



1. Survey Objectives

- **Best practice:** objectives and scope are clearly defined, discussed, and refined in consultation with a representative group of Survey respondents.¹

The overall objective of the annual *Sierra-Cedar Systems Surveys* is to track technology application adoption and the value achieved. The focus of the technology application adoption is those applications deemed to have enterprise-wide value. The primary intended audience is practitioners—helping them to prioritize which applications to deploy next and in their justification for new solutions. Each year, prior to updating the Survey, we develop new hypotheses that we've refined through consultation with a panel of experts from the practitioner community, the vendor community, and with key analysts. We further refine the Survey scope with our benchmark customers. Sierra-Cedar management also contributes ideas based on our organization's work in the enterprise technology space.

2. Survey Design

- **Best practice:** the survey team has extensive quantitative research expertise with the survey's content and interacts directly with respondents on the survey's content, definitions and objectives.

We have extensive experience with the Survey contents and interact directly with respondents on the Survey's content, definitions, and objectives. Members of the Survey team have deep quantitative research expertise. We engage external expertise for our value chain analysis statistical validation and others on an as-needed basis for analyses such as the periodic statistical cross-lag analysis.

3. Survey Distribution

- **No best practice defined in the Mercer Survey Quality Continuum.**

Broad questionnaire distribution is important in our efforts to ensure against bias. We have a very broad distribution process to better reach customers and prospects of all leading technology vendors (primarily those with at least 5% adoption either this year or next). We also have an outreach through major associations

¹ In 2011, CedarCrestone (now Sierra-Cedar) underwent an intensive survey methodology validation with experts in the Mercer Survey Quality group, one that we viewed as excellent due to its compensation and broader survey expertise, with well over 50 people involved. Mercer had developed a Survey Quality Continuum that defined poor, good and best survey practices. The Mercer Quality Continuum at the time had eight steps. We added one additional (Questionnaire distribution) as our survey requires a different approach to creating a broad cross-section of survey respondents, whereas Mercer's work is based on survey work with its client base only.

such as IIM in the US, AI in Australia, and a changing list of others within Europe. From time to time, we get what on the surface appears to be an increase skew from one or another vendor that is undergoing some sea change. For example, some of the early Software as a Service (SaaS) vendors that provide best-of-breed solutions underwent some sea change when both PeopleSoft and SAP solutions began to achieve some parity with features and functions. Another example of a skew came about when Taleo was acquired: its customers were briefly confused by Oracle plans and thus more interested in our Survey as it implicitly provides some view of market direction. We address any potential skew with a t-test validation, but to date have not had to adjust the use of any vendors' customers.

We further believe that, as our survey is US dominant, we underrepresent SAP customers outside of the US. In the past, because SAP conducts a customer survey to support its value analyses, it has chosen not to support our Survey. For the one year that we were given access to SAP's worldwide customer base, we found that its non-US customers actually have other leading MSs, reflecting that many are global, using a myriad of solutions. In 2013, we believe we are getting a closer representation of actual market adoption. We continue to build Sierra-Cedar visibility outside of the US to increase participation levels in Europe and the Asia-Pacific regions.

4. Data Collection

- **Best practice (Mercer specific):** the survey team contacts respondents individually and in groups through personal or web-hosted meetings to match jobs, reaching consensus on data elements to be requested. The resulting unambiguous job descriptions, job levels, survey definitions, and required data elements make it easier to understand what data to submit to the survey.
- **Best practice:** the survey team contacts practitioner respondents individually and in panel groups, reaching consensus on questions to be asked. The survey team also reviews product offerings and works to provide application names that have broad understanding. In the case of multiple names, we provide multiple definitions.

Instead of thinking about job descriptions, we think about descriptions of applications and other key elements such as headcount metrics and expenditure metrics. We move our descriptions from generic to specific as the market matures and as our practitioner audience suggests. For example, in the early days of the Survey, we had individual employee and manager self service questions; today, we ask about employee and manager self service only and do not provide extensive descriptions—direct access is more ubiquitous. We purposely leave descriptions somewhat vague the first year of adoption when there is no agreement. For example, the first year we covered workforce planning, we had no description, but asked respondents what they thought in an open-ended question. From those responses, we were able to more definitively define it the second year (and thereafter) as strategic workforce planning. Currently “predictive analytics” has no extensive description, but we may add one going forward as adoption increases.

We do work with customers, vendors, and consultants to fine tune descriptions, so on the second or third year that a new application appears in our Survey, we will apply a description that comes from working with those communities. In the case of emerging areas such as social and mobile, we review the product offerings of major vendors to provide examples of social- or mobile-enabled process support.

5. Sample Validation

- **Best practice:** survey team gives great attention to detail in selecting participants, and in particular, to ensuring the continuity of a representative participant base. Every participant is encouraged to complete all questions and is contacted directly to solicit missing information.

We “target” individuals at the intersection of and technology on the manager/director level in organizations with at least 200 employees using a “snowball” technique—also known as “respondent-driven sampling.”

We find that respondents from non-organizational email addresses (gmail, yahoo, msn, and international equivalents) most often do not actually represent a practitioner organization, so these are eliminated. We then accept all remaining responses as our Survey is designed to first capture some overall market information. Organization names are used to collect financial metrics from sources such as Hoovers. At this point, each respondent is given a unique key and thereafter treated anonymously. (As we promise in our survey invitation, “All responses are confidential and only used in aggregate results.”)

Regarding sample size, we have done extensive research to discover the number of organizations that are potential users of the technologies for which we have a general interest: ~44,000 worldwide. From that, we have found that with a minimum of 381 responses, we have a representative sample at the 95% confidence level worldwide.² We require that level for all major tables published within our report and carefully designate when we do not have that. Nevertheless, we continue to solicit responses to ensure that sub-samples (i.e., employer size) are large enough themselves.

6. Data Cleansing

- **Best practice:** data cleansing standards are rigorous. Sample sizes are monitored for face validity of market adoption.

We have rigorous and extensive data cleansing standards. We do consistency checking within a given year and against prior year responses. For example, we spot check that a respondent truly has a vendor in use. We do t-tests from prior to current year before offering trend analysis. When conducting our benchmark analysis, we often contact respondents with clarifying questions and then fine-tune our subsequent questionnaire. We provide guidance on the nature of outliers in our benchmark service and their impact on a specific organization.

We do a great amount of data cleansing and validation for all sections. For the up-front sections covering questions of broad market interest, we cleanse responses to industry and whether the organization is publicly traded, for example. For application usage, we cross validate between usage and deployment model and presence of a vendor that offers such an application and deployment approach, for example. We recognize that some organizations are not allowed to provide future plans and thus some of our Survey samples are not of the entire overall sample; for example, some organizations are not allowed to provide plans for a vendor change in the next 12 months.

2 <http://www.raosoft.com/samplesize.html>

7. Data Analysis

- **Good practice:** analysis includes means, medians, quartiles, and N values. Statistical methods are explained. Current results are compared to prior results (when available) to show trends and to validate results.
- **Best practice:** the best surveys provide full percentile distributions, same-sample analysis, trend analysis, and supplemental analyses to clarify what particular statistics mean and how to interpret them. Methodology is clear and explicit.

Our survey reporting reflects good practice. While we could, we do not publish full percentile, distributions, same-sample analysis, etc. Early on in the life of the Survey, we heard from readers that the statistical treatment was too onerous, a visual turn-off, and kept them from understanding the implications of the results. We also do not have the time or budget to accommodate both a full proper statistical treatment and the currently freely available treatment.

8. Results & Analytics

- **Good practice:** results are provided in a survey report that is organized and logical. Report begins with an executive summary highlighting key findings and trends. It may present some conclusions, identify cautions, and suggest areas for further investigation. Survey appendices define terms clearly and describe the study design and methodologies.
- **Best practice:** results and more detailed analytics are available through multiple mediums. A report provides clear, specific conclusions that can inform decision makers' actions—and clearly indicates areas where study results should be used cautiously. Supplementing the survey report, there is usually a meeting or webinar that includes analysis-and-interpretation to contextualize study results and link them to findings in other studies (such as economic forecasts, other market trends, etc.). The survey sponsor provides full access to multiple levels of support. Report users have access to the research team to answer detailed questions.

We provide an annual survey report beginning with an executive summary highlighting key findings and trends along with key recommendations based on survey results. Due to the scope, we also provide supplemental reports or articles such as the in-depth application adoption report provided to IIM in 2013.³

Participants are sent early results several days before publicly available. Participants are not contacted for any solicitation by Sierra-Cedar and their names are not shared externally, with survey distributors, or internally within Sierra-Cedar.

We provide results through multiple mediums: free, publicly available presentations such as the Technology@ Conference and the IIM annual webinar; free, publicly available white papers on both overall results and global-respondent-only results; and free and fee-based vendor or audience-specific presentations. We also provide a fee-based benchmarking service for individual organizations that compares them to their peers (industry/size, service delivery stance, and a stretch set of best practice organizations).

³ Vendor Solutions in Use and Planned from the 16th Annual CedarCrestone Systems Survey, http://www.iim.org/Pubonline/Wire/Sept13/CedarCrestone_16thSurvey_IIMWire.pdf

In a survey with a broad scope such as ours, it is difficult to contextualize survey results across the board. Nevertheless, we work to do just that, occasionally singling out an industry (healthcare or higher education) or a region (Europe or Asia Pacific) based on customer and vendor requests. The results of these efforts are also available for free.

9. Publication Support

- **Good practice:** post-publication support is available through a web-enabled support service or a customer service hotline. Access to researchers is limited. Some limited means may be provided to manipulate the data and create custom analysis.
- **Best practice:** the survey sponsor provides full access to multiple levels of support (global, regional, and local). Users can access the research team for answers to detailed questions. Support team understands user issues. The research team may host webinars, produce video commentary, and sponsor other forums to present survey findings and answer questions. The survey sponsor responds in a timely manner and provides consulting support to apply the findings to specific problems. There may also be technology provided to enable interaction among the participants and the survey team. A tool is provided to customize data for simple, meaningful comparison.

Our main survey report is supported with numerous webinars and survey sessions that are free. Best practice can be provided on a fee basis.

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