

Practical Software & Systems Measurement (PSM) Survey and Preliminary Results

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PSM Survey

- Web Based
- Assess the PSM project and the needs of measurement users
- Approximately 15 questions

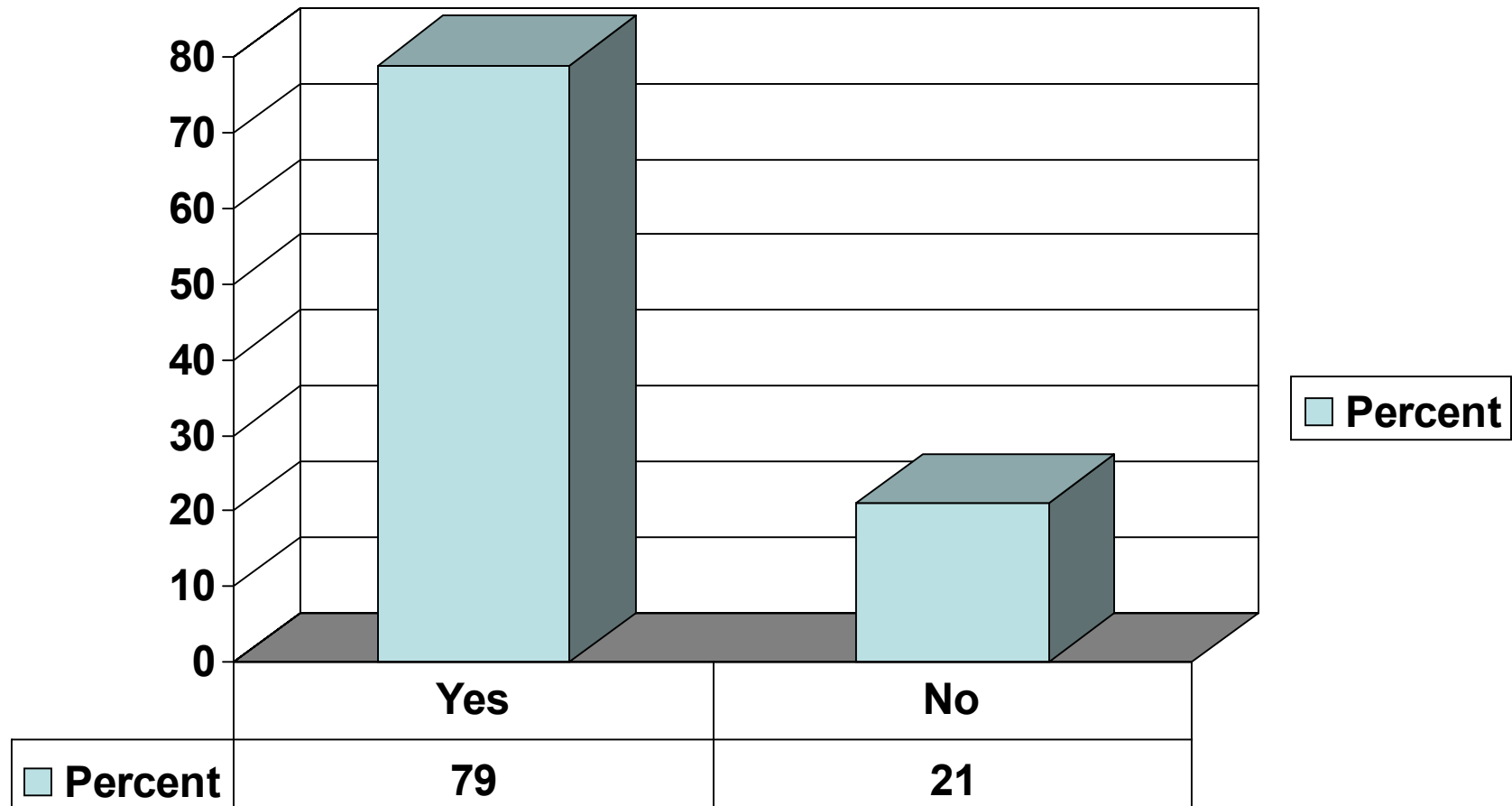
Survey

- PSM Survey

Initial Results

- 63 Responses analyzed as of 25 March 2003.
- [PSM Survey Results.htm](#)

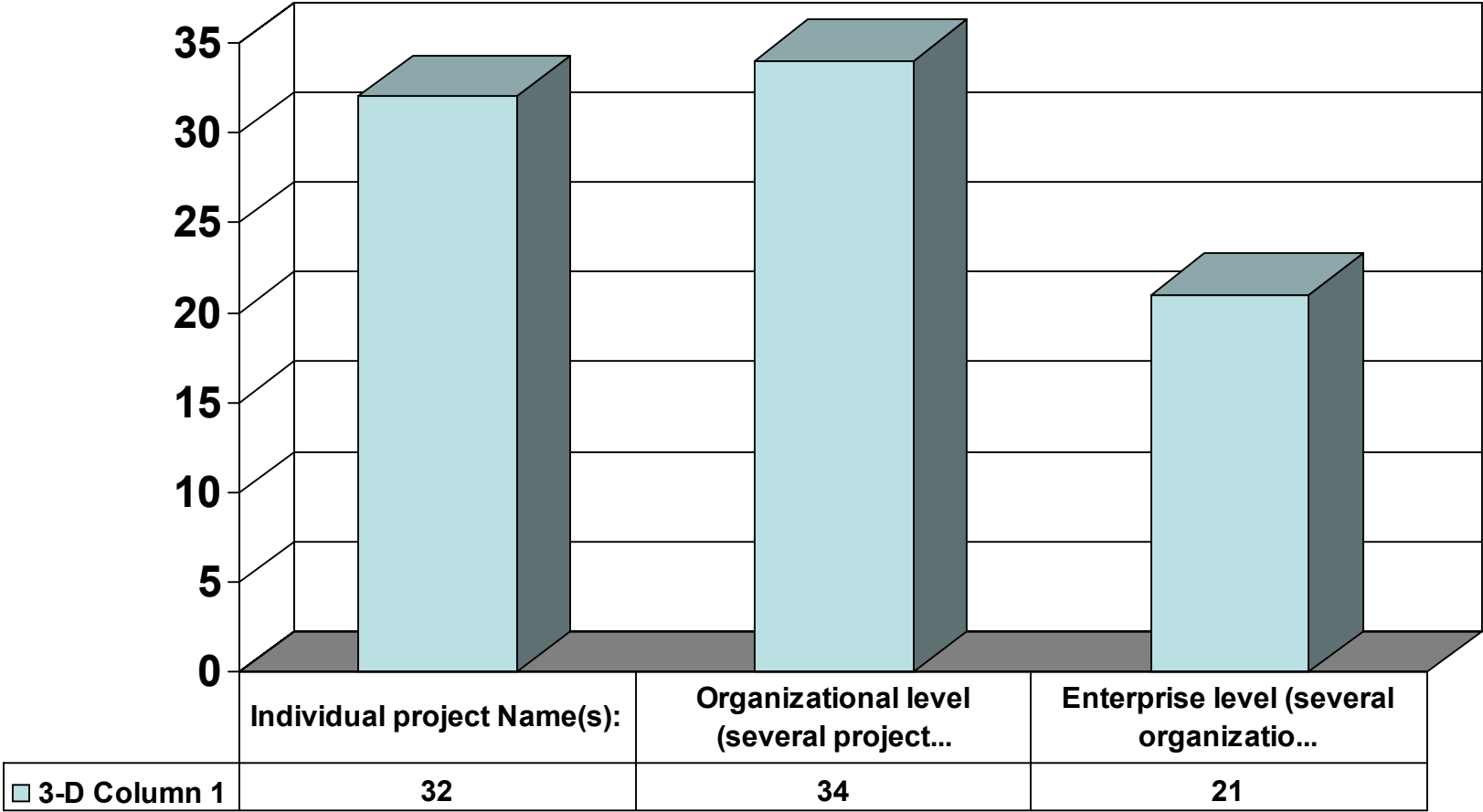
Does your organization have a measurement process?



Does your organization have a measurement process?

Choice	Count	Percentage Answered
Yes	50	79.4%
No	13	20.6%

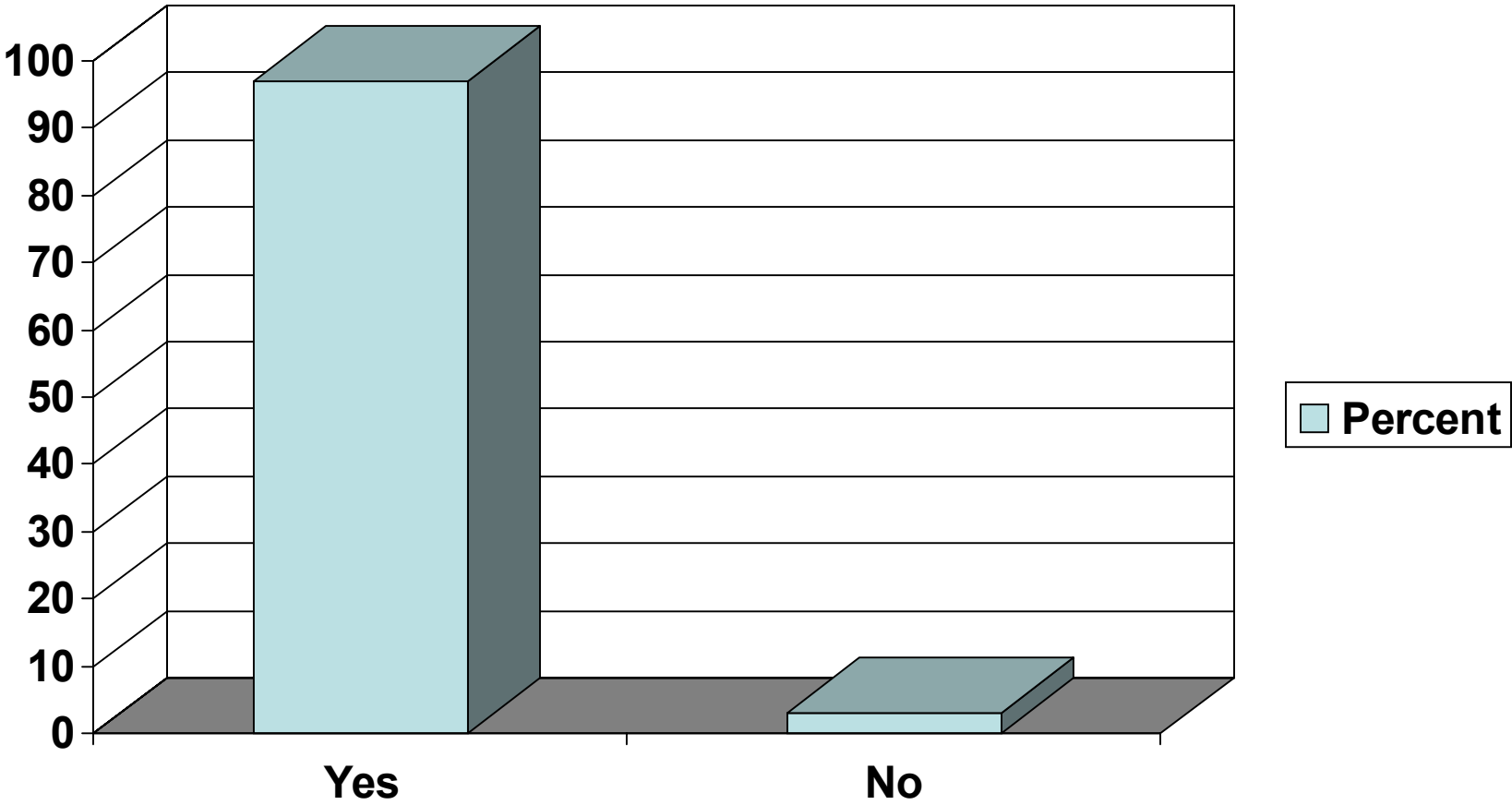
Level of measurement. Check all that apply.



Level of measurement. Check all that apply.

Choice	Count	Percent of Sample
Individual project Name(s):	32	50.8%
Organizational level (several projects) Name(s):	34	54.0%
Enterprise level (several organizations) Name(s):	21	33.3%

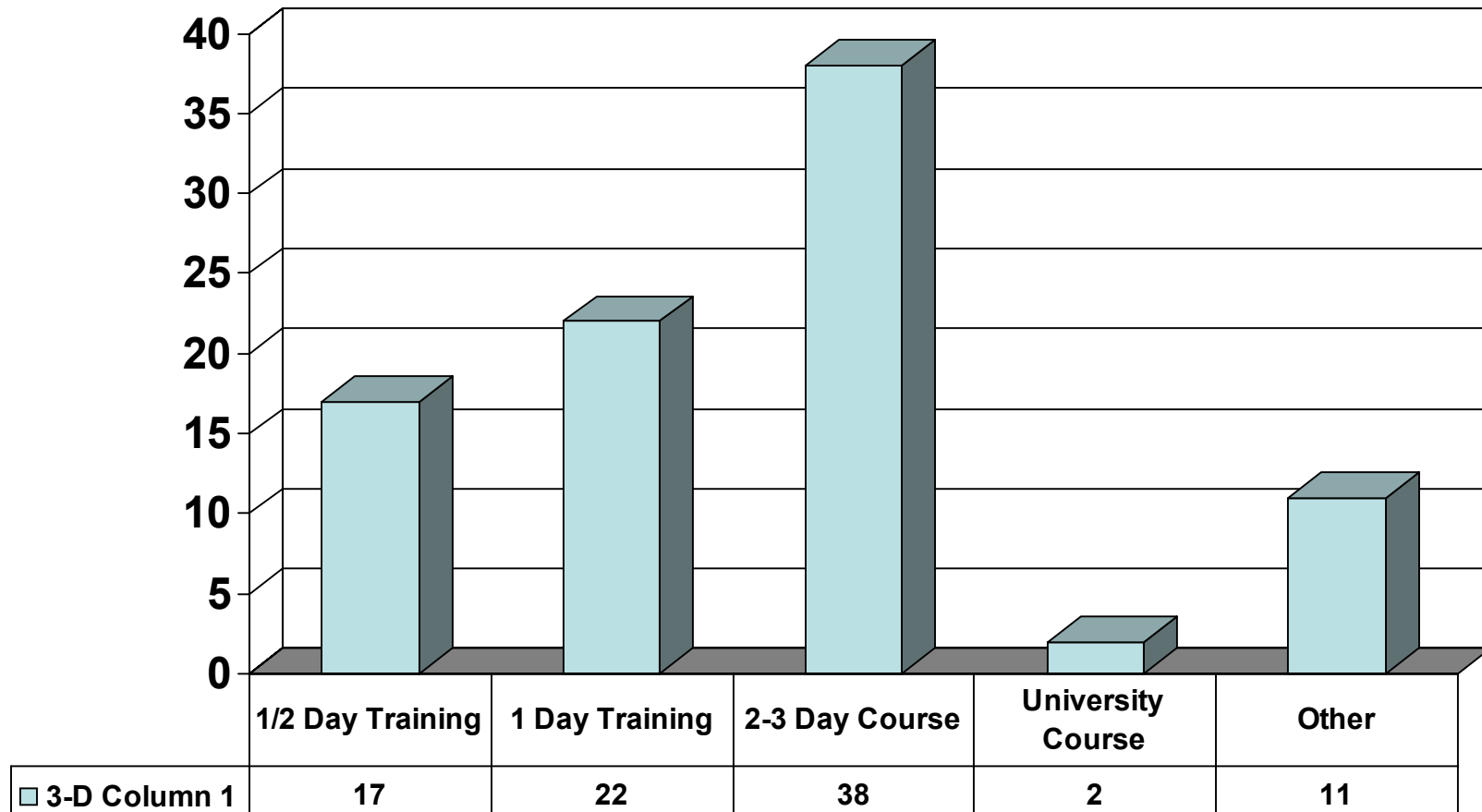
Are you familiar with PSM?



Are you familiar with PSM?

Choice	Count	Percentage Answered
Yes	61	96.8%
No	2	3.2%

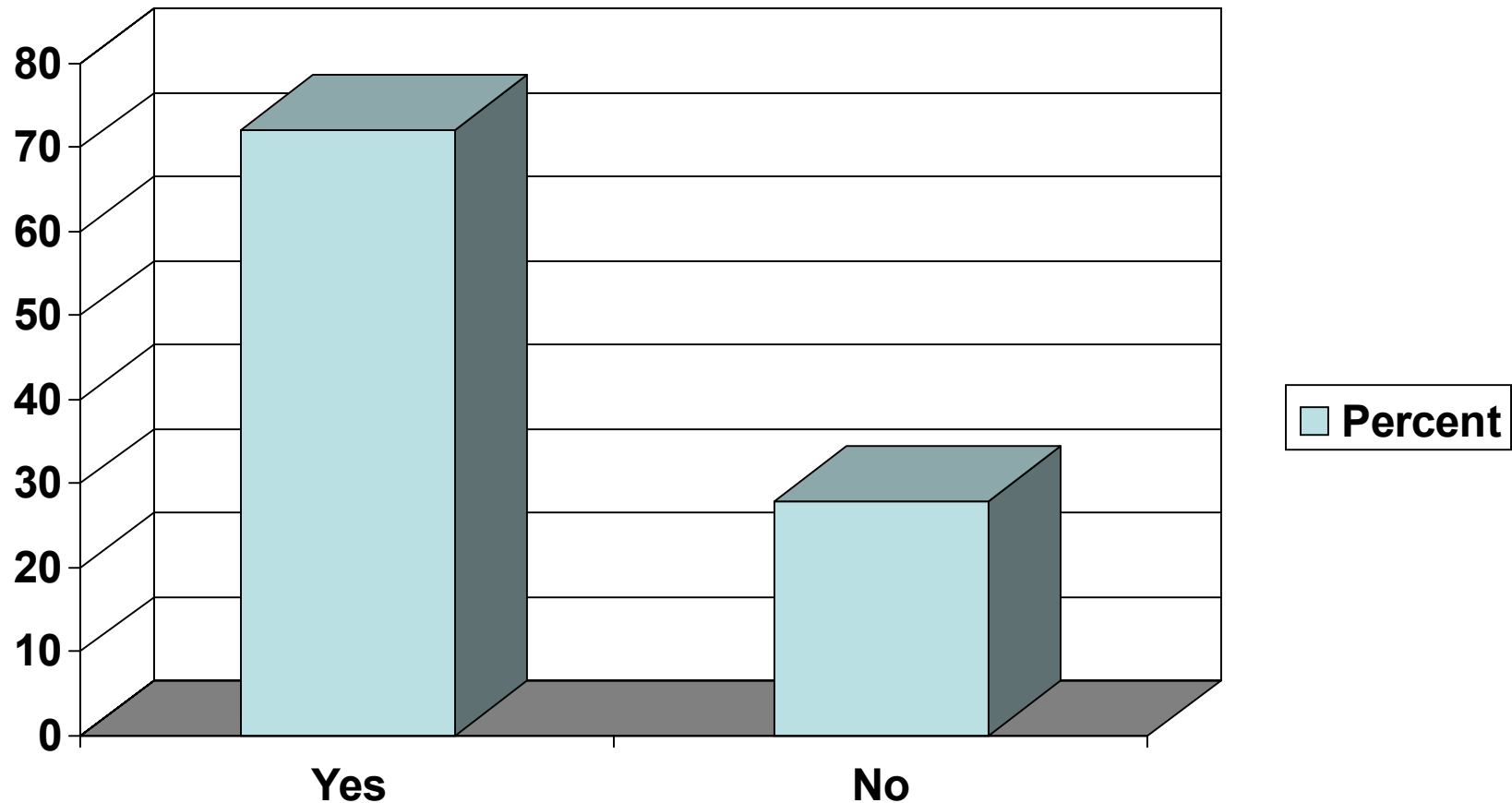
Have you attended or taken a PSM course?



Have you attended or taken a PSM course?

Choice	Count	Percent of Sample
1/2 Day Training	17	27.0%
1 Day Training	22	34.9%
2-3 Day Course	38	60.3%
University Course	2	3.2%
Other	11	17.5%

Does your measurement process use the PSM process and concepts?



Does your measurement process use the PSM process and concepts?

Choice	Count	Percentage Answered
Yes	44	72.1%
No	17	27.9%

Please describe how you use the PSM process in your organization.

- Utilize families of existing data to derive process outcomes and projections
- use the basic concept of determining what measures are needed, and then measure those only
- use the basic concept of determining what measures are needed, and then measure those only
- Measurement plan is based on PSM methodology.
- Identify issues, Select and identify measures, and integrate into the technical and management processes
- We develop measures based on the information needs of our management board, and our parent organization.
- We are a SPI company. **We use PSM as method to implement measurement process in organizations.**
- Even though this organization does not have a measurement process (we are not a development organization), we have defined policy for DoD software development data reporting that took advantage of the PSM philosophies of goal directed, project-specific measurement definition.
- We use the PSM to help define our measures using the Issues-Categories-Measures defined in PSM. **These are mapped to our Organization and/or Project Information** needs (issues) and documented in our SW Measurement Plans.

Please describe how you use the PSM process in your organization. (Continued)

- The SWISE group has had implemented a process for software projects to use to measure and monitor their work.
- **The concepts of the PSM helped us to establish enterprise measurement process**
- We have based our measurement program on the PSM process and principles. The projects are selecting measures based on their information needs, and the measurement process is being rolled out on a project by project basis.
- **Program-specific and organizational measures** are evaluated monthly for trends and outliers. The measures show help show the effects of process improvements and held identify the need for process improvement. Each measure is managed using a threshold(s), goal, and means. The core set of organizational measures is evaluated annually based on changing information needs of the programs in the organization.
- The Program Managers decide what their Issues are and then the Acquisition team works with the contractor to identify the indicators and data that will be reported.
- It's been agreed to standard for measurement for two years, but not one project has volunteered to get the workshop and actually do measurement. New acquisition executive is working out measurements but they're not talking about "how to" yet.

Please describe how you use the PSM process in your organization. (Continued)

- We use it to evaluate the quality and maturity of software intensive systems.
- As a framework for determining what software metrics to use.
- Defined process used to evaluate progress, and assess feasibility of project plans
- In our measurement process we use PSM to guide us and our customers through the selection, definition, and analysis of measures that address each area's specific issues and objectives. Our tool, DataDrill, supports using the PSM methodology and terminology, and issues-based approach to managing project and organizational information needs and decision-making.
- **DCMA uses PSM as part of our Software Acquisition Management process which uses the Supplier Risk Management methodology.**
- We teach clients how to use.
- For Cash Forecasting System Release 3.0, we have been tracking missed deadlines by the clients. Also, we plan to track the number of changes made to approved program specifications.
- Surveillance of system design, code reviews, peer reviews, audits, and product inspection, test, and acceptance.
- PSM terminology and basic process model were rolled into our own management policy
- We are a PSM partner

Please describe how you use the PSM process in your organization. (Continued)

- Dave Card has been working on our enterprise measurement
- **We currently use the PSM Process on our existing projects and also use the methodology at the organizational level**
- Materiel projects are required under policy to implement information based measurement programs. These requirements are flowed to Defence suppliers contractually.
- In my own consulting business, I recommend the use of the ICM tables to my customers. I also use the PSM processes and the ICM tables as a sort of 'checklist' when I support independent project assessments (via DoD's TAI and NASA's Independent Project Assessment Office)
- Just getting started really. Taught 1 course, have three more planned including a workshop for EP3.
- We use the PSM process to help **identify issues through risks** and quality plans on individual projects. As we roll the measurements up, different issues and views of the data are important to different levels of management. We actually use a 4-tier structure (project, functional area, business unit, enterprise) and look at issues, categories, measures at each tier.
- Identifying necessities of measurement, planning the measure, applying the measure, extracting results of the measuring and analysing the benefits of the measure

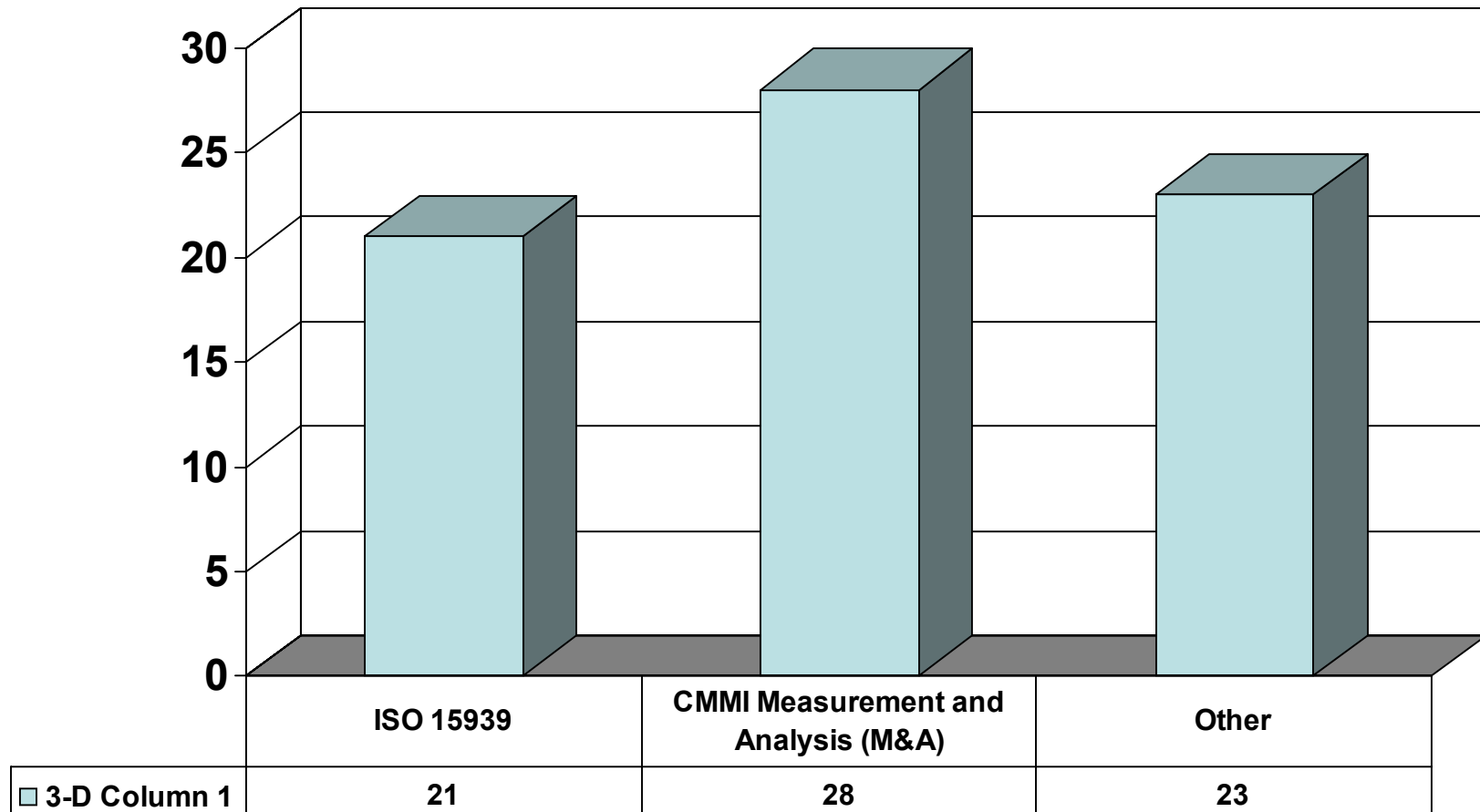
Please describe how you use the PSM process in your organization. (Continued)

- **Estamos definindo nosso processo interno de medição baseado nos princípios do PSM. Isto envolve a medição dos SLA e os níveis dos acordos internos entre as áreas. Envolve ainda os Indicadores Organizacionais, pois estamos adequando à certificação na ISO9001:2000.**
- I'm trying to introduce the PSM process here but I'm having some difficulties with the Developers team.
- We are an acquisition organization and we use PSM to train program office personnel in what to ask contractors to do as far as measurement program planning and measure delivery, how to evaluate measurement programs and measures, and how to analyze data.
- We measure Function Points, Resources, Changes, etc. We are using PSM Insight to prepare reports and graphics, based on measurements. We also combine Work Flow and Excel MS to import data to Insight PSM.
- To provide insight into the software development program. Use metrics to evaluate the maturity of the software, measure progress of the development and test efforts, **evaluate software risk** and determine mitigation actions when required.
- As a small organisation running relatively small projects, we focus on the basic issues related to schedule, cost and defects. We know if that if other issues arise. the PSM process will help us to manage them.

Please describe how you use the PSM process in your organization. (Continued)

- **we use it to apply to all levels of measurement needs..process, product, projects, program, organization, ...**
- Collection of information needs Development of measurement plan

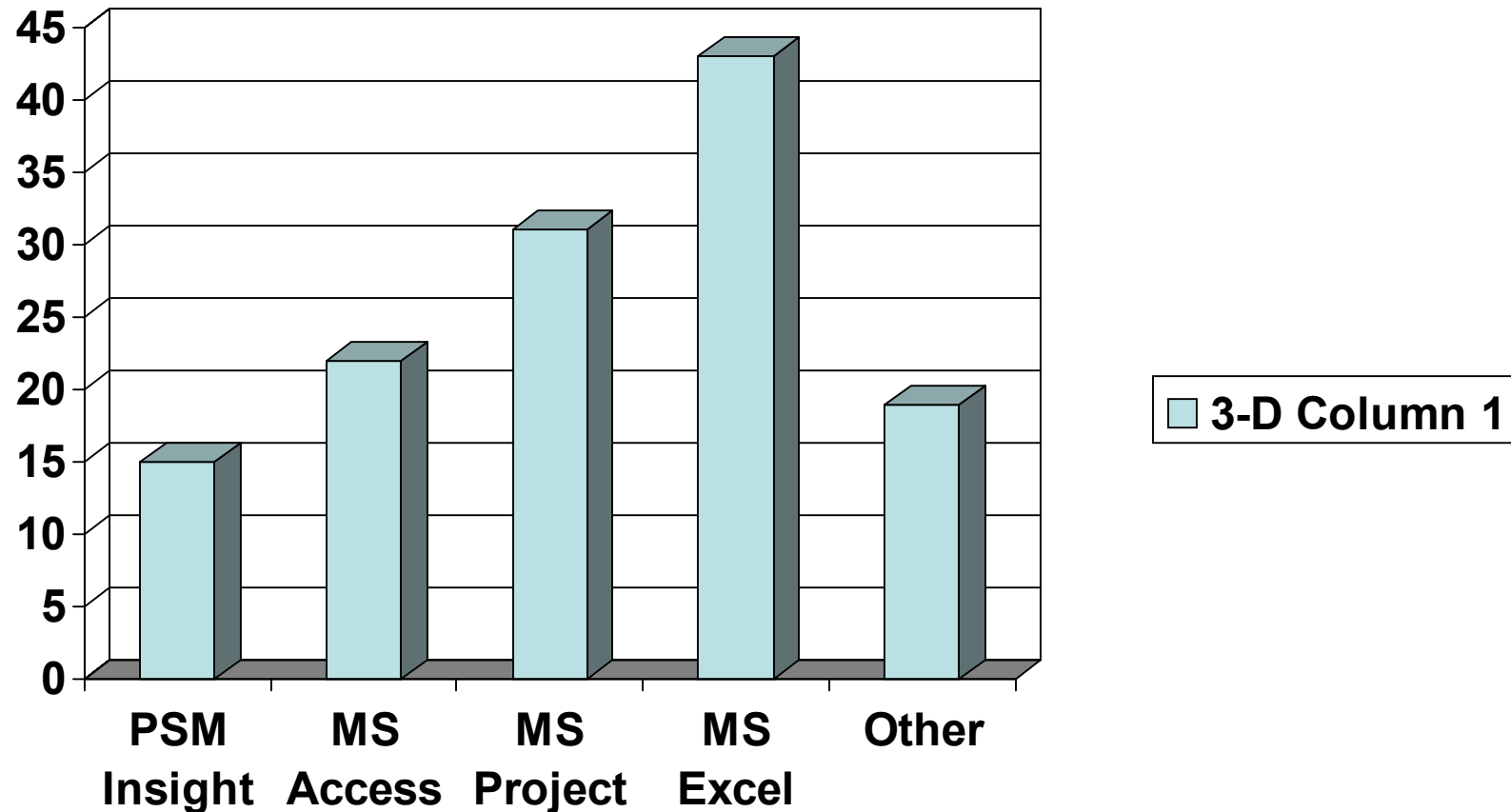
Does your measurement process use or follow the processes listed below (check all that apply)?



Does your measurement process use or follow the processes listed below (check all that apply)?

Choice	Count	Percent of Sample
ISO 15939	21	33.3%
CMMI Measurement and Analysis (M&A)	28	44.4%
Other	23	36.5%

What measurement tools are used? Please check all that apply:



What measurement tools are used?

Please check all that apply:

Choice	Count	Percent of Sample
PSM Insight	15	23.8%
MS Access	22	34.9%
MS Project	31	49.2%
MS Excel	43	68.3%
Other	19	30.2%

Please describe how you use the PSM Insight Tool in your organization.

- Tool facilitates the standardization and institutionalization of data inputs enhancing data integrity and reliability.
- PSMI is used as a main tool for measurement.
- Don't - We have a system we developed
- Our organization (ARDEC) uses it for doing their organizational measures. Our Systemic Analysis team uses it for computing our SA results.
- PSM Insight is used at the organizational level to store program data and create an aggregate organizational report. The plan is to have all SI programs enter data into individual PSM Insight projects. The organizational tool will be tied (linked) to these individual projects so that data can be brought into the organizational project each month. This has been successfully rolled out to one of the 10+ programs.
- SW error tracking, corrective action tracking, error projection and analysis.
- Organization is having difficulty getting arms around measurement in general. just gettin off the ground
- Case study data used in PSM courses Used at the project level for planning and tracking
Links to MS Project and Control Panel

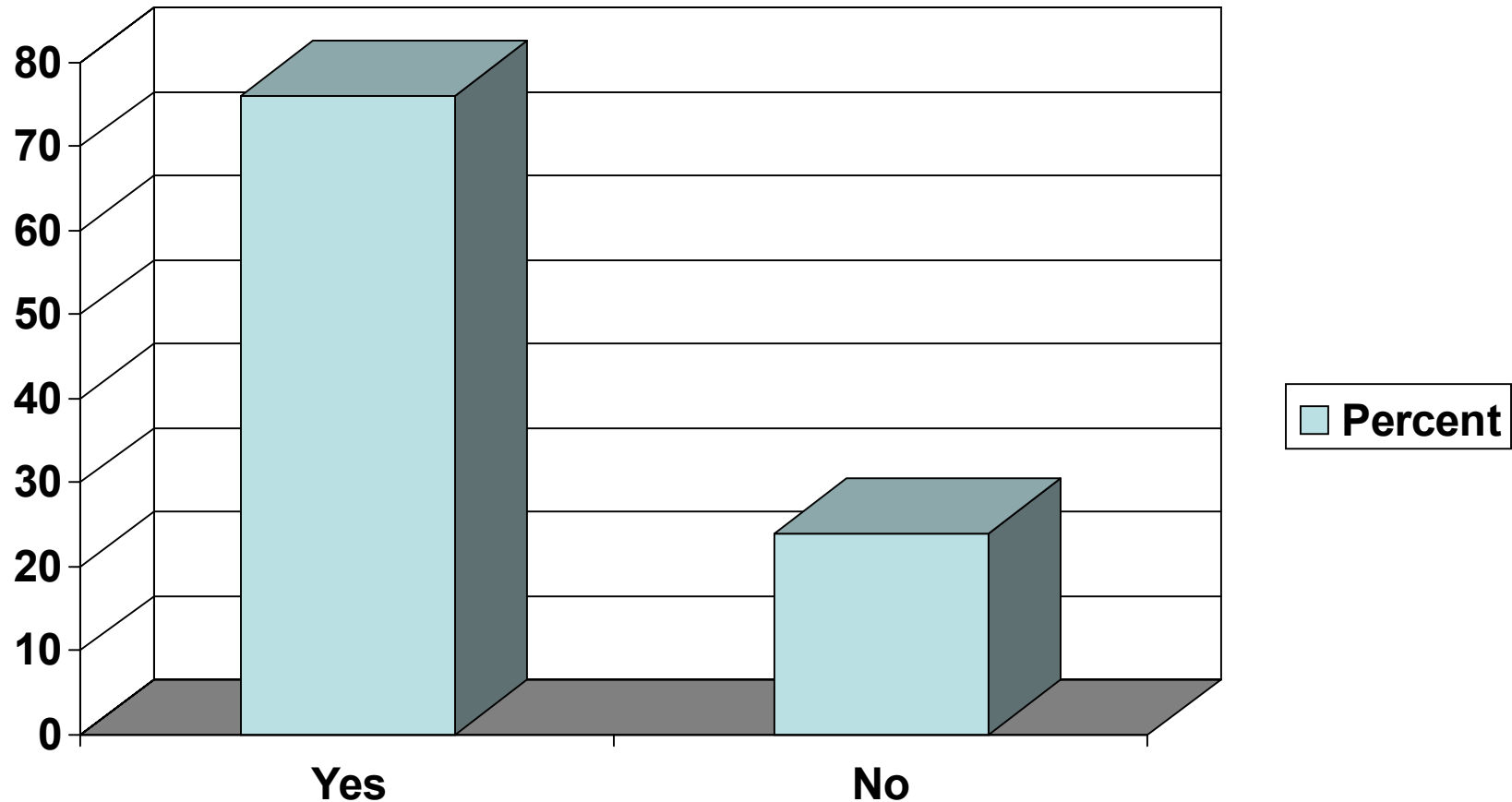
Please describe how you use the PSM Insight Tool in your organization. (Continued)

- Already answered previously.
- Monitor the use of tool by Gov't contractors.
- We use psm insight accross the projects within our organization. We have created one boiler plate template (ipz file) and then replicate it and distribute it among the projects.
- I'm marketing it, but currently it's not approved for use on the NMCI (Navy and Marine Corp Intranet). I'm trying to fix that bu it's a long hard painfull battle. NMCI is not condusive to increased productivity no matter what the EDS marketers and Navy leaders in the pentagon say. I'm not very familiar with the tool, although the demo's look good. I probably need to take a course in the near future.
- I'm preparing the use of it.
- We get data from a work flow that enters and follows changes and problems. Then import that data into Excel to get detailed analysis and relate to resources that actually will do the job. Data is prepared to be entered to Insight. Graphics are being discussed on how to use have a better use on Project Management in our department.
- Was used during training.

Please describe the benefits you have gained through the Insight Tool.

- Improved standardization of data inputs resulting in higher confidence factors related to data integrity and projected outcomes.
- The built-in template and guide from PSM. Easy to use.
- Knowing the developer makes it handy to get any kind of problems resolved.
- A streamlined data collection and reporting method. Saves time. Allows for more efficient ad-hoc reporting. Improved the quality of most charts (over Excel).
- SW quality, maturity, and readiness.
- Project Status Reports (weekly) incorporate indicators from PSM Insight - better understanding of project issues, more timely decision making by project teams
- Already answered previously.
- Report the benefit of tool as it is used by Gov't contractors.
- Insight is a wonderful tool to get a better understanding of what is happening and what is or are causing it. Trend and snapshot analysis becomes handy to avoid additional problems may come unspotted.
- Used to assist in selection of metrics for our program.

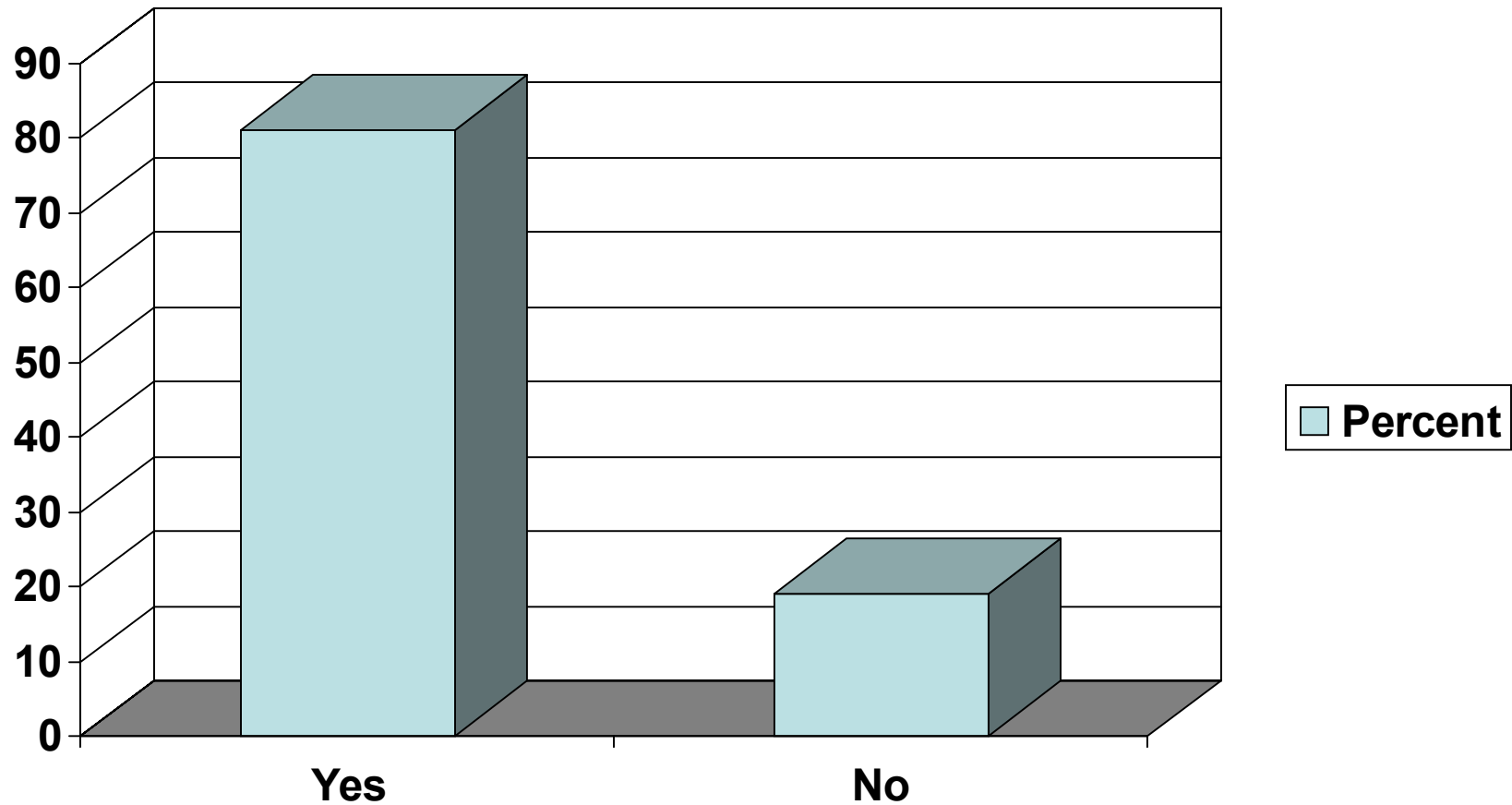
Would you like to participate in PSM project activities?



Would you like to participate in PSM project activities?

Choice	Count	Percentage Answered
Yes	48	76.2%
No	15	23.8%

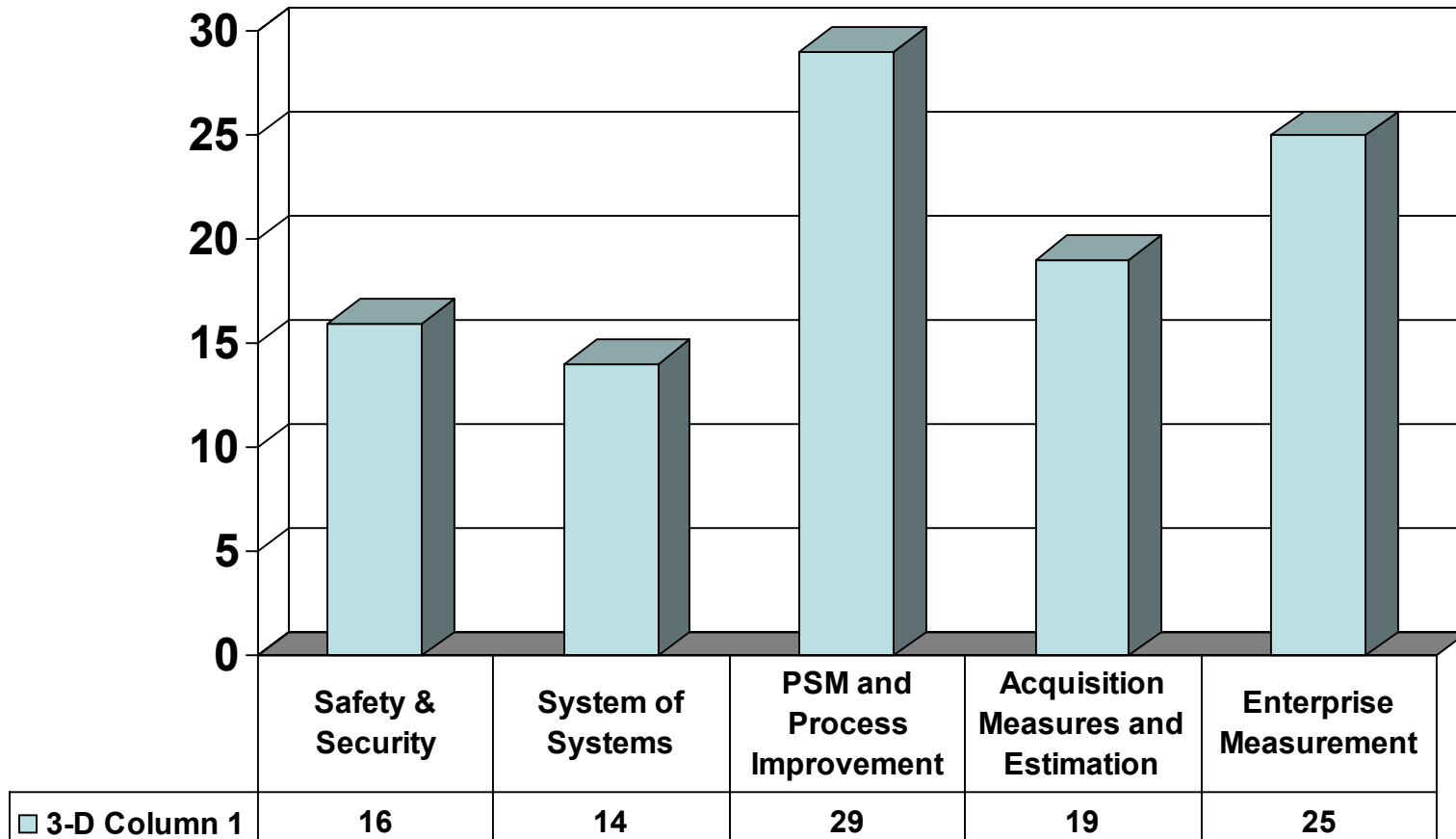
Would you like to participate in field trials for new areas of measurement management and technology?



Would you like to participate in field trials for new areas of measurement management and technology?

Choice	Count	Percentage Answered
Yes	39	81.2%
No	9	18.8%

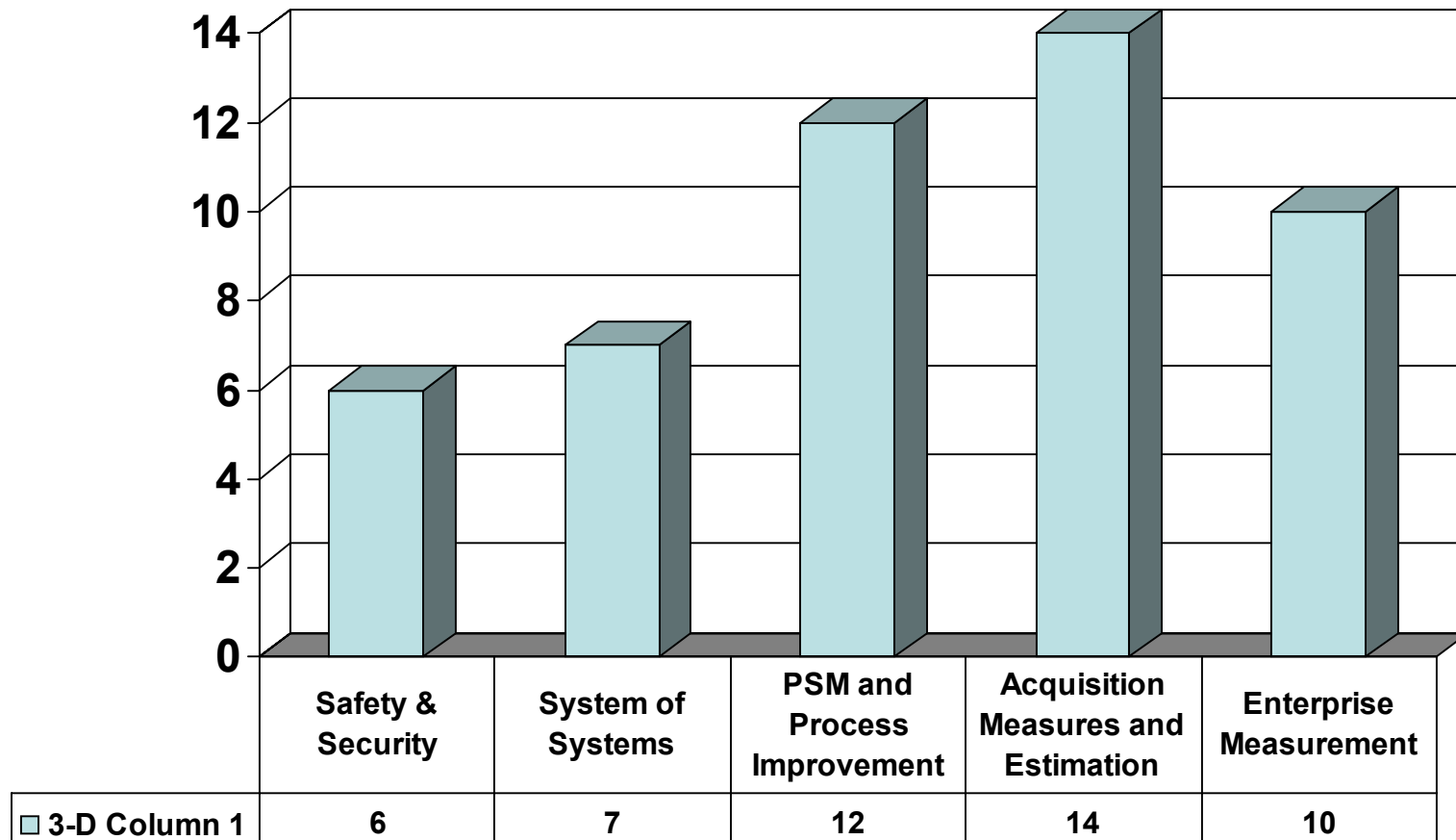
Which new measurement area(s)?



Which new measurement area(s)?

Choice	Count	Percent of Sample
Safety & Security	16	25.4%
System of Systems	14	22.2%
PSM and Process Improvement	29	46.0%
Acquisition Measures and Estimation	19	30.2%
Enterprise Measurement	25	39.7%

On what projects that are applicable to these areas can you provide information?



On what projects that are applicable to these areas can you provide information?

Choice	Count	Percent of Sample
Safety & Security	6	9.5%
System of Systems	7	11.1%
PSM and Process Improvement	12	19.0%
Acquisition Measures and Estimation	14	22.2%
Enterprise Measurement	10	15.9%

What topics would you like to see addressed at the PSM Users' Group Conference in July 2003?

- I would like to see more nuts and bolts on here's what we did. e.g. Here's how we measured Systems engineering. **I want to see more practical and less theoretical**
- Getting Management Buy-in Benchmarking Organizations with Others on Performance Measures How PSM Adds Value (Marketing PSM)
- 1. Benchmarking software maintenance and development projects 2. How can a Software organization implement Lean (Another method of accomplishing continuous process improvement) 3. How to effectively deal with A-76 and Outsourcing 3. A-76 or
- Can process measures address any shortfalls in process sufficiency/capability?
- **how PSM could be used to support CMMI level 2 or 3**
- Use of case-study information from one acquisition to support the analysis of another similar one.
- Tailoring of measures to fit smaller projects, and how to make the measures more useful in a small project.
- **System of Systems**
- Examples of different measures that projects use, especially as they relate to the measures listed in the PSM method under the different categories. My project people are not metric-savvy, and they are always asking me "**What's an example of that metric?**" Some I know, and some I don't.

What topics would you like to see addressed at the PSM Users' Group Conference in July 2003? (Continued)

- Better Data Collection Methods
- Acquisition Program Office Measurement
- Need the "elevator speech" to executive to sell the program. Need the 15, 30, and 60 minute presentation slides with notes pages to follow-up with executives Need reinforcement workshop that shows middle managers how to use, apply, reinforce, and sustain a measurement system Need training for tactical managers consistent with or better still embedded in PMI project manager boot camp.
- SW error Trouble reporting, scoring, assessment, and corrective action.
- **How to link PSM with an IT Dash Board (portfolio of projects) Measurement in enterprise e-commerce environments (balanced scorecard)**
- **1)Real life stories and lessons learned in measurement.** 2)Deefback on the CMMI M&A PA. 3) Acquisition Agencies using PSM.
- Not planning to attend.
- This Year's Planned Agenda is sufficient at this time.
- will not be able to attend
- **Rolling up project measures to the organizational level or enterprise level**

What topics would you like to see addressed at the PSM Users' Group Conference in July 2003? (Continued)

- **Enterprise level measurement**
- - expanding the Systems Engineering scope of PSM - expanding from engineering projects to the Enterprise level - adding more details about certain topics (Risk, COTS, etc)
- EVM & PSM
- System security and safety Architectural measurement System of Systems measurement Information measurement
- motivating managers to make intelligent use of measurements.
- Estimating in Interactive Life Cycle
- Measurement policy to an organization - How to planning and implement
- **Organizational measurement**, Securing executive commitment, Integrating measurement programs (TPMs, EVM, PSM)
- Measurement and outsourcing contracts.
- Como superar as dificuldades na implementação de medição: verdades e mentiras Quanto tempo leva-se para se ter visibilidade organizacional, do valor das medidas na tomada de decisão
- Integrated systems and software measurement. Maturing from initial data collection to quantitative management (a la CMM/CMMI Level 4).

What topics would you like to see addressed at the PSM Users' Group Conference in July 2003? (Continued)

- Insight PSM
- MEtrics Tools. **Selection of metrics.** Applicability of different metrics to different facets of development. Benefits of using metrics. Any statistics (etc) showing correlation between successfully managed and completed projects, and the use of metrics. (Would expect that successful projects use metrics, unsuccessful or less successful projects possibly do not have metrics - initially, anyway!)
- Measures and Measurement support tools for Acquisition Management and Customer Satisfaction
- **PSM correlation with six sigma; Enterprise Measurements; relate to Performance Measurements per OMB, GRPA, President's Management Agenda, etc**
- Measurement Integration Executive Support for measurement Organizational Integration of measurement Links to EVM Incorporation of TPMs

Take the Survey

- We need your input!

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