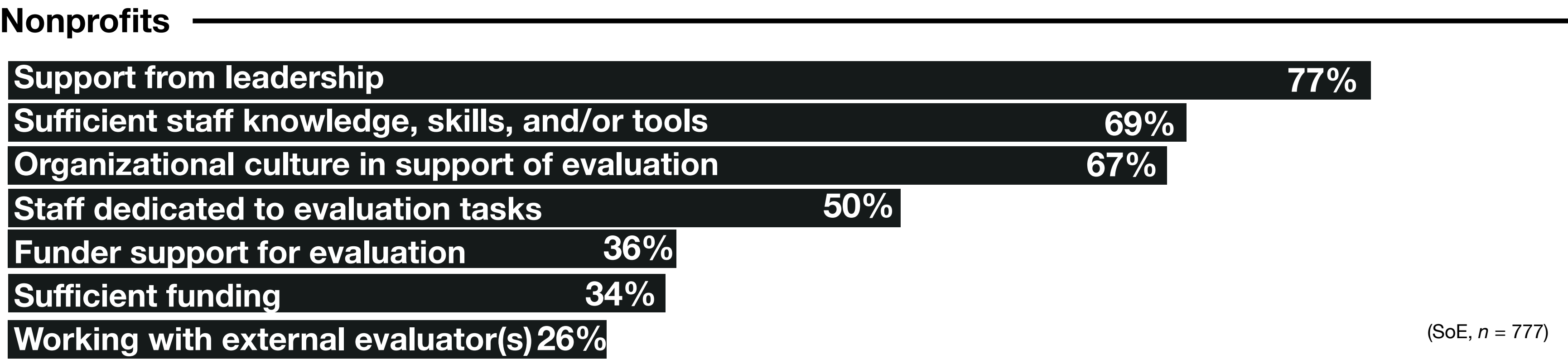
8. Support

The most helpful organizational support for evaluation in nonprofits are:

Support from leadership, sufficient staff knowledge, skills, tools, and an organizational culture.

In particular, staff for evaluation tasks is one of the most helpful supports.

Top leadership appears to be highly supportive of communications measurement, but also they are expecting it from their employees.



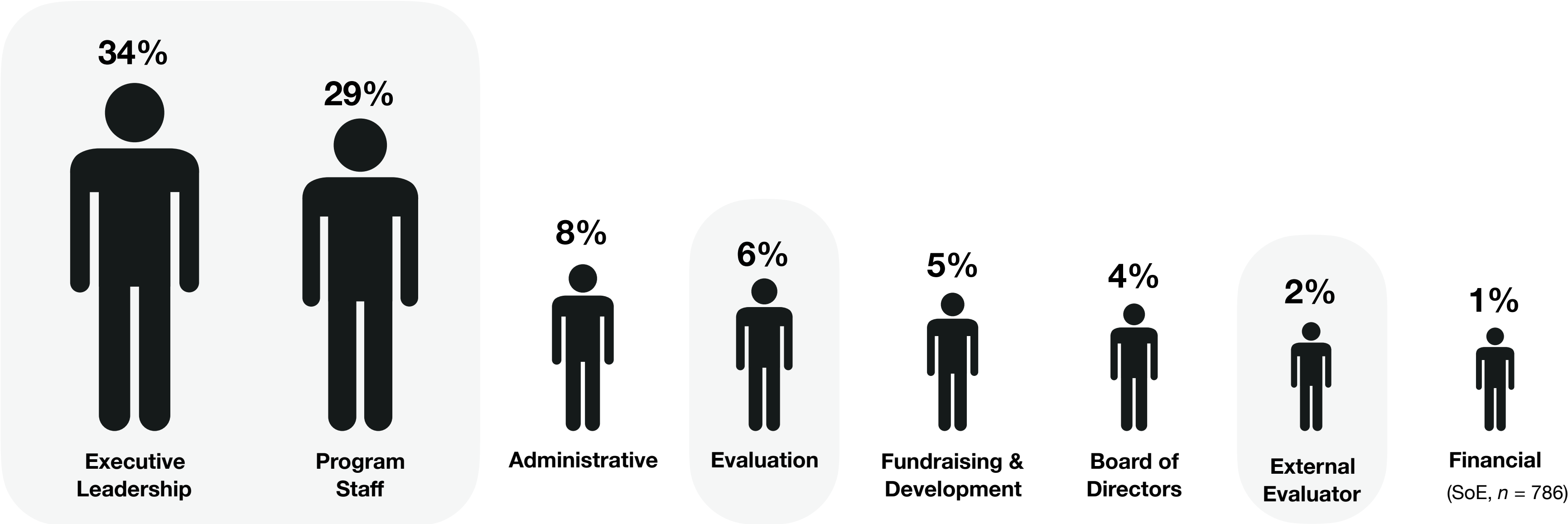
9. Who Measures

Most nonprofit organizations (63%) report that the executive leadership or program staff were primarily responsible for conducting evaluations.

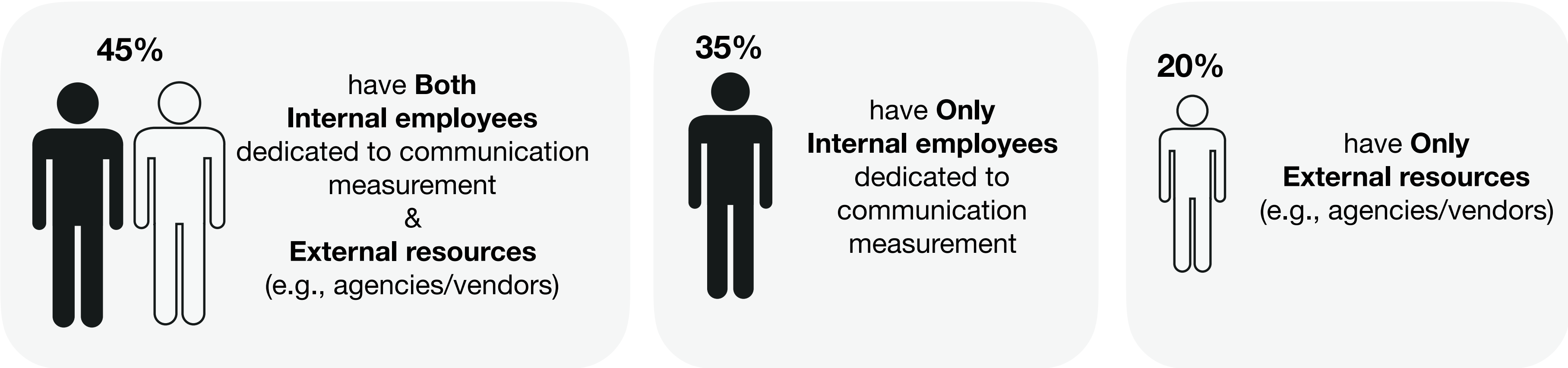
Only 6% of nonprofit organizations report having internal evaluation staff.

2% indicate that evaluation work was led by an external evaluator.

Among nonprofits measuring communications, 80% have internal employees for communication measurement, while 20% only have external resources (e.g., agencies/vendors).



Among nonprofits measuring communications,

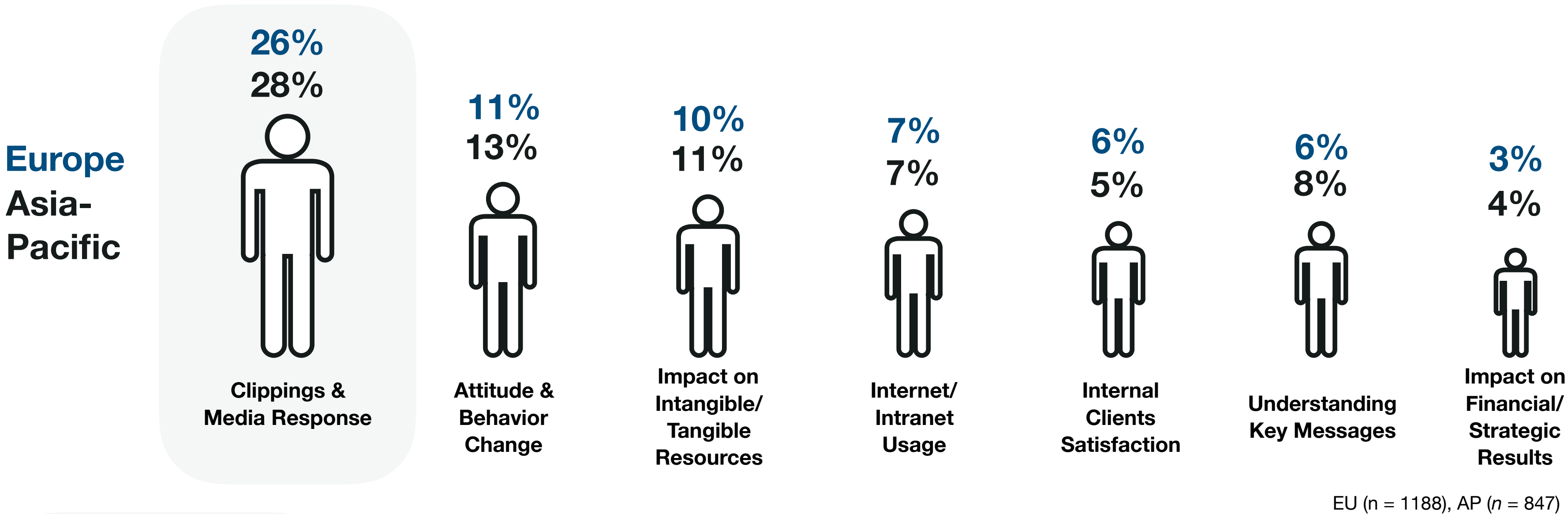


2016 AMEC (Reduced sample: among those who are measuring communications efforts, n = 239)

9. Who Measures

External services for communication measurement

For public relations measurement, external service providers are mostly used to support media monitoring and clippings.



In international organizations, communication evaluation is largely carried out by external consultants (78%). These external consultants may not have input when setting objectives or designing the evaluation program.

(O’Nail, 2015)

10. Nonprofits Communication Professionals’ Measurement and Evaluation Capabilities

Communication professionals in nonprofits display rather moderate capabilities in measurement. In particular, professionals in nonprofits showed significantly lower capabilities in analyzing budgets, constructing scorecards, and calculating reputation/brand value, compared to communication professionals in private companies.

69% have not heard of the Barcelona Principles, which may indicate lack of training opportunities. Nevertheless, 71% wanted to learn more about measuring communication effectively.

- 56% Compiling and interpreting data
- 55% Performing content analysis
- 52% Developing and managing surveys
- 49% Deconstructing and analyzing budgets*
- 48% Running internet/social media analytics
- 45% Analyzing processes and workflows
- 34% Constructing communication scorecards*
- 33% Running focus groups
- 29% Calculating reputation/brand value*

(E-CM, *n* = 1,430)

29% agree “I’m a communication & PR person, not a measurement & numbers person”

69% have not heard of the Barcelona Principles

71% wanted to learn more about measuring communication effectively

How much do you agree or disagree with each of the following statements? (AMEC 2016, Total sample, *n* = 339)

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Measuring Public Relations' Impacts Using Measurement Findings to Harness Communication

In this chapter, we will explore how the researchers studied public relations' impacts.

We will also explore industry's best practices case studies on measurement from Ketchum Analytics.

How can we better measure and evaluate public relations?

How can we better use findings from measurement and evaluation?

Despite more than 40 years of discussion on communication measurement and evaluation, these questions were not answered fully yet.

Most organizations conduct measurement and evaluation at one effect level, and less efforts were placed on measuring organizational economic and societal impacts of public relations (Kim, 2001).

Unfortunately, scholars have been less interested in practical measurement methods, but more interested in public relations' overall values and outcomes on relationships and reputation (Volk, 2016). Scholars also mostly focus on one level of communication effect (Volk, 2016).

Nevertheless, some researchers and professionals have continued their endeavors to develop methods to prove the value of public relations at program, organization, and societal levels and to improve and optimize communications.

1. Academic Efforts

Academic efforts to measure public relations' impacts can be summarized into three categories: compensating variation approach to benefit cost ratio (BCR), media coverage and financial performance, and econometric model.

The scholars focused on proving the value of public relations, rather than using measurement data to optimize communication efforts. The scholars also examined the economic impacts of public relations and understudied societal impacts of public relations.

1.1. Compensating variation approach to benefit cost ratio (BCR)

“How much are you willing to pay for PR's benefit?”

The efforts to measure public relations' economic impacts trace back to asking this question to stakeholders.

Grunig, Grunig, and Dozier (2002) used a compensating variation approach to benefit cost ratio (BCR) to evaluate intangibles, based on earlier work by Ehling (1992) in their Excellence study.

They asked stakeholders how much they would be willing to pay for a non-monetary benefit.

Most CEOs agreed that PR contributed value to their organization, yet determining a specific financial or other quantification of value remained elusive.

As Grunig pointed out, this way of assigning the monetary value has limitations that it depends on intersubjective reliability and is less objective (Kim, 2001).

1. Academic Efforts

1.2. From media coverage to financial performance

Some researchers studied public relations' impacts by linking public relations efforts with the media coverage and the financial performance. For example, Kioussis, Popescu, and Mitrook (2007) tested the impact of public relations messages on media coverage, corporate reputation, and financial performance. Kioussis et al. conducted content analysis and used public opinion survey data of 28 companies ranked by Harris Interactive Reputation Quotient. Their findings indicated a positive relationship between public relations message tone and media coverage tone, which were positively related to a corporations' bottom lines such as revenues, profits, and assets.

In a crisis context, Kleinnijenhuis, Schultz, Utz and Oegema (2015) examined how US news is influenced by public relations, and in turn influenced public awareness, foreign news, and the share price. Using a Vector Autoregression (VAR) model, they found that the daily amount of US news about BP followed public relations and financial indicators, whereas the news amounted to classic agenda-setting effects on public awareness, intermedia agenda-setting effects on foreign news, and stakeholder agenda-setting effects on the BP stock rate.

Lastly, some researchers used econometric models and have established a causal relationship between public relations expenditure and public relations' contribution to the organization (e.g., Kim, 2000, 2001; Lee & Yoon, 2009; Lee & Kim, 2015).

For example, Kim (2000, 2001) reported a positive relationship between PR expenditure and revenue change mediated by corporate reputation. Kim (2000) introduced an econometric model, tested several models adapted from advertising, and found a positive relationship between an organization's reputation and its revenue. Analyzing 92 companies from Fortune 500 list over 3 years, he found a positive relationship between reputation and revenue.

Moreover, Kim (2001) established two-step model to measure the economic value of public relations by testing the impact of public relations expense on reputation and the economic impact of reputation on companies' bottom lines. Specifically, he found that an increase in public relations expense was related to positive reputation, which also led to an increase in revenue.

Furthermore, Lee and Yoon (2010) tested the bottom line effect of international PR at the country level by examining the number and budgetary amount of PR contracts of 97 client countries in the United States. They found that the number of PR contracts in the United States is positively related to economic outcomes, such as U.S. direct investment in a client country, the number of in-bound U.S. tourists, and the volume of U.S. imports, controlling for the economic size.

Recently, Lee and Kim (2015) tested a causal relationship between international public relations expenditure and its economic outcome at the country level by using time-series analysis, a vector autoregressive (VAR) model. Using over 14 years of data, the study found that the past PR expenditure forecasted future economic outcomes for some countries.

1. Academic Efforts

1.3. Econometric model

2. Efforts in Practice

Unlike academic efforts that mostly focus on seeing and proving the value of public relations, public relations professionals went a step ahead - predictive analytics.

Public relations professionals attempt to use measurement data to optimize the mix of communication activities and message elements. Such use of measurement data can maximize the communication outcomes, such as donations or patient visits.

For example, public relations professionals can identify specific message elements that can trigger the outcomes. Moreover, public relations professionals can the effectiveness of each channel and optimize their use of channels.

There are two approaches: survey approach and marketing mix modelling approach.

2. Efforts in Practice

2.1. Survey Approach

The survey approach measures exposure, perception, attitude, and behavior of the representative relevant stakeholder samples.

The survey approach uses statistical analyses to examine how each communication element can change these outcomes.

Then, the approach structures the ideal mix of communication elements to optimize stakeholder behavior.

Example provided by Ketchum Analytics

Survey Approach Example: Building Reputation to Increase Patient Volume

Challenge

To improve the healthcare nonprofit A's reputation among its target audience and influencers (those who lead or impact trends and policies), as well as to increase its position as a leader in health care and drive patient volume.

Approach

Ketchum Analytics designed an iterative approach focused on determining the right messages, people and channels for A to achieve the greatest lift in brand awareness, reputation and patient volume.

- Ketchum Analytics has used various advanced statistical analyses to determine the most effective message drivers to close the gap with competitors and improve A's reputation and increase key behaviors (travel for care and refer to is as a leader in healthcare policy) among target audiences.

Findings

Ketchum Analytics has successfully provided A with fundamental insights on the optimal communications strategy for improving its reputation and driving patient volume.

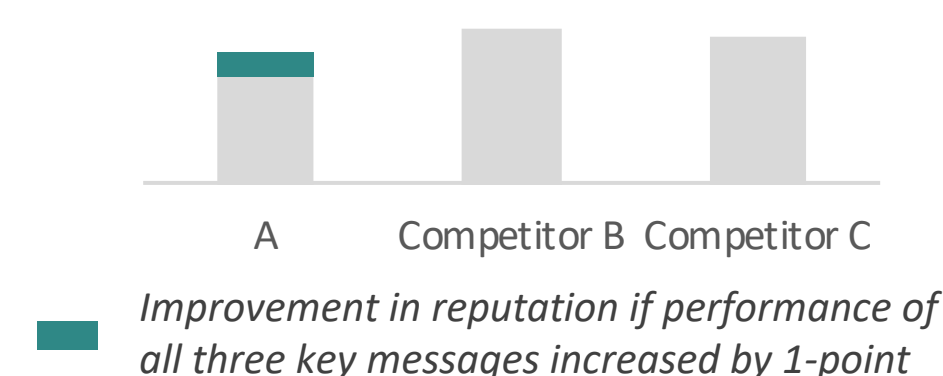
- Brand awareness of A among target audiences is on the rise (9% increase in overall familiarity since 2013).
- Patient volume has increased about 7% overall.

The key messages trusted, innovative & visionary predict

51 % to 58%

of A's reputation and desired key behaviors

KGRA recommended that A focused on improving the performance of all three key messages to close reputation gap between A and its competitors



The key denominator of these messages is
TRANSPARENCY

2. Efforts in Practice

2.2. Marketing Mix Modelling

Marketing mix modelling uses marketing communication efforts and outcome data (e.g., sales, donations, or votes) over time to decide how marketing communication efforts can change outcomes.

Using multiple time series regression, marketing mix modelling shows how much the outcome changes based on marketing communication activities and base factors.

Want to learn more?
Weiner, Arnosdottir, Lang, and Smith (2010) explained how to examine effects of media-based public relations on sales and optimization through marketing mix modeling in detail.

Example provided by Ketchum Analytics

Marketing Mix Modelling Example: Optimizing Media Spending

Challenge

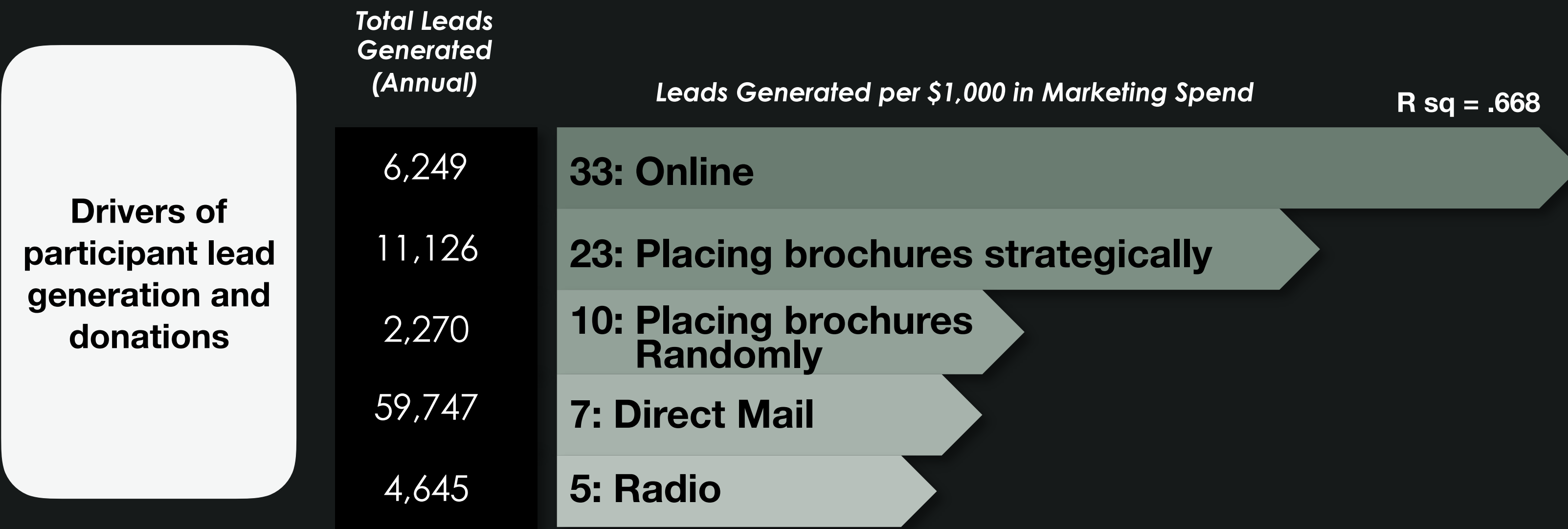
Healthcare Nonprofit B’s flagship fundraising program faced challenges in driving participant lead generation, and consequently donations. Revenue continued to decline and, with an outdated marketing mix, the organisation needed to identify ways to break through the cluttered charity-endurance space to appeal to potential participants and drive donations.

Approach

To maximize the marketing spend for the program, in order to drive participant lead generation and ultimately donations, Ketchum Analytics conducted regression analysis to determine the relationship between leads and marketing spend made via various channels (all independent variables): Direct Mail, Radio, Online, Placing brochures strategically with a professional firm, and Placing brochures randomly with no strategic plan.

Findings: Online is nearly 5 times efficient as Direct Mail

Online was found to be the most cost effective marketing spend – almost five times as efficient as direct mail, on which B was currently spending about 85 percent of its total budget. This prompted B to reduce its direct-mail spend proportionally. Data also showed that placing brochures strategically with a professional firm was far more cost effective than placing brochures randomly. This led B to make all its 50+ local chapters a “must have” to place brochures strategically with a professional firm.



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Caveats, Debates, and Future Directions

Examining the impact of programs, policies, and practices means examining cause-and-effect relationships between the programs, policies, and practices and their impacts.

Correlations can be spurious; Correlation can seem genuine, yet are false. For example, Vigen (2015) introduced a few examples.

- The U.S. spending on science, space, and technology 99% correlates with suicides by hanging, strangulation, and suffocation.
- Divorce rate in Maine 99% correlations with per capita consumption of margarine.

However, these high correlations do not mean one cause the other. They do not mean that one can predict the other.

Thus, social scientists generally require at least **three evidence** to examine causality between two variables (Singleton & Straits, 2009):

1. **Direction of influence:** A cause must precede its effects.
2. **Association:** Variables must be statistically associated, for one variable to be a cause of another.
3. **Nonspuriousness (Elimination of rival hypotheses):** Correlation can be produced by the extraneous third factor, while neither of variables in correlation has influenced the other. For example, size of fire can influence both the number of firefighters and amount of damage, yet that does not mean the number of firefighters cause the amount of damage, or vice versa. Thus, researchers must identify and control extraneous variables and rule out other possible explanations mostly through experiments and randomization.

Conducting controlled randomized experiments can help us to meet all conditions, especially, ruling out all other possible explanations.

However, when examining the effects of programs, policies, and practices, it is often difficult and **impossible** to conduct controlled randomized experiment. Attempts to measure multi-dimensional effects of public relations efforts can also complicate the issues.

In this chapter, we will review caveats and debates surrounding measuring public relations' impacts. Then, we will move on to explore possible future directions.



1. Debates

Researchers and professionals have shared the concerns for the using and measuring PR Return on Investment (ROI). Still, the progress to define, use, and measure PR ROI has not been made.

Attempts to measure the economic impact of communication invoked a discussion on PR Return on Investment (ROI) (Macnamara, 2007; Gregory & Watson, 2008; Watson & Zerfass, 2011).

For example, Watson & Noble (2014) argued that one of the Barcelona Principles *'the effect on business results can and should be measured where possible'* revived the industry attempts to use public relations ROI. AMEC's 2011 summit found a need to define PR ROI and formed the task force.

However, no further progress has been made.

- **(Mis)use of the term Return on Investment (ROI)**

Public relations professionals and researchers use the term ROI differently. For example, Watson and Zerfass (2011) found that about half of professionals used the term ROI in a more non-financial frame and warned that the use of the term in non-financial frame may oppose the established understanding of the concept in business and management. Moreover, Watson (2005) also found that the term ROI was widely used and attracted attention in practice (Gregory & Watson, 2008), while it was not often used in the academic literature.

- **Complexity of communication processes and difficulty in isolating communication effects**

Because complexity of communication processes and the difficulty in isolating communication effects from other factors, attempts to measure ROI often fail. Watson and Zerfass (2011) said that ROI fails to measure the value of PR to an organization due to the complexity of communication processes and the difficulty in isolating communication effects from other factors. They pointed out that PR ROI is likely to be program-specific or company-specific, based on media analysis metrics, and limited to short-term publicity/promotional activity in public relations effects that can be separated from other promotional actions. Lee and Kim (2015) also mentioned that economic relationships are complex and there are many economic and political factors that may have an influence on the results.

- **Public relations' quality, value, relationships**

The econometric model does not show the quality of public relations activities (Kim, 2001). ROI does not focus on relationships or value creation (Watson & Zerfass, 2011).

- **Public relations in Marketing Mix Modelling**

Most Marketing Mix Modelling do not distinguish money spending on consumer-facing activities vs. creating outputs. Often, public relations has the lowest ROI (Jain, 2015).



2. Caveats

Researchers and professionals need to be cautious when choosing the designs and methods to measure and evaluate public relations' impacts.

Scholars and statisticians have warned that measuring impacts without counterfactuals, or without comparing samples with and without participation in program, cannot establish the causal impact.

Scholars also critiqued that what concomitant time series and Granger causality really tests is the temporal precedence of one variable to another, not cause and effect causality.

This is noteworthy, because some efforts measuring public relations' impacts did not have counterfactual and often used concomitant time series or granger causality testing.

Thus, we will first look into what counterfactual, concomitant time series, and Granger causality are, as well as why these approaches cannot reveal cause-and-effect causality.

No counterfactual? No causality

In order to evaluate impacts (or causality) of programs, policies, and practices, it is important to have the counterfactual, or the samples with and without participation in programs (e.g., control group and treatment group). The causal effects can be drawn by comparing control group and treatment group. Without valid estimate of the counterfactual, the causal impact cannot be established (Gertler, Martinez, Premand, Rawlings, & Vermeersch, 2016; Shadish, Cook, & Campbell, 2002).

Concomitant time series?

Using concomitant time series, researcher correlates the time series of the presumed causal variable with a time series of the presumed outcome, measuring both series on the same units over same time (e.g., Lee & Kim, 2015). The researcher then looks at whether rises and falls in causal series are related to rises and falls at later times in the effect series. This is called "concomitant" time series, because treatment was not deliberately controlled or manipulated (or, interrupted). Potential causes fluctuate, while outcomes are also observed to vary.

Granger causality?

Many researchers using time series and Vector autoregression (VAR) to reveal public relations' impacts used Granger testing (e.g., Kleinnijenhuis et al., 2015). Granger testing tests whether one time series is useful in predicting the values another. Granger testing relies on the logic of Granger (1969): It takes time for one variable to causally impact the other variables, and such time lags can enable testing the causal relationships between two variables based on time (Granger, 1969).



2. Caveats

Many attempts to measure public relations' impacts reviewed here did not have counterfactuals, and used concomitant time series and Granger testing. However, these methods cannot test cause-and-effect causality; it tests if a particular variable precedes another.

Temporal precedence, but no causality in the sense of cause and effect

However, what concomitant time series and Granger causality really tests is the temporal precedence of one variable to another, not cause and effect causality (Cromwell, Hannan, Labys, & Terraza, 1994, p. 33).

- **First, uncontrolled correlation.** Potential causes in concomitant time series fluctuates in an uncontrolled manner, not manipulated experimentally. Uncontrolled correlation cannot be evidence for causation (Shadish et al., 2002), as examples of spurious correlation showed (e.g., 99% correlation between divorce rate in Maine and per capita consumption of margarine; 99% correlation between the U.S. spending on science, space, and technology and suicides by hanging, strangulation, and suffocation).
- **Second, simultaneity bias.** The causal variable will to some extent to be caused by previous dependent variable. For example, “suppose one researcher finds that changes in the quality of parenting predict changes in the child’s behaviour. The child’s behaviour when parents are providing the best care is compared with the same child’s behaviour when the parents are not doing such a good job. However, the problem is that the causal variable, or parental care, will to some extent be caused by previous child behaviour. In other words, parents will have learned to tailor their care to the past behaviour of their child” (Shonkoff & Philips, 2000, pp 74-75). Then, it becomes difficult to ascertain the extent to which independent variable is truly a cause of dependent variable, rather than a result of past dependent variable (Shonkoff & Philips, 2000, pp 74-75) (see also Holland, 1986). Models inferring causality from uncontrolled observations of the relationships between two variables share same problems (e.g., Wampold, 2015).
- **Lastly, very unlikely unidirectional causation in real world applications.** If the causal relationship is known to be unidirectional at a particular lag period and if the two variables meet an analytic condition for “white noise,” then the (appropriately time-lagged) correlation yields an unbiased estimate of the causal relationship. Unfortunately, however, although the white noise condition can be tested, it is unlikely that the other conditions [for causation] will be met in practice. The simple unidirectional causation condition is very unlikely in most real world applications (McCleary & Welsh, 2015).

Predictive modelling

Note that these analyses can still be useful for prediction and forecasting (especially with machine learning). As noted, predictive modelling cannot show cause-and-effect relationships and reveal the impact of programs, policies, and practices. Still, predictive modelling can identify better indicators for the outcomes and make use of them.

3. Future directions

Despite nonprofits' limited measurement and evaluation of public relations, public relations scholars and professionals have developed the cutting-edge methods to measure its impacts and use measurement findings to improve messages and channels. Still, such methods need to be used with care, particularly because what they show may be the temporal precedence and correlation, not the causal relationship. Moreover, public relations professionals and scholars focuses on measuring economic impacts, yet understudied examining its societal impacts. Yet, there is a hope.

Fortunately, researchers in other fields have extensively developed rigorous causal inference design and analysis strategies to obtain unbiased estimates of the causal effects of programs, policies, and practices, as a part of evidence-based policy making. In particular, statisticians and economists have developed a variety of evaluation methods, such as randomized assignment, regression discontinuity design, time series designs, instrumental variable estimation, and propensity score matching. Also, a field of machine learning has extensively developed predictive modelling, which can identify and use better indicators for the public relations outcomes. A field of public relations can benchmark other disciplines, collaborate, and use the methods to examine and increase public relations' economic and societal impacts.

Measurement practices and methods presented here demonstrates the potential of public relations' measurement that nonprofits can use. We also understand that methods presented here can seem daunting and difficult to practice for some nonprofits. **Working closely with external measurement and analytics experts can be more realistic, effective, and cost-saving than developing in-house capabilities.**

Notably, the Institute of Education Sciences (IES), the statistics, research, and evaluation arm of the U.S. Department of Education, provides research-based summary for “what works in education?” through the What Works Clearinghouse (WWC). WWC reviews the research, determines which studies meet rigorous standards, and summarizes the findings. I hope the field of communication and public relations can also have such resources that scholars and practitioners visit and find “what works in communication?” in the future.

The potential of measuring public relations' impacts have not fully realized. It is future nonprofit communication and public relations professionals and scholars' roles to work together with measurement specialists to develop rigorous measurement and innovate use. It is also their roles to learn more about measurement and evaluation to embrace the opportunities and make a difference.

Want to learn more?
Check these!



Acknowledgement



I appreciate the support of the Institute for Public Relations (IPR) and Ketchum Analytics for this research as a part of the Don Bartholomew Award for Excellence in Public Relations Research. I appreciate the International Association for Measurement and Evaluation of Communication (AMEC) and Ketchum Analytics for sharing valuable data. Any opinions, findings, and conclusions here are those of the author and do not necessarily reflect views of the Institute for Public Relations or Ketchum Analytics.

Working with industry leaders at Ketchum Analytics was an immensely valuable experience to complement my research and coursework on public relations and crisis communication. Over 3 months at New York city, I explored and learned how research has been done in public relations practice. I would like to thank David Rockland, Mary Elizabeth Germaine, Juliette Terrazas, Nikolay Yamakawa, Caitlin Szczepanik, Lindsay Hoh, Mackenzie Sawyer, Orin Puniello, Marni Zapakin, Jocelyn Jackson, Chris Albert, Geraldine Lau, Yoo Mee Pontonnier, Bailey Roy, Carlie Roth, Anne Morley, and all other wonderful people at Ketchum Analytics I worked with and learnt from for their time, insights, and opinions.

Being the 20th recipient of the Don Bartholomew award would not have been possible without full support from my advisor Dr. Brooke Fisher Liu. Everyone needs a mentor like her. I am lucky to work with her and the other amazing faculty and students at the University of Maryland.

Lastly, one highlight from my internship at Ketchum Analytics was working on international humanitarian and developmental assistance organization's global communication measurement system to track messaging for 50 million people and presenting how we can measure advocacy and align it. Such nonprofit initiatives at Ketchum inspired this project.

Thank you, all.

Better and more communication measurement will help advance evidence-based communication for nonprofits to make a difference. I hope this paper helps you better understand nonprofits' public relations measurement and evaluation.

References

- Carroll, T., & Stacks, D. W. (2004). *Bibliography of public relations measurement*. Institute for Public Relations. Retrieved from https://www.instituteforpr.org/wp-content/uploads/PRM_Bibliography.pdf
- CCMC. (2004, April). *Guidelines for Evaluating Nonprofit Communications Efforts*. Communications Consortium Media Center. Retrieved from http://www.pointk.org/resources/files/Eval_comm_efforts.pdf
- Cromwell, J., Hannan, M., Labys, W. C. and Terraza, M. (1994). *Multivariate Tests for Time Series Models*. Thousand Oaks, CA:Sage
- Cutlip, M., Center, A., & Broom, G. (1985). *Effective public relations* (6th ed.). Englewood Cliffs, NJ: Prentice Hall.
- Ehling, W. P. (1992). Estimating the value of public relations and communication to an organization. In J. E. Grunig, D. M. Dozier, W. P. Ehling, L. A. Grunig, F. C. Repper, & J. Whits (Eds.), *Excellence in Public Relations and Communication Management* (pp. 617-638). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Granger, C. W. (1969). Investigating causal relations by econometric models and cross-spectral methods. *Econometrica: Journal of the Econometric Society*, 424-438. doi: 10.2307/1912791
- Gregory, A., & Watson, T. (2008). Defining the gap between research and practice in public relations programme evaluation—towards a new research agenda. *Journal of Marketing Communications*, 14(5), 337-350. doi:10.1080/13527260701869098
- Grunig, J. E. (1992). *Excellence in public relations and communication management*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Grunig, J. E. (2013). Furnishing the Edifice: Ongoing Research on Public Relations as a Strategic Management Function. In K. Sriramesh, A. Zerfass, & J-N. Kim. (Eds.), *Public Relations and Communication Management* (pp. 41-66). Routledge.
- Grunig, L., Grunig J. and Dozier D. (2002), *Excellent Organisations and Effective Organisations: A Study of Communication Management in Three Countries*, Lawrence Erlbaum Associates, Mahwah, NJ.
- Hallahan, K. (1993). The paradigm struggle and public relations practice, *Public Relations Review*, 19(2), 197–205. doi:10.1016/0363-8111(93)90009-2
- Holland, P. W. (1986). Statistics and causal inference. *Journal of the American statistical Association*, 81(396), 945-960. doi:10.1080/01621459.1986.10478354
- Jain, R. (2015, August). *Top five questions to ask about mix market modeling*. Institute for Public Relations. Retrieved from <https://instituteforpr.org/top-five-questions-ask-mix-market-modeling/>
- Kim, Y. (2000). Measuring the bottom-line impact of corporate public relations. *Journalism & Mass Communication Quarterly*, 77(2), 273-291. doi:10.1177/107769900007700204
- Kim, Y. (2001). Measuring the economic value of public relations. *Journal of Public Relations Research*, 13(1), 3-26. doi:10.1207/S1532754XJPRR1301_2
- Kiousis, S., Popescu, C., & Mitrook, M. (2007). Understanding influence on corporate reputation: An examination of public relations efforts, media coverage, public opinion, and financial performance from an agenda-building and agenda-setting perspective. *Journal of Public Relations Research*, 19(2), 147-165. doi:10.1080/10627260701290661
- Kleinnijenhuis, J., Schultz, F., Utz, S., & Oegema, D. (2015). The mediating role of the news in the BP oil spill crisis 2010: How US news is influenced by public relations and in turn influences public awareness, foreign news, and the share price. *Communication Research*, 42(3), 408-428. doi:10.1177/0093650213510940
- Knowlton, L. W., & Phillips, C. C. (2013). *The Logic Model Guidebook: Better strategies for great results*. Sage.
- Lee, S., & Kim, B. (2015). A time-series analysis of international public relations expenditure and economic outcome. *Communication Research*. doi:10.1177/0093650215581370.
- Lee, S., & Yoon, Y. (2010). Return on investment (ROI) of international public relations: A country-level analysis. *Public Relations Review*, 36(1), 15-20. doi:10.1016/j.pubrev.2009.08.011
- Likely, F., Rockland, D., & Weiner, M. (2006). *Perspectives on the ROI of media relations publicity efforts*. The Institute for Public Relations. Retrieved from https://www.instituteforpr.org/wp-content/uploads/2006_ROI_LRW3.pdf
- Likely, F., & Watson, T. (2013). Measuring the edifice: Public relations measurement and evaluation practices over the course of 40 years. In K. Sriramesh, A. Zerfass, & J-N. Kim. (Eds.), *Public Relations and Communication Management* (pp. 183-202). Routledge.
- Lindenmann, W. K. (1993). An 'effectiveness yardstick' to measure public relations success. *Public Relations Quarterly*, 38(1), 7.
- Macnamara, J. (1992). Evaluation: The Achilles heel of the public relations profession. *International Public Relations Review*, 15(4), 17–31.
- Macnamara, J. R. (2007). *Return on investment (ROI) of PR & corporate communication*. Sydney: Mass Communication Group.

References (Cont'd)

- Macnamara, J. (2012). The global shadow of functionalism and excellence theory: An analysis of Australasian PR. *Public Relations Inquiry*, 1(3), 367–402. doi: 10.1177/2046147X12448581
- Macnamara, J. (2015). Breaking the measurement and evaluation deadlock: a new approach and model. *Journal of Communication Management*, 19(4), 371-387. doi:10.1108/JCOM-04-2014-0020
- Macnamara, J., Lwin, M. O., Adi, A., & Zerfass, A. (2015). Asia-Pacific Communication Monitor 2015/16. The state of strategic communication and public relations in a region of rapid growth. Survey results from 23 countries. Hong Kong: APACD. Retrieved from <http://www.zerfass.de/APCM-WEBSITE/APCM-2015.html>
- Macnamara, J., & Zerfass, A. (2017). Evaluation stasis continues in PR and corporate communication: Asia-Pacific insights into causes. *Communication Research and Practice*, 3(4), 319-334. doi:10.1080/22041451.2017.1275258
- Mccleary, R., & Welsh, W. N. (2015). Philosophical and statistical foundations of time-series experiments. In T. R. Kratochwill & J. R. Levin (Eds), *Single-Case Research Design and Analysis (Psychology Revivals): New Directions for Psychology and Education* (pp. 41-91): New York, NY: Routledge.
- Morariu, J., Athanasiades, K., Pankaj, V., & Grodzicki, D. (2016). *State of Evaluation 2016: Evaluation Capacity and Practice in the Nonprofit Sector*. Innovation Network. Retrieved from https://www.innonet.org/media/2016-State_of_Evaluation.pdf
- Morariu, J., & Brennan, K. (2009). Effective advocacy evaluation: The role of funders. *The Foundation Review*, 1(3), 100-108. doi:10.4087/FOUNDATIONREVIEW-D-09-00031.1
- Noble, P., & Watson, T. (1999). Applying a unified public relations evaluation model in a European context. In Paper presented to the transnational communication in Europe: Practice and research congress.
- O’Neil, G. (2015). *Communication evaluation in international organisations: methodology, influence and use* (Doctoral dissertation, The London School of Economics and Political Science (LSE)).
- Pavlik, J. V. (1987). *Public relations: What research tells us*. Sage.
- Shadish, W., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston, MA: Houghton Mifflin.
- Shonkoff, J. P., & Phillips, D. A. (Eds). (2000). *From neurons to neighborhoods: The science of early childhood development*. Washington, DC: National Academy Press. doi: 10.17226/9824
- Singleton, R. A., & Straits, B. C. (2009). *Approaches to Social Research*. Oxford University Press.
- Taplin, D. H., & Clark, H. (2012). *Theory of change basics: A primer on theory of change*. New York: Actknowledge.
- Vigen, T. (2015). *Spurious Correlations*. Hachette.
- Volk, S. C. (2016). A systematic review of 40 years of public relations evaluation and measurement research: Looking into the past, the present, and future. *Public Relations Review*, 42(5), 962-977. doi:10.1016/j.pubrev.2016.07.003
- W. K. Kellogg Foundation. (2006). *Logic model development guide*. Retrieved from <https://www.wkkf.org/resource-directory/resource/2006/02/wk-kellogg-foundation-logic-model-development-guide>
- Wampold, B. E. (2015). The intensive examination of social interactions. In T. R. Kratochwill & J. R. Levin (Eds), *Single-Case Research Design and Analysis (Psychology Revivals): New Directions for Psychology and Education* (pp. 93-131): New York, NY: Routledge.
- Watson, T. (2008). Public relations research priorities: A Delphi study. *Journal of Communication Management*, 12(2), 104-123. doi:10.1108/13632540810881938
- Watson, T. (2012). The evolution of public relations measurement and evaluation. *Public Relations Review*, 38(3), 390–398. doi:10.1016/j.pubrev.2011.12.018
- Watson, T., & Noble, P. (2007). *Evaluating public relations* (2nd ed.). London: Kogan Page.
- Watson, T., & Noble, P. (2014). *Evaluating public relations* (3rd ed.). London: Kogan Page.
- Watson, T., & Zerfass, A. (2011). Return on Investment in Public Relations: A critique of concepts used by practitioners from the perspectives of communication and management sciences. *PRism*, 8, 1-14. Retrieved from http://www.prismjournal.org/fileadmin/8_1/Watson_Zerfass.pdf
- Weiner, M., Arnorsdottir, L., Lang, R., & Smith, B. G. (2010, June). *Isolating the Effects of Media-Based Public Relations on Sales: Optimization Through Marketing Mix Modeling*. Institute for Public Relations. Retrieved from <https://www.amecorg.com/downloads/madrid2013/Workshop-A-Mark-Weiner-IPR-Marketing-Mix-Modeling-Whitepaper.pdf>
- Zerfass, A. (2010). Assuring rationality and transparency in corporate communications. Theoretical foundations and empirical findings on communication controlling and communication performance management. In M. Dodd, & K. Yamamura (Eds.), *Ethical issues for public relations practice in a multicultural world*. 13th International Public Relations Research Conference (pp. 947–966). Gainesville, FL: Institute for Public Relations.
- Zerfass, A., Verčič, D., Verhoeven, P., Moreno, A., & Tench, R. (2015). European Communication Monitor 2015. Creation communication value through listening, messaging and measurement. Results of a Survey in 41 Countries. Brussels: EACD/EUPRERA, Helios Media. Retrieved from <http://www.communicationmonitor.eu/european-communication-monitor-all-reports/>

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Nonprofits' Public Relations Measurement and Evaluation

**Jungkyu Rhys Lim
University of Maryland
jklm@umd.edu**