



SmartMarket Brief



Project Management Information Systems for Owners

EDUCATION SECTOR EDITION

Introduction

ABOUT THIS RESEARCH

The use of project management information system (PMIS) technologies is rapidly growing in the design and construction industry. Dodge Data & Analytics partnered with Kahua to survey 200 US owners in four sectors (Healthcare, Education, Corporate and Government) to learn:

- How they are deploying PMIS.
- Benefits they are receiving.
- Challenges in expanding usage.

The findings from this research are published as a five-edition series of *SmartMarket Briefs*, one for each of the four market sectors and another showing the aggregated findings across all the owners.

EDUCATION SECTOR EDITION

This *SmartMarket Brief* focuses on responses from education sector owners (public or private K-12 schools, colleges, universities, trade schools). See the Methodology on page 23 for details.

Dodge wishes to thank Kahua for sponsoring this research.

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A MESSAGE FROM KAHUA

For many years, the construction industry arguably earned its reputation as a slow adopter of technology. Over the last decade, however, we have seen a significant increase in the rate of adoption of a broad range of new technologies. Unfortunately, this trend has not translated into corresponding increases in industry productivity.

Kahua and Dodge have partnered to better understand the ways that owners are deploying new program management software technologies, and the challenges they are experiencing in creating ROI on these investments. As we spoke to owners across a broad range of vertical industries, we discovered that the accelerating pace of change in the industry is creating new challenges that place a premium on flexibility and agility. The ability to collect and effectively organize project and program data has become a strategic initiative, and security has emerged as a critical priority in both the public and private sectors.

Kahua hopes that this report will provide you with insight that will enable your organization to more effectively leverage your investments in program management software as we work to together to improve productivity in the construction industry.

Jim Wilson
CMO, Kahua

Key Findings

1

EDUCATION OWNERS TRAIL OTHER SECTORS IN HAVING UP-TO-DATE PMIS TECHNOLOGY AND IN THEIR EXTENT OF PMIS USAGE FOR LIFECYCLE PROCESSES

Over half (57%) of education owners use PMIS technology purchased in 2019 or more recently, which typically provides more functionality than older versions. But, this trails the 66% average reported across the other sectors.

The same percentage (57%) say they use PMIS to manage half or more of their capital program lifecycle processes. This too lags the 69% average reported across the other sectors surveyed.

Both metrics are used to qualify findings throughout this report and the others in this series. [Detailed findings on page 6.](#)

2

THE USE OF PMIS FUNCTIONALITY AND THE NUMBER OF SKILLED PMIS USERS VARY WIDELY AMONG EDUCATION OWNERS

Nearly one quarter (21%) of education owners currently use the full functionality of their PMIS. This is on par with commercial owners (22%) but trails healthcare (60%) and government (31%).

Over one third (32%) report that every person who would use PMIS in their organization does so effectively, although significantly more (41%) cite a scarcity of skilled users. [Detailed findings begin on page 7.](#)

3

SOFTWARE COMPLEXITY IS THE TOP CHALLENGE TO EXPANDING PMIS USAGE BY EDUCATION OWNERS

Many more education owners cite this (50%) than the average of other sectors (20%), although only 31% of those with newer PMIS technology (purchased after 2018) report it, suggesting newer software is less complex.

Lack of vendor support (31%) rates as the second most frequent obstacle although less than among other sectors (39%). [Detailed findings on page 9.](#)

Key Findings (CONTINUED)

4

EDUCATION OWNERS FREQUENTLY MANDATE THE USE OF THEIR PMIS

Over half (56%) mandate the use of their PMIS by contractors on 50% or more of their projects. This group includes 89% of Very Heavy Users (50% or more processes on PMIS). Those who frequently mandate also report better data quality.

Although when requested to use a contractor's PMIS, 46% of education owners say they agree more than half the time, which negatively impacts data quality. [Detailed findings on page 10.](#)

5

SOME EDUCATION OWNERS RISK LOSING DATA IF THEY END THEIR VENDOR CONTRACT

About one-in-five (19%) report that they are at risk of losing some or all of the data in their PMIS if they change technology vendors. This is on par with the 23% average across other owner sectors surveyed.

Fewer (15%) education owners who purchased a PMIS in 2019 or more recently are at risk for this. [Detailed findings on page 11.](#)

6

EDUCATION OWNERS SOMETIMES CONDUCT ACTIVITIES OUTSIDE OF THEIR PMIS

As education owners migrate processes onto their PMIS, between 24% and 85% report sometimes using either manual processes, internally developed custom software or commercially available point solutions for managing costs, documents, design reviews, bidding and handoff.

Among those owners, 47% report using seven or more non-PMIS solutions. Lower productivity, reduced ability to analyze data, more people needed, greater training needs and higher overall cost of usage are negative impacts some owners cite from using multiple tools. [Detailed findings on page 12.](#)

Key Findings (CONTINUED)

7

MOST EDUCATION OWNERS SEE HIGH VALUE IN PMIS CAPABILITIES

High percentages of education owners (ranging from 62% to 77%) ascribe high or very high value to each of nine specific PMIS capabilities studied across three categories:

- **Process Management:** Managing costs, field documentation and multiparty document workflows.
- **Program Management:** Having single views of multiple projects, managing them as portfolios or programs, and managing multiple funding sources.
- **System Capabilities:** Getting up and running quickly, customizing workflows and rolling up data to project management views.

[Detailed findings begin on page 13.](#)

8

PMIS CONTRIBUTES TO EDUCATION OWNERS' AGILITY FOR CHANGE MANAGEMENT

Education owners experience a variety of change factors that affect their capital projects group. Most say they make ongoing investments in software and services to help them respond to change. Over one third (38%) believe their PMIS has a positive impact on their ability to manage change. [Detailed findings begin on page 16.](#)

9

MORE EDUCATION OWNERS REPORT GOOD DATA COLLECTION/ANALYSIS CAPABILITIES THAN OTHER SECTORS, BUT FACE SIMILAR DATA QUALITY PROBLEMS AS ALL OWNERS

Nearly half (45%) say they consistently gather complete, timely and accurate data on all projects and analyze it effectively. This exceeds the 40% average across the other three sectors surveyed. More education owners (56%) who use newer versions of PMIS (since 2019) report this high level of data capability compared with just 30% with older technology.

Many education owners cite a variety of data quality issues related to timeliness, accuracy, consistency and completeness, all of which impede effective analysis for decision-making. Again, though, less than half as many who use more current PMIS technology report these issues than those with older versions. [Detailed findings begin on page 18.](#)

Key Findings (CONTINUED)

10

POOR DATA QUALITY DEGRADES EDUCATION OWNERS' PROJECT PERFORMANCE

About two thirds say poor data has caused schedule delays (66%) and cost increases (62%). Almost one third (30%) relate it to unfavorable litigation outcomes, and one quarter (26%) say it has negatively affected project team selection.

[Detailed findings on page 20.](#)

11

MIGRATING DATA BETWEEN SYSTEMS IS A ROOT CAUSE OF DATA-RELATED PROJECT PERFORMANCE ISSUES FOR MORE THAN HALF OF EDUCATION OWNERS

This suggests that concentrating data and activities into as few technology solutions as possible will directly improve performance. That approach should also help to address an equally frequent cause of project performance issues, difficulty in accessing data effectively, which is exacerbated when it resides in multiple systems. [Detailed findings on page 21.](#)

12

EDUCATION OWNERS ARE INCREASINGLY CONCERNED ABOUT DATA SECURITY BUT SEE VALUE IN TWO MITIGATION APPROACHES

Most education owners (57%) say they have become more concerned about data security in their organization's software applications over the last five years. And, aligning with a growing global focus on cybersecurity, the vast majority (87%) predict their concern levels will rise over the next five years.

Among available methods to address data security, 62% of education owners assign high or very high value to FedRAMP Authorization, and 57% assign the same level of value to SOC 2 Certification. [Detailed findings on page 22.](#)

PMIS Usage Trends and Practices

PMIS CURRENCY AND EXTENT OF USAGE FOR PROJECT PROCESSES

PMIS software providers frequently improve their offerings. Users need to make periodic investments to ensure they have up-to-date functionality as the solutions become more advanced.

To determine the currency of PMIS solutions now in use, owners were asked to indicate in what year they most recently made a PMIS purchase. The chart at upper right shows the findings for education owners.

- The majority (57%) use relatively new versions of PMIS (purchased in 2019 or more recently).
- This is somewhat less than the 66% average across all other owners surveyed, suggesting that many education owners may not have access to more updated features and functions.

EXTENT OF USE FOR LIFECYCLE PROCESSES

Owners can conduct many of their capital project and program-related life cycle processes on a PMIS. However, as with most technology solutions, the actual extent of users' deployment varies widely.

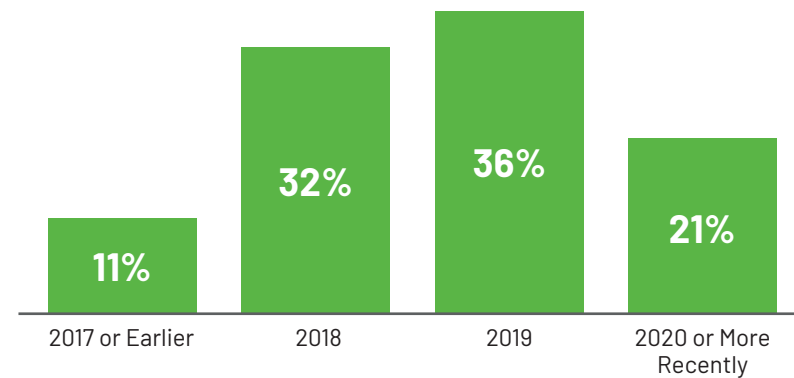
To determine current status, owners were asked to select, from the ranges shown in the chart at lower right, how many of their processes they now conduct on a PMIS. The chart at lower right shows the findings for education owners.

- Most education owners (57%) use a PMIS for half or more of their processes.
- This is also lower than the 69% average across other sectors.

Charts on subsequent pages of this report will show the effect of currency and extent of use on other aspects of PMIS usage.

Most Recent Purchases of PMIS by Education Owners

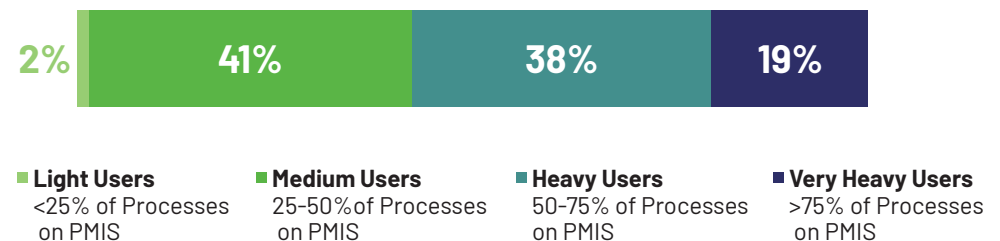
Dodge Data & Analytics, 2022



Share of Capital Program Lifecycle Processes Currently Conducted on PMIS by Education Owners

(Percentages Reporting Each of Four PMIS Usage Levels)

Dodge Data & Analytics, 2022



PMIS Usage Trends and Practices (CONTINUED)

USE OF PMIS FUNCTIONALITY

As with the variation in how many processes owners have migrated onto PMIS (see previous page), there are also significant differences in the degrees to which owners take advantage of the full range of functionality available in their PMIS.

Owners were asked to select which statement (from those shown in the chart at right) best describes their organization's use of available PMIS functionality. The chart shows the findings for education owners.

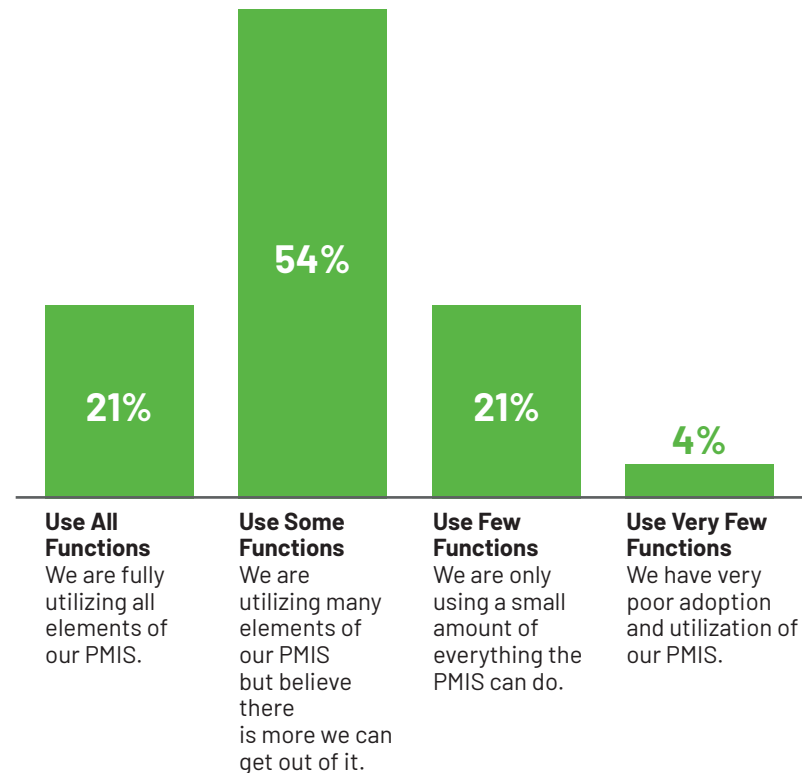
Only 21% report being deeply engaged with PMIS functionality.

- This is notably lower than the 38% average of other owners.
- More (26%) of those who use current versions of PMIS (purchased since 2019) are at this high level of use compared with owners having older technology (15%).

One quarter (25%) report using few/very few functions. This light engagement is more frequent among those with older PMIS technology (35%) versus owners who use more recent versions (19%), suggesting that advanced solutions spur deeper engagement.

Amount of PMIS Functionality Currently Being Used by Education Owners

Dodge Data & Analytics, 2022



PMIS Usage Trends and Practices (CONTINUED)

DEPTH OF ORGANIZATIONAL ENGAGEMENT WITH PMIS

The number and distribution of proficient users is a key indicator of an organization's level of PMIS engagement.

Owners were asked to select which statement (from those shown in the chart at right) best describes their organization. The chart shows the findings for education owners by the date of their most recent PMIS purchase.

One third (32%) of education owners report they are well-stocked with competent PMIS users throughout their organizations. This lags the average (44%) of the other sectors surveyed, particularly healthcare (62%).

IMPACT OF PMIS CURRENCY ON HIGH ENGAGEMENT

As shown in the chart, only 5% of the owners with older PMIS technology (pre-2019) have a full roster of skilled users. This is a dramatic contrast to those with newer versions of PMIS, where over half (52%) are well staffed.

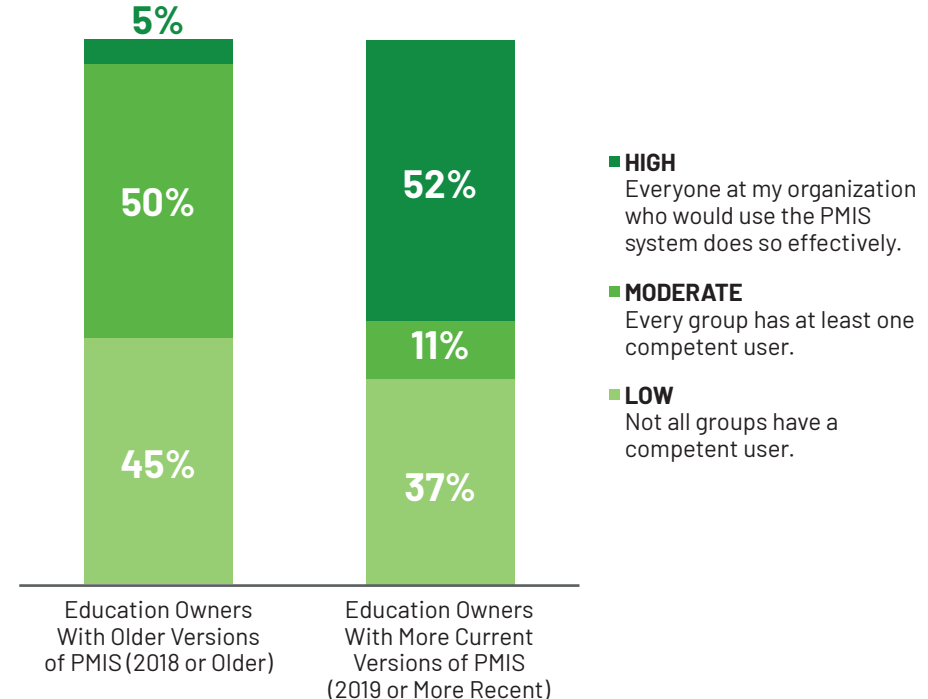
LOW ORGANIZATIONAL ENGAGEMENT

An average of 41% of education owners are thinly staffed to effectively use their PMIS, and, as shown in the chart, this varies only slightly by PMIS currency. The average across other market sectors is notably lower (29%), suggesting an opportunity for education owners to increase their base of knowledgeable PMIS users in line with industry benchmarks.

Degree of Organizational Engagement With PMIS

(Quantity and Distribution of Competent PMIS Users In Education Owner Organizations by Date of Most Recent Purchase of PMIS)

Dodge Data & Analytics, 2022



PMIS Usage Trends and Practices (CONTINUED)

OBSTACLES TO EXPANDING THE USE OF PMIS IN OWNER ORGANIZATIONS

Migrating workflow processes from long-standing traditional methods to new technology platforms and gaining broad organizational engagement is never simple.

Owners were asked to select all that apply from the four technology-related factors shown in the chart that currently limit their PMIS use and inhibit expansion. Over two thirds (68%) of education owners identify at least one. The chart shows the percentages of that group who cite each of the four obstacles.

COMPLEXITY

Far more education owners who use older PMIS technology (pre-2019) cite this (63%) than those using more current versions (31%). This suggests that PMIS technology is becoming less complex, even as suppliers add more functionality.

LACK OF VENDOR SUPPORT

Similar to complexity, 37% who use older PMIS cite this compared with 23% with more current technology. This suggests newer contracts may include better support and/or newer versions may require less support.

CONFORMANCE WITH CURRENT PROCESSES

While about one third of all education owners cite this, the average across the other sectors is 40%, suggesting that education owners find it easier to adapt PMIS to their project processes than others. More flexible solutions from providers will help all owners with this challenge.

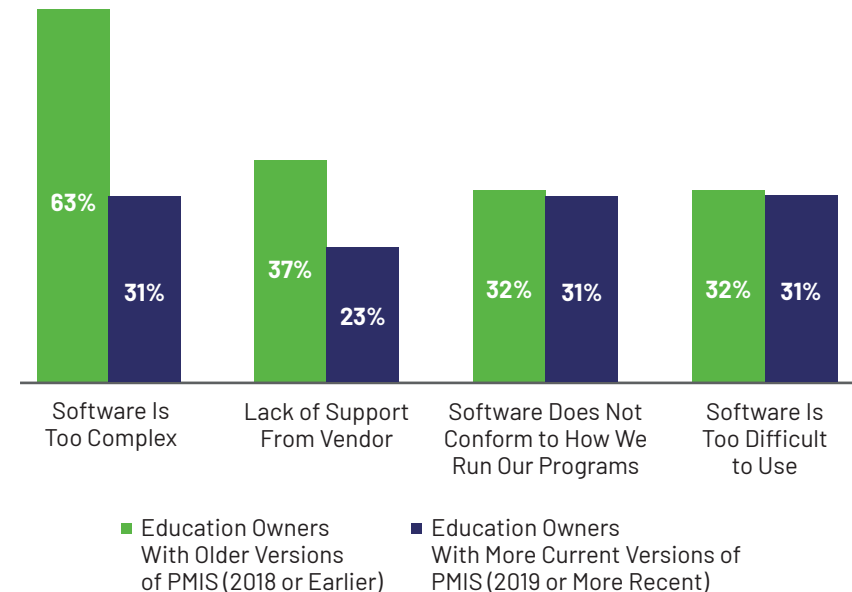
DIFFICULTY OF USE

Similar to conformance, about one third identify this obstacle. Other sectors average 25% so education owners are unique in the degree of difficulty they encounter. More training may be the best way to mitigate this challenge.

Factors Limiting Greater Usage of PMIS

(Among Education Owners Who Indicate Any Obstacles)

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PMIS Usage Trends and Practices (CONTINUED)

OWNER PMIS MANDATES

Owners receive multiple benefits from use of a PMIS (see pages 13 to 15), so they seek to use it on as many projects as possible. But this requires that the key project team members participate, which often necessitates that owners mandate the use of their PMIS by contractors.

Owners were asked how frequently they require that main contractors use their PMIS. The chart shows education owners' responses.

- Over half (56%) mandate it on 50% or more of their projects, which is somewhat less than the 64% average across other owner sectors.
- 81% of Heavy/Very Heavy Users mandate it frequently compared with just 25% who manage fewer processes on PMIS.

Among all owners, those who mandate more frequently report above-average data quality for completeness, accuracy, timeliness and consistency across projects. (More detail on data quality begins on page 18.)

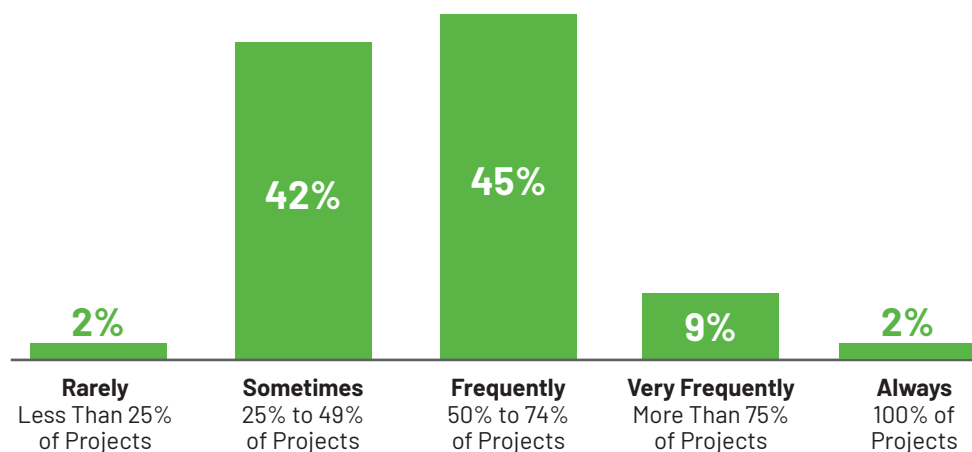
OWNER USE OF A CONTRACTOR'S PMIS

Many contractors have adopted PMIS solutions. Owners were asked what happens when a contractor wants to use their PMIS on a project for an owner who already has one.

- Almost half (46%) of education owners say they agree to use a contractor's PMIS more than 50% of the times it is requested.
- This practice can negatively affect data quality. Only 21% of all owners who frequently use a contractor's PMIS report very good data quality compared with 38% of those who agree less frequently or never.

Frequency of Education Owners Mandating That Contractors Use Their PMIS

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PMIS Usage Trends and Practices (CONTINUED)

CONTROL OF PROJECT DATA ON PMIS

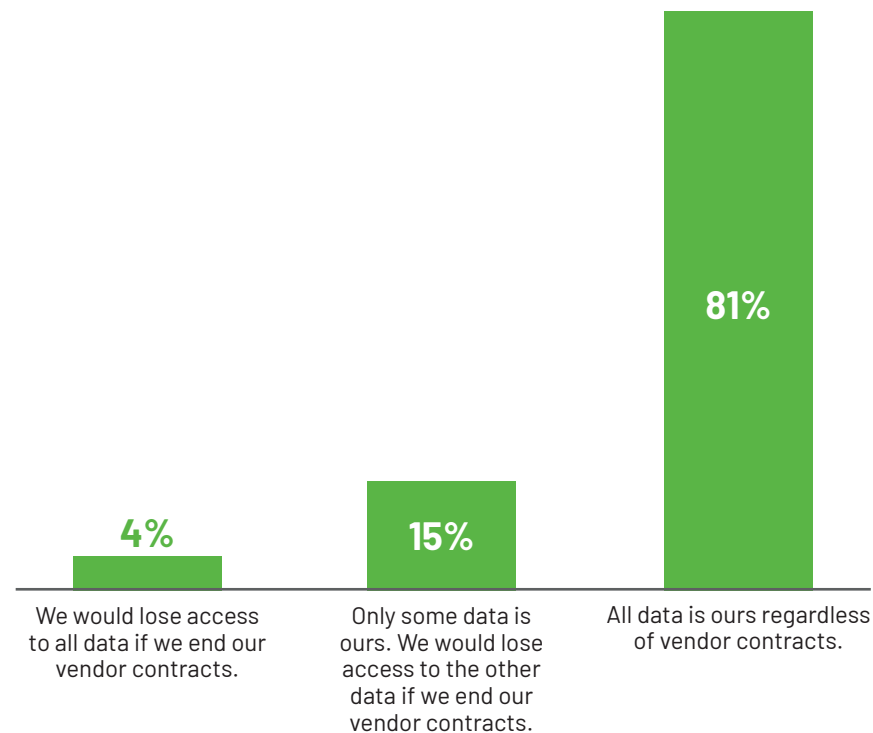
Owners collect and store extensive amounts of valuable project data in PMIS. What happens to that data if an owner switches PMIS technology providers?

To determine the current status of this, owners were asked to select which of the statements shown in the chart at right best describes their control of data in the event of a technology change. The chart shows the findings for education owners.

- 81% of all education owners would maintain control of their data regardless of a change in provider contract, which aligns the 77% average across the other owners surveyed.
- This applies to more (85%) of those who use current PMIS software (purchased since 2019) than those with older versions (75%), suggesting newer contracts may protect owners' data more effectively.
- Although only a small percentage (4%) of education owners are at risk of losing all their data, this is the only sector where this situation is reported.

Control of Education Owners' Project Data in PMIS

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PMIS Usage Trends and Practices (CONTINUED)

PROCESSES CONDUCTED OUTSIDE OF PMIS

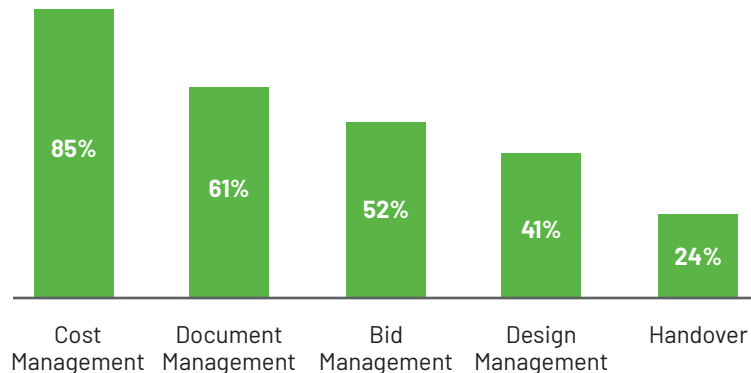
As mentioned earlier in this report (see page 6), many owners conduct some project processes outside of PMIS.

- The chart at bottom left shows how many education owners sometimes conduct each of five specific processes outside their PMIS.
- The chart at upper right shows how frequently education owners are using each of three methods for non-PMIS processes.
- The chart at lower right shows how many tools these owners are using for non-PMIS processes.

Reduced ability to analyze data, lower productivity, more people needed, greater training needs and a higher cost of usage are negative impacts some owners cite from using multiple tools.

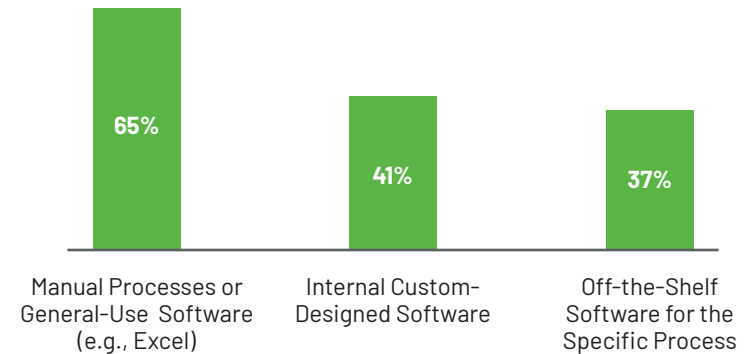
Percentage of Education Owners Who Conduct Specific Processes Outside of PMIS

Dodge Data & Analytics, 2022



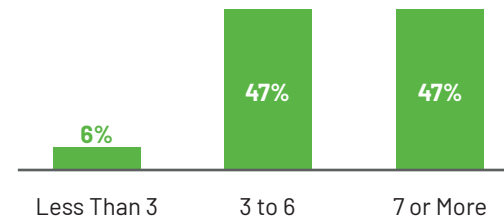
Percentage of Education Owners Who Use Various Alternatives for Processes They Conduct Outside of PMIS

Dodge Data & Analytics, 2022



Numbers of Software Tools Education Owners Use to Conduct Processes Outside of PMIS

Dodge Data & Analytics, 2022



PMIS Benefits

MOST BENEFICIAL CAPABILITIES OF PMIS

Each organization has a unique experience of value with any technology solution based on its particular needs and objectives.

To determine the commonalities for PMIS across many owners, they were asked to rate (on a five-tier scale from no value to very high value) the relative beneficial impacts they receive from each of nine specific PMIS capabilities or features, in three categories. The findings for education owners are shown on the next three pages, each reflecting one of the capability categories.

PROCESS MANAGEMENT CAPABILITIES

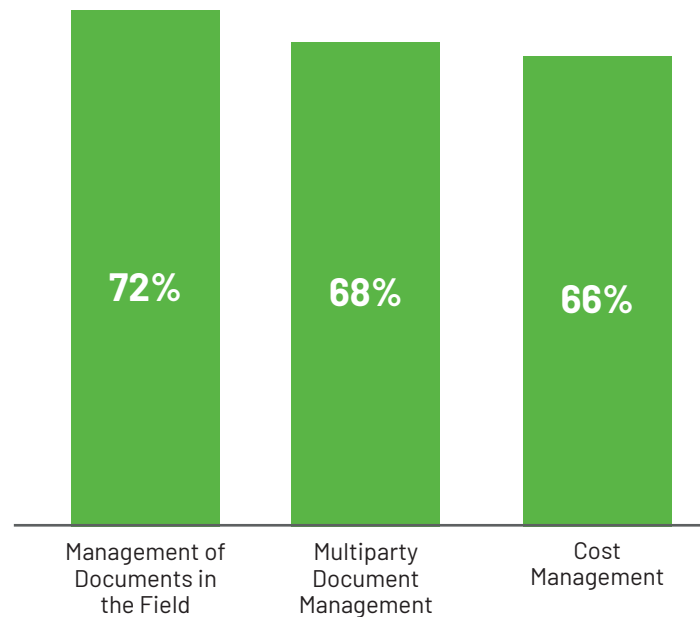
The chart at right shows the percentages of education owners citing high or very high value for each process-related capability.

- Document management is the most highly valued PMIS capability in this category.
- Cost management scores well (66%) as a capability, although 85% sometimes conduct that process outside of PMIS (see previous page). Interestingly, 70% of education owners who use current technology (since 2019) value this capability in PMIS versus 60% with older versions. This suggests the functionality is improved in updated versions.

Process Management Capabilities

(Percentage of Education Owners Rating Each as Having High or Very High Value)

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PMIS Benefits (CONTINUED)

PROGRAM MANAGEMENT CAPABILITIES

Many owners leverage PMIS to manage portfolios of multiple concurrent projects and/or for large multiyear programs of related projects. This typically requires specialized PMIS functionality.

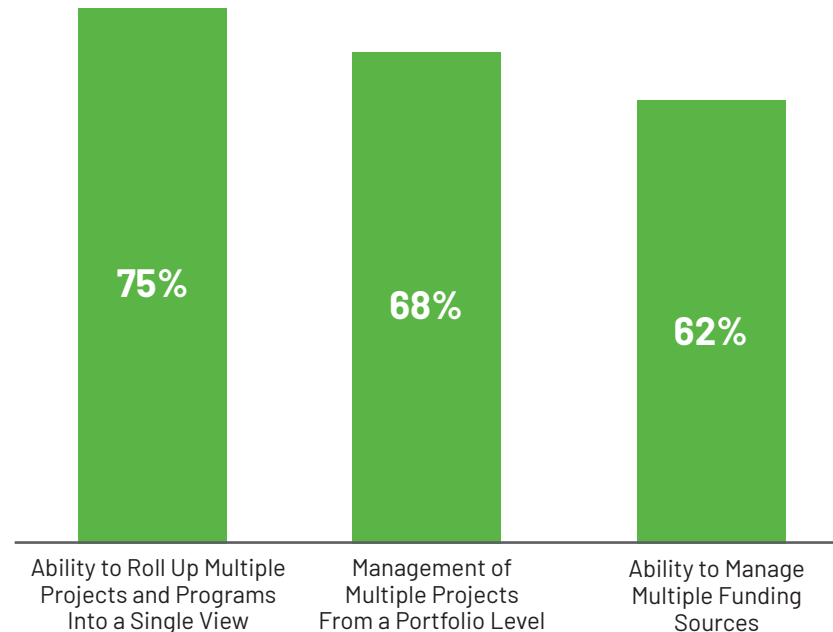
Owners were asked about their experience of value from the three portfolio and program-oriented PMIS capabilities shown in the chart at right. The percentages indicate how many education owners report receiving high or very high value.

- The ability to roll up multiple projects and programs into a single view is cited by all (100%) Very Heavy Users (>75% of processes on PMIS) compared with just 65% who manage less than half their processes on it, suggesting this functionality scales well.
- The ability to manage multiple projects from a portfolio level is cited by 74% of education owners who use more current PMIS (since 2019) versus just 60% with older versions. This suggests that the functionality has improved in recent releases.
- While well over half of education owners (62%) value the ability to manage multiple funding sources, the average is notably higher (72%) across the other three market sectors studied. This may reflect the nature of project financing for education projects rather than user dissatisfaction.

Program Management Capabilities

(Percentage of Education Owners Rating Each as Having High or Very High Value)

Dodge Data & Analytics, 2022



PMIS Benefits (CONTINUED)

SYSTEM CAPABILITIES

The features, functions and usability of PMIS technology play an important roles in providing value to users.

Owners were asked about the level of value they receive from each of three system capabilities shown in the chart at right. The percentages indicate how many education owners report receiving high or very high value.

About three quarters assign high or very high value to each of these system capabilities, making it their most valued category overall.

IMPACT OF PMIS CURRENCY

Higher percentages who use newer PMIS technology (since 2019) value these capabilities than those with older versions. This is especially true for customization, rated highly by 78% who have current PMIS technology compared with just 65% with pre-2019 technology. This suggests that system capabilities have improved.

IMPACT OF EXTENT OF PMIS USE

89% of Very Heavy Users (>75% of processes on PMIS) highly value the customization capability of their PMIS versus just 68% who manage fewer processes. This suggests that customization scales well over many processes.

System Capabilities

(Percentage of Education Owners Rating Each as Having High or Very High Value)

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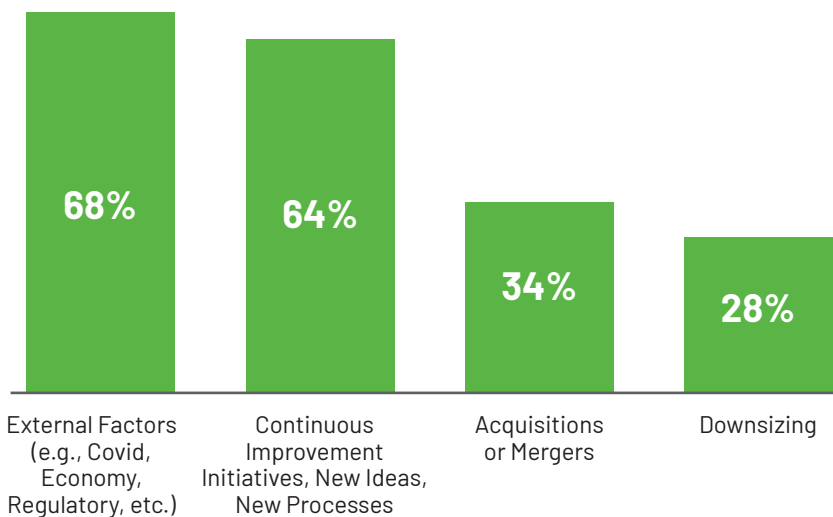
Agility

AGILITY TO MANAGE CHANGE

Owners' capital project departments can be affected by a wide variety of internal and external factors that are not directly related to design or construction. The chart at lower left shows how many education owners say each type of change has affected their capital program department.

Percentage of Education Owners Reporting That Each Type of Change Factor Has Impacted Their Organization

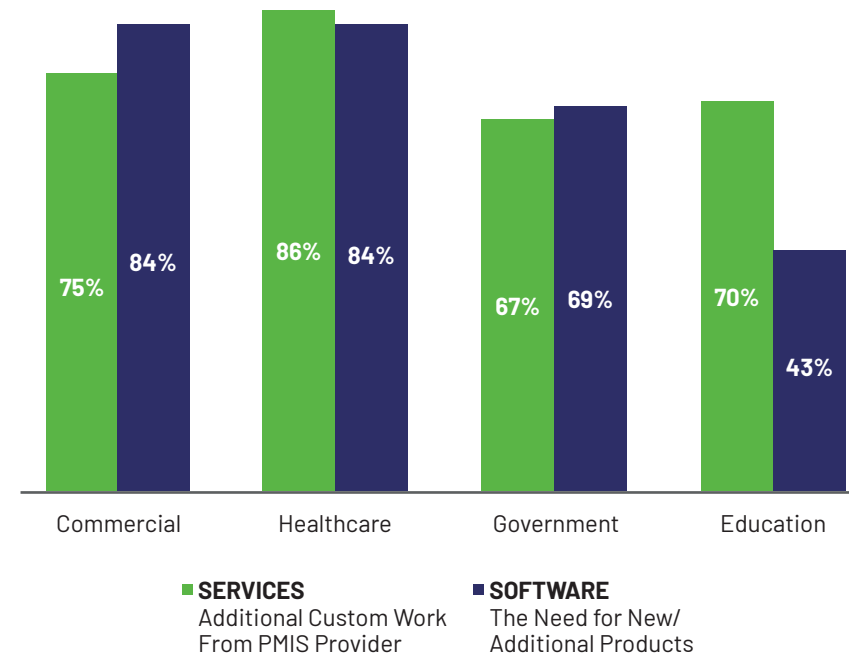
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Those affected by any factor were asked if it has been necessary to make PMIS-related investments in services and/or software to help them effectively respond to the factor(s). The responses, shown by sector in the chart at lower right, reveal that large percentages of all owners invest in PMIS improvements to enhance their agility for change management.

Percentages Reporting That Change Factors Necessitate Additional PMIS Investment (By Sector)

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Agility (CONTINUED)

IMPACT OF PMIS ON AGILITY FOR CHANGE MANAGEMENT

Owners were asked what impact they believe their use of PMIS has on their agility to manage change. The chart shows education owners' responses.

While about half (49%) are neutral, many (38%) say PMIS makes it easier to respond to changes that impact their organization. This is somewhat lower, however, than the 46% average across other sectors.

Among the ways these owners say PMIS has helped with change management:

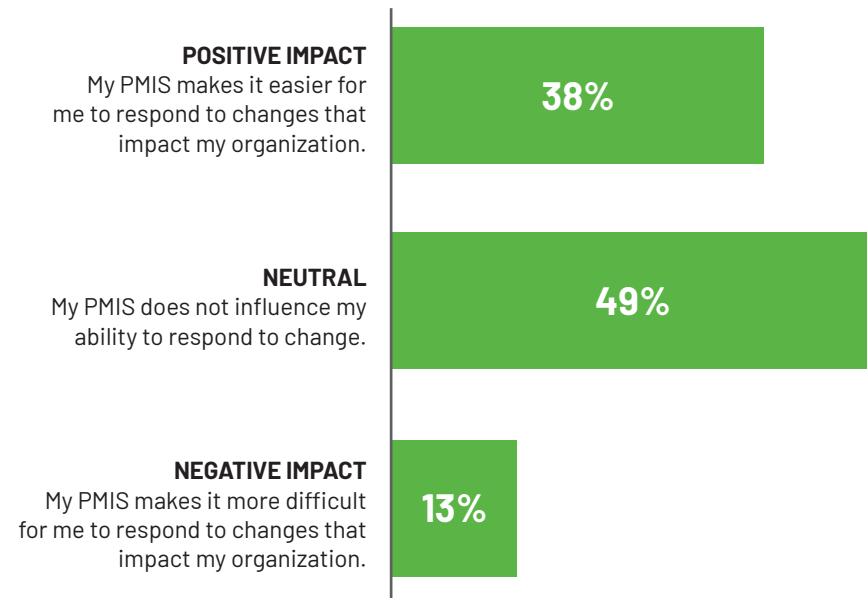
- Enhanced consolidation of data and information
- Allows us to be flexible/adapt to changes/challenges/easily develop strategies
- Makes it easier to meet goals/simplifies
- Speeds up the process/saves time
- More efficient/saves money
- Enables better coordination between departments

Only a small percentage (13%) report a negative impact. Reasons they cite for this include:

- The system doesn't do all we need
- The system is too slow, clunky
- It is difficult to get all needed information in one location
- The software is difficult to use/update

Percentage of Education Owners Who Believe PMIS Improves Their Agility to Manage Change

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Data Quality and Security

Data is quickly becoming one of the most valuable resources in the construction industry, and competency in collecting and managing it is an increasingly critical organizational capability.

ORGANIZATIONAL DATA CAPABILITY

Owners were asked which of four statements shown in the chart at right best describes their current capabilities for data collection and analysis. The chart shows education owners' responses.

NO DEFICIENCIES

Almost half (45%) have a high level of data gathering and analysis capability. This is near the 40% average of other sectors. Over half (56%) with newer versions of PMIS (since 2019) report this high level compared with only 30% with older technology.

DEFICIENT ANALYSIS

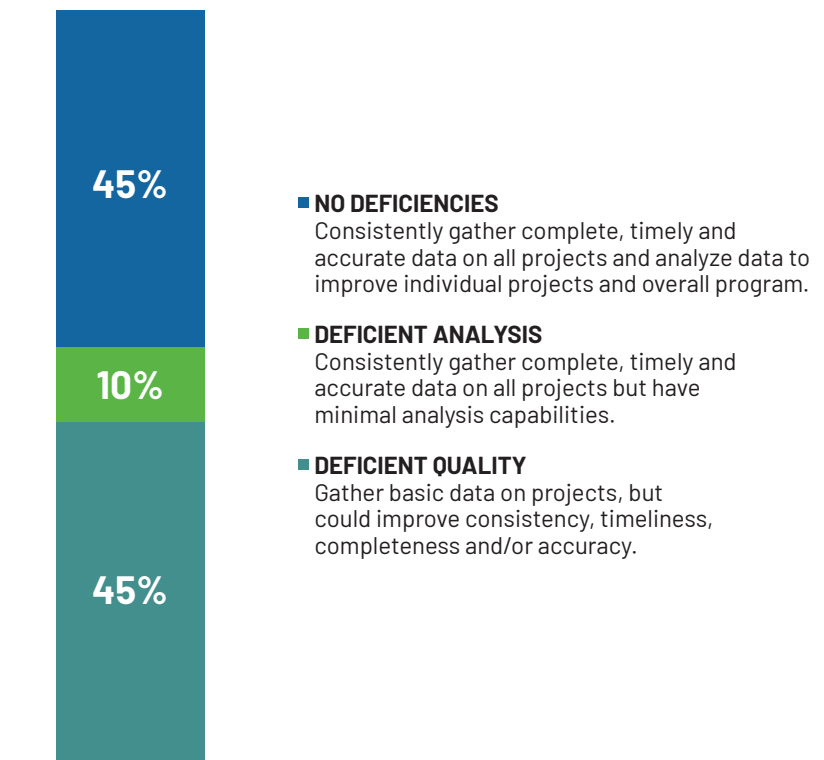
Another 10% collect good data but lack analytical skills. This is fewer than the 16% average across other sectors.

DEFICIENT QUALITY

The remaining 45% cite deficiencies in consistency, timeliness, completeness and/or accuracy. This is equal to the average across other sectors although that varies widely from commercial (29%) to healthcare (62%). It also varies significantly by PMIS currency, from 65% among education owners with older PMIS to just 30% who use newer versions. (See page 19 for more detail.)

Education Owners' Capability Level for Data Collection and Analysis

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Data Quality and Security (CONTINUED)

SPECIFIC DATA QUALITY DEFICIENCIES

Owners citing data quality and/or consistency deficiencies were asked to use a five-point scale (from Very Poor to Very Good) to rate four aspects of their project data.

The chart shows how many of the education owners in that group assign anything less than Very Good quality to each metric compared with the average of the other three sectors surveyed.

TIMELINESS

The highest percentage (86%) of education owners cite this problem, significantly more than the average across other sectors (74%). Fewer (80%) Very Heavy Users (>75% of processes on PMIS) report this, but their responses still exceed the benchmark average.

COMPLETENESS

Though somewhat fewer report this challenge (81%), it shows the greatest variance from the average of other sectors (62%).

ACCURACY

The 76% who report this is larger than the 71% average of other sectors, but by the smallest gap.

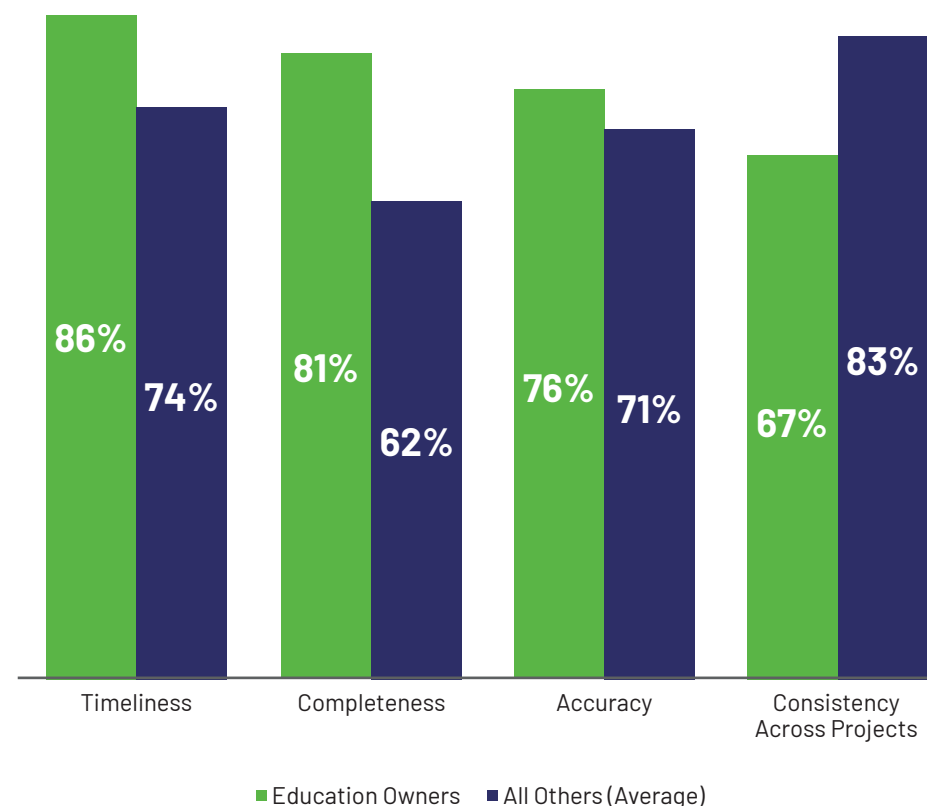
CONSISTENCY ACROSS PROJECTS

This is the only issue reported by fewer education owners. It is significantly influenced by extent of PMIS usage, with just 40% of Very Heavy Users (>75% of processes on PMIS) citing it. Additionally, PMIS currency has some impact, with 63% who use newer versions (since 2019) identifying it versus 69% with older technology.

Percentage of Education Owners With Data Quality Problems Compared With Average of Other Sectors

(Among Those Reporting Quality Deficiencies)

Dodge Data & Analytics, 2022



Data Quality and Security (CONTINUED)

As shown on the previous page, owners struggle with a number of data quality issues, many of which ultimately affect project performance.

NEGATIVE IMPACTS OF DATA QUALITY

To determine how data quality affects project performance, owners were asked if poor data has ever been a contributing factor to each of the outcomes shown in the chart at right.

The chart shows how many education owners have experienced negative impacts.

SCHEDULE DELAYS

Although two thirds(66%)report negative effects on schedule, far fewer(44%) Very Heavy Users(>75% of processes on PMIS) cite this.

COST INCREASES

Fewer(56%) Very Heavy Users report data-related cost increases compared with 63% who manage fewer of their processes on PMIS.

UNFAVORABLE LITIGATION

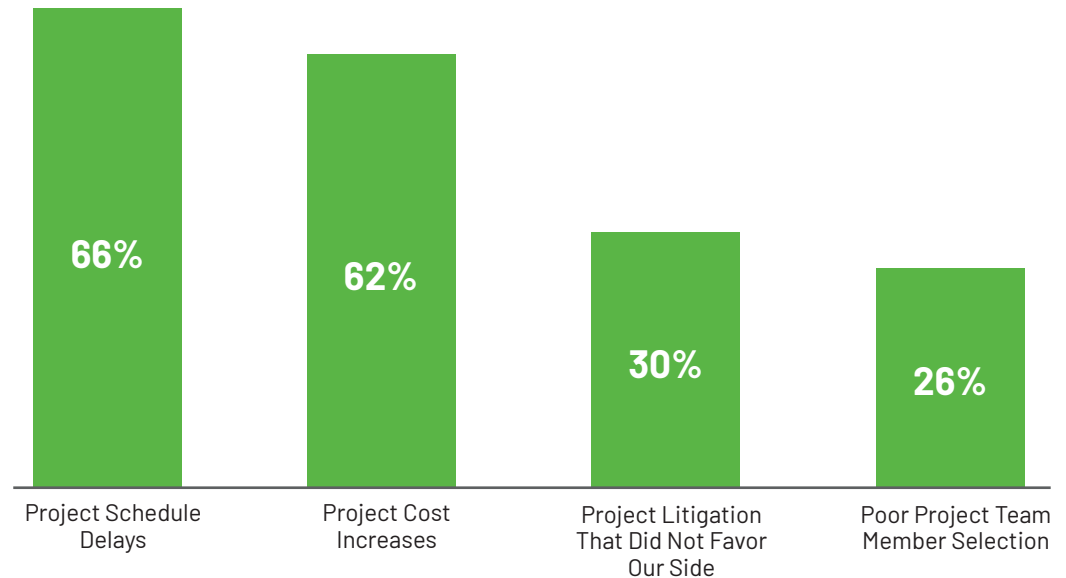
PMIS currency influences the frequency of this negative outcome, with 35% who use pre-2019 versions reporting it versus 26% with newer technology.

PROJECT TEAM FORMATION

Similarly, 30% with pre-2019 PMIS cite this compared with just 22% who use a more current version.

Percentage of Education Owners Reporting Negative Impacts Due to Poor Data Quality

Dodge Data & Analytics, 2022



Data Quality and Security (CONTINUED)

As shown on the previous pages, owners often experience data quality deficiencies that negatively affect project performance. This part of the study examines the root causes of data deficiencies.

CAUSES OF NEGATIVE PERFORMANCE

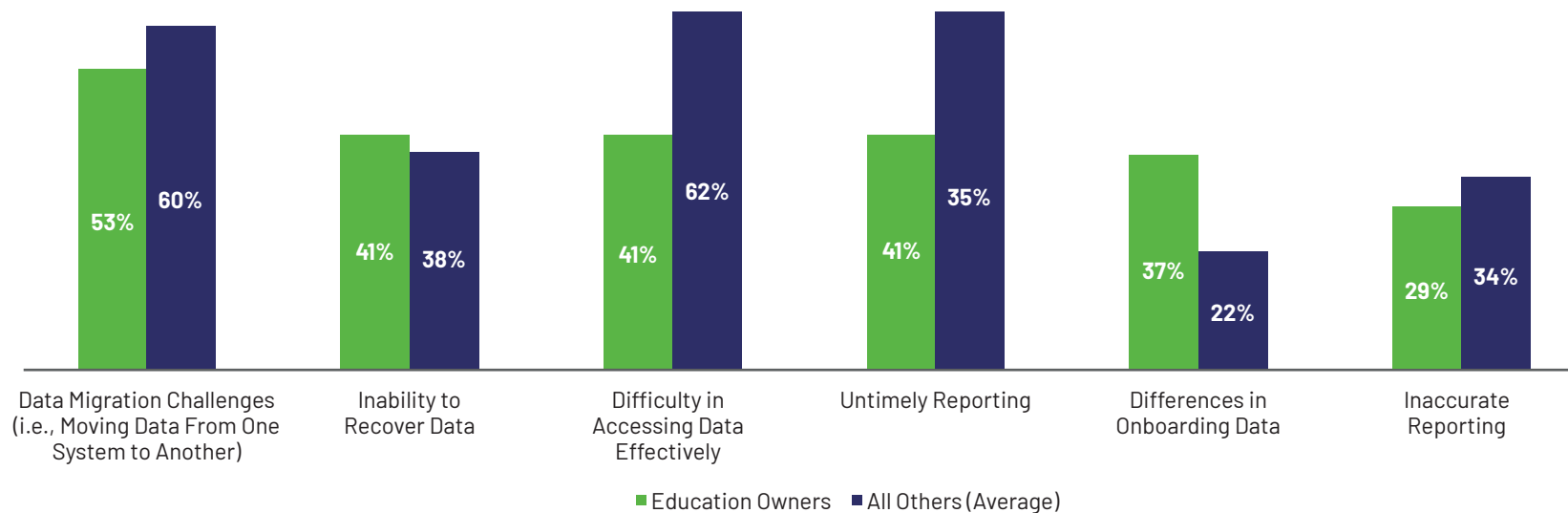
The chart at right shows the percentage of education owners who cite each data-related issue as a cause of negative project performance for their organization compared to the average of other sectors.

- The biggest culprit is data migration between systems. Fewer (22%) Very Heavy Users are impacted by this, suggesting that more activity improves this skill.

- Difficulty in accessing data effectively is also frequently cited. This is probably worse when data are in multiple systems, so use of fewer solutions should help.
- The reporting and data recovery issues are reported by notably fewer education owners who use current PMIS technology (since 2019) than those with older versions, suggesting the functionality has improved.
- Uploading data into a PMIS results in negative performance for 39% of education owners. This is also reported by far fewer who use current PMIS solutions (31%) versus those with older versions (50%), again suggesting that newer solutions more effectively support this activity.

Data-Related Causes of Negative Performance for Education Owners

Dodge Data & Analytics, 2022



Data Quality and Security (CONTINUED)

Cyber security is a growing concern worldwide, and the design and construction industry is not immune.

LEVEL OF CONCERN ABOUT DATA SECURITY

Owners were asked how much their level of concern about the security of data in their organization's software applications has changed over the last five years, and how much they believe it will change over the next five years. The chart at right shows the findings for education owners.

- The percentage whose level of concern about data security rose over the last five years (57%) is equal to the average of other sectors.
- The predicted increase over the next five years (87%) is somewhat greater than the 79% across other sectors.

VALUE OF TWO TYPES OF SECURITY MEASURES

Owners were asked how valuable they consider each of two well-known cybersecurity initiatives.

FEDRAMP

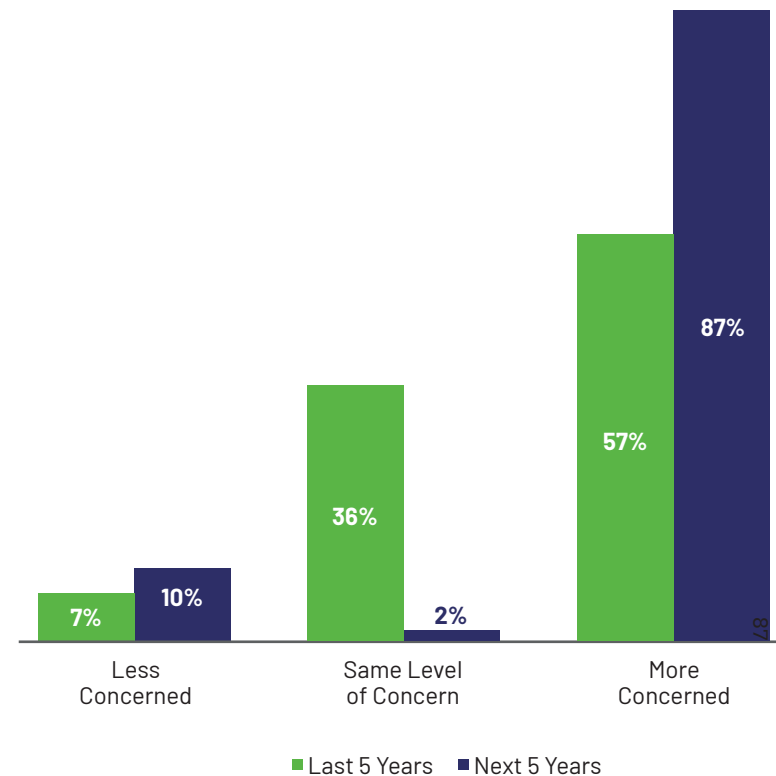
- The Federal Risk and Authorization Management Program (FedRAMP) provides a standardized approach to security authorizations for Cloud Service Offerings.
- 62% of education owners assign high or very value to FedRAMP certification, versus the 68% average across other owners.

SOC 2 CERTIFICATION

- Companies create compliant cybersecurity programs and complete audits with authorized CPAs, who review and test cybersecurity controls to the SOC 2 standard and write reports documenting their findings.
- 57% of education owners assign high or very value to SOC 2 certification, compared with the 62% average of other sectors.

Level of Concern About Security of Education Owners' Software Applications (Last Five Years and Next Five Years)

Dodge Data & Analytics, 2022



Methodology

Dodge Data & Analytics conducted the research for this report to examine trends, practices, needs and benefits related to owners' use of technology for managing multiple capital construction projects.

ABOUT THIS RESEARCH

This report focuses on the 50 healthcare/life sciences owners' responses from an online survey of 200 total US owners conducted by Dodge Data & Analytics from February 3 to 17, 2022.

PRIMARY PROJECT TYPES

25%

Healthcare/Life Sciences

(hospital, medical office, pharmaceuticals, biotech, laboratory)

24%

Government

(local, state or federal offices, city hall, legislative buildings, courts, public safety buildings)

24%

Education

(public or private K-12 schools, colleges, universities, trade schools)

28%

Commercial/Corporate

(retail, hospitality, office, financial, recreation, multifamily, mixed-use, warehouse)

RESPONDENT TITLES

Vice President/Director/Manager of Construction or Real Estate	45%
Project Manager/Senior Manager	40%
Building/Facility Director/Manager	15%



REGIONAL DIVERSITY OF EDUCATION OWNERS

Distribution of respondents in the US.

SIZE OF TYPICAL PROJECTS (CONSTRUCTION VALUE)

Midsize (\$25M to less than \$100M)	45%
Large (\$100M to less than \$500M)	40%
Very Large (\$500M or More)	15%

HEALTHCARE OWNERS' CAPITAL PROJECT/PROGRAM ROLES

To qualify, respondents had to have at least one of the responsibilities shown below. Many report being involved in several.

Decision-making for construction projects	94%
Procurements (vendors, equipment, etc.)	53%
Capital investment choices	49%
Day-to-day oversight during the construction process	45%
Influence on annual scope of work	38%
Drafting proposals/bids	32%
Capital construction	32%
Invoicing and/or processing payments	30%

HEALTHCARE OWNERS' TECHNOLOGY EXPERIENCE

Respondents were required to have experience with their organization's PMIS but were also asked to indicate other technologies they work with. Below are their responses.

Project Management Information System (PMIS)	100%
Integrated Workplace Management System (IWMS)	51%
Computer-Aided Facilities Management (CAFM)	45%
Building Information Modeling (BIM)	36%
Computerized Maintenance Management System (CMMS)	28%

South 30% West 40% Midwest 17% Northeast 13%

Contacts & Resources

DODGE EDITORIAL TEAM

Stephen A. Jones leads Dodge Data & Analytics' Industry Insights Research division and is the primary author of this report. He is active in numerous industry organizations and frequently speaks at industry events around the world. Before Dodge, Jones was a vice president with Primavera Systems (now part of Oracle). Prior to that, he was principal and a Board of Directors member with Burt Hill, a major A/E firm (now Stantec). He holds a BA from Johns Hopkins and an MBA from Wharton. steve.jones@construction.com

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ADDITIONAL RESOURCES



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