# TIME TO BENCHMARK

COMPARING YOUR BUSINESS WITH OTHER BUILDERS MAY SEEM RISKY, BUT IT'S THE KEY TO CONTINUOUS IMPROVEMENT AND SUSTAINED SUCCESS IN HOME BUILDING

BY SEAN VINCENT O'KEEFE
WITH RICH BINSACCA, EDITORIAL DIRECTOR

Almost any conversation about quantifying productivity, profit, or performance in home building begins with *time*. That's because time sets the standard by which many other home building variables can be tracked and tabulated to understand opportunities for operational improvement. Time is a benchmark by which organizational effectiveness can be assessed, understood, and optimized.

But the benchmarking process is easier said than done, and it's one more thing for a builder to add to an already extensive to-do list. Except that benchmarking isn't just another box to check; benchmarking is the key to consistently beating the competition and sustaining operational excellence and profitability.

"The idea of benchmarking is really simple: How do you begin to learn from others about how they do things better than you do?" says George Casey, a housing industry icon and group chair for Vistage, arguably the largest executive benchmarking and coaching organizations in the world. "And from that you begin to realize there's another way [to do something], start learning from that, and get yourself better."

It also requires humility. "The people who really benefit from benchmarking tend to be humble, rather than letting their egos get in the way," Casey says. "You think you've got a secret sauce and you don't want anybody to get it? Let me tell you: There are no secret sauces."

Still on the fence about benchmarking? Then ease into it by focusing on data. You have it, of course, from every corner of your operations. You may even use it already to "benchmark" your business against past performance.

**"IT REQUIRES ACTIVE LISTENING, COLLABORATING, AND DEVELOPING BENCHMARKS AND PROCESSES ... WITH A CERTAIN CHEERFUL CURIOSITY ABOUT YOUR WORK AND HOW TO DO IT BETTER." —SCOTT JACOBSON, RIVERSIDE HOMEBUILDERS**

But looking inward only reveals a fraction of the potential. As Casey and other high-performing builders say (and do), the real value of benchmarking is looking outward, to reliable, accurate, and objective third-party industry (and even non-industry) sources and data to serve as a sounding board against which you can compare your numbers and experience.

"Time, quality, and money," says Seamus Mulroy, product manager of data services at Constellation HomeBuilder Systems, one of several industry-specific construction management software providers—and one that offers objective benchmarking opportunities to its home builder clients. "Benchmarking is an opportunity to improve all three."

## IMPROVING QUALITY

For most of housing's history, defining—much less measuring—construction quality has been an elusive goal, at best.

But more recently, as home builders confront stricter building codes, rising warranty costs, and legal liability for defects and shoddy workmanship, the ability to objectively assess and measure construction quality has become part of a benchmarking regimen for those looking to improve.

As the program manager of Builder Solutions at IBACOS, a source for services and research for the U.S. home building industry, Richard Baker considers the science of ensuring continuous improvement in construction quality his calling, and has spent 18 years with the Pittsburgh-based innovation company developing and

## SYSTEM IMPROVEMENT: SHOWERS + TUBS

| MARKET | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 | YEAR 6 |
|---|---|---|---|---|---|---|
| **Market A** | 1.88 | 2.13 | 2.61 | 2.72 | **2.58** | **2.62** |
| **Market B** | 1.65 | 2.07 | 2.70 | 3.09 | 3.12 | 3.40 |
| **Market C** | 2.22 | 2.54 | 3.16 | 3.62 | **3.57** | **3.30** |
| **Market D** | 2.20 | 2.70 | 2.96 | 3.11 | 3.05 | 2.55 |
| **Market E** | 3.08 | 3.23 | **3.14** | **2.86** | 3.55 | 2.83 |

Properly waterproofing showers and tubs is tricky. Here, a production builder operating in five markets saw construction quality improve for that system over six years of third-party, in-person assessments based on comparisons with industry best practices. **DECLINES** could indicate a change in trades, product specs, or quality management. *Source: IBACOS*

delivering new processes and product improvements to do just that.

"My sweet spot is the interaction of building components, rather than the aesthetic of the final product," Baker says. "When a builder makes incremental improvements by benchmarking against our construction quality assurance data, it has a rewarding ripple effect throughout the operation."

IBACOS' Perform platform offers a robust yet user-friendly scorecard system that allows builders to establish construction quality and sustainability standards for each product type and to measure against that benchmark in the field.

The scorecard covers almost 800 categories across 13 major building systems, says Baker, which IBACOS' in-house team of building performance specialists use to rate a builder's work from zero to 4 as they physically walk homes under construction.

"Over time, good builders always improve," Baker says. "The key is to benchmark first, then track progress, and, most importantly, to stick with it."

## ONE BUILDER, ONE MARKET, FIVE SYSTEMS

| MARKET | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 | YEAR 6 |
|---|---|---|---|---|---|---|
| **Jobsite safety** | 2.41 | 2.96 | 3.09 | 3.24 | 3.37 | 3.42 |
| **Showers and tubs** | 2.79 | 3.17 | 3.28 | 3.27 | 3.45 | 3.45 |
| **Drainage plane and flashing** | 2.53 | 2.79 | 2.88 | **2.82** | 2.82 | 2.9 |
| **Foundations** | 2.59 | 2.69 | 2.74 | 2.76 | **2.71** | 2.86 |
| **Site conditions** | 3.01 | 3.06 | 3.12 | 3.11 | 3.18 | 3.27 |

This production builder saw relatively consistent improvements in construction quality across five key building systems assessed on a scale of 0 to 4 over six years in one of its markets. The benefits of benchmarking against industry best practices include better trade relations and fewer warranty service calls and associated costs. *Source: IBACOS*

## CHANGES IN WARRANTY COSTS THROUGH THE PANDEMIC

| | TIME FRAME | AVERAGE HOME SIZE (SF) | % DIFFERENCE IN AVERAGE HOME SIZE | AVERAGE PROJECTED WARRANTY COST/UNIT | % DIFFERENCE IN COST/UNIT |
|---|---|---|---|---|---|
| **Pre-pandemic** | 2018-02/20 | 2,395 | n/a | $2,084 | n/a |
| **Mid-pandemic** | 03/2020-2021 | 2,312 | -3.47% | $2,163 | +3.65% |
| **Post-pandemic** | 2022-2024 | 2,279 | -1.43% | $2,378 | +9.04% |

Real cost data from 150 home builders representing 86,000 closings shows that average warranty service costs rose 13% while home sizes shrank by 5%. This could indicate a dip in construction quality practices or management and/or higher costs for labor and materials needed to fix warranty issues. *Source: Constellation HomeBuilder Systems*

## VARIANCE AGAINST BUDGET

| PRODUCT | TIME PERIOD (DURING AND AFTER PANDEMIC) | AVERAGE BUDGETED COST | AVERAGE BUDGETED COST/SF | AVERAGE VARIANCE COST ABOVE BUDGET | AVERAGE VARIANCE COST INCREASE/SF | AVERAGE % INCREASE IN VARIANCE COST/SF |
|---|---|---|---|---|---|---|
| Cabinets | 2020-21 | $6,896.72 | $3.13 | $354.68 | $0.15 | 80.7% |
| | 2022-4/24 | $8,609.77 | $3.84 | $643.28 | $0.28 | |
| Drywall/ insulation | 2020-21 | $12,393.72 | $5.46 | $459.63 | $0.20 | 70.3% |
| | 2022-4/24 | $15,273.42 | $6.68 | $752.93 | $0.34 | |
| Plumbing | 2020-21 | $11,334.97 | $5.11 | $427.61 | $0.19 | 68.7% |
| | 2022-4/24 | $13,976.79 | $6.25 | $763.66 | $0.33 | |
| Permits | 2020-21 | $13,497.12 | $6.01 | $196.26 | $0.09 | 68.5% |
| | 2022-4/24 | $14,141.37 | $6.36 | $321.06 | $0.16 | |
| HVAC | 2020-21 | $8,178.92 | $3.66 | $365.38 | $0.16 | 66.4% |
| | 2022-4/24 | $10,878.59 | $4.85 | $582.51 | $0.26 | |
| Windows and doors | 2020-21 | $6,593.83 | $2.91 | $421.62 | $0.18 | 66.0% |
| | 2022-4/24 | $9,230.59 | $4.06 | $726.87 | $0.30 | |

Variance costs erode profitability, so comparing variance costs against budget (above) for key product categories is critical to catching and fixing them. The cost share of key products (right) offers a valuable snapshot for the purchasing team to negotiate better pricing. *Source: Constellation HomeBuilder Systems*

## COST AS A PERCENTAGE OF SALES PRICE

| PRODUCT/SYSTEM | AVERAGE % OF SALES PRICE DURING PANDEMIC | AVERAGE % OF SALES PRICE POST- PANDEMIC | % DIFFERENCE (+/-) |
|---|---|---|---|
| Framing | 11.53% | 12.80% | +1.268% |
| Windows and doors | 2.00% | 2.19% | +0.190% |
| Trim | 1.76% | 1.94% | +0.175% |
| Garage doors | 0.37% | 0.46% | +0.098% |
| HVAC | 2.41% | 2.48% | +0.063% |
| Electrical | 2.87% | 2.94% | +0.070% |
| Flooring | 5.06% | 4.70% | -0.366% |
| Permits | 2.74% | 2.45% | -0.289% |
| Siding | 2.68% | 2.41% | -0.274% |
| Flooring | 3.16% | 2.92% | -0.243% |
| Drywall/insulation | 3.68% | 3.52% | -0.155% |
| Paint | 1.58% | 1.45% | -0.133% |
| Roofing | 1.98% | 1.86% | -0.126% |
| Brick | 1.74% | 1.63% | -0.110% |
| Appliances | 0.88% | 0.79% | -0.096% |
| Plumbing | 3.19% | 3.10% | -0.083% |
| Cabinets | 2.02% | 1.99% | -0.029% |

Taylor Morrison (No. 6 in *Pro Builder*'s 2024 Housing Giants rankings), an IBACOS client, considers such benchmarking good business and a means to optimizing building performance. "With IBACOS, we establish the construction standard we expect as a benchmark using their scorecard system," says Curt Wick, the builder's national director of construction optimization. "It's one of many tactics in our optimization program."

The Scottsdale, Ariz.-based public builder reported 11,495 closings in 20 markets across 12 states in 2023. That scope enables Taylor Morrison to generate apples-to-apples construction quality data to benchmark by division and metro location for each system evaluated and scored—a customizable dashboard of both current performance and historical trends that

## ROOFING

| PRODUCT TYPE | NEW HOMES | EXISTING HOME REPLACEMENTS |
|---|---|---|
| Asphalt shingles (3-tab) | 15% | 36% |
| Asphalt shingles (architectural) | 60% | 33% |
| Metal | 8% | 10% |
| Clay/concrete tile | 10% | 7% |
| Cedar shakes/shingles | 1% | 6% |
| Single-ply/built-up | 6% | 2% |
| Slate | 0% | 2% |
| Plastic/rubber | 0% | 2% |
| Other | 0% | 1% |

The **DIFFERENCES** between what builders specify in new homes and what consumers select for remodeling projects can vary widely. That difference could be due to a disconnect between builders and current consumer trends, or by costs, available supply, or consumer perceptions of building material quality. *Source: Home Improvement Research Labs*

## FRONT ENTRY DOORS

| PRODUCT TYPE | NEW HOMES | EXISTING HOME REPLACEMENTS |
|---|---|---|
| Fiberglass/composite | 55% | 23% |
| Steel | 19% | 36% |
| Wood | 27% | 41% |

## FLOORING

| PRODUCT TYPE | NEW HOMES | EXISTING HOME REPLACEMENTS |
|---|---|---|
| Luxury vinyl plank or tile | 25% | 20% |
| Carpet | 29% | 18% |
| Ceramic tile | 13% | 12% |
| Wood (solid) | 9% | 11% |
| Vinyl tile | 2% | 11% |
| Vinyl sheet | 1% | 8% |
| Laminate | 4% | 7% |
| Wood (engineered) | 16% | 5% |
| Marble | 0% | 4% |

the IBACOS program provides (see charts on page 39 showing data for two anonymous builders).

"We have a ton of data from a wide range of sources that we use to drive decision-making," Wick says. "It's not about listening to others around you or one person coming up with a great idea. Good analytics should eliminate inference to improve quality operations."

Understanding analytics is one thing; doing something about them is what matters.

"The most important thing is what you do after the benchmark is set," Wick adds, from refining products and processes to reestablishing those benchmarks as technologies and performance improve. "Construction standards define exactly how we want a window or shower installed, which creates efficiencies for the workforce by reducing the learning curve and establishing a repetitive process."

Wick also points to a home's warranty service record as the ultimate benchmark for construction quality. "Warranty is where we learn," he says. "If you don't take a hard look at the things you return to fix after you sell the home, then you're doing everyone a disservice."

## EXAMINING COSTS

What do you spend on warranty service work? And, if you track it, to what level of granularity—and by definition, value—can (or do) you examine it?

What about variances to budget for key product categories, or by their share of your sales prices? How did those costs change during and after the COVID-19 pandemic?

While job cost analyses are far more common and standardized than construction-quality assessments, the two are similar in that they both provide valuable, if often untapped, insights that can help builders be more competitive and improve profitability. "I love getting in the weeds of data to understand the storytelling aspect and turning messy data into user-friendly reporting," Constellation's Mulroy says.

How? With its client's permission, Constellation extracts real cost data that builders input into the company's software programs and then shares it anonymously in the aggregate with its clients to benchmark common costs on a national, state, or perhaps local market scale—datasets that represent more than 86,000 homes closed by 150 builders in 37 U.S. markets last year (see charts on pages 39 and 40).

One of those clients is Riverside Homebuilders, a Fort Worth, Texas-based company that earned nearly $272 million from 594 closings in 2023, making it the No. 86-ranked builder among our 2024 Housing Giants.

The company started investing in analytics about a year and a half ago, says operations analyst Scott Jacobson, and it uses Constellation's BuilderMetrix platform to

## COSTS AND PROFITS

| BUILDER TYPE | AVG. REVENUE (MILLIONS) | AVG. % COST OF SALES* | GROSS PROFIT % | NET PROFIT %** |
|---|---|---|---|---|
| **All builders** | $13.70 | 81.8% | 18.2% | 7.0% |
| **Small volume (> 25 units) no land** | $5.43 | 86.4% | 13.6% | 3.8% |
| **Small volume (> 25 units) w/land** | $3.17 | 89.3% | **10.7%** | **1.1%** |
| **Small volume (> 25 units) combo** | $5.15 | 83.4% | 16.6% | 4.9% |
| **Production builders (< 26 units) no land** | $29.57 | 80.6% | 19.4% | 7.6% |
| **Production builders (< 26 units) w/land** | $31.20 | 79.4% | **20.6%** | **7.5%** |
| **Production builders (< 26 units) combo** | $27.79 | 82.0% | 18.0% | 7.8% |

*INCLUDES LAND COSTS AND SALES; DIRECT AND INDIRECT CONSTRUCTION COSTS; RENTAL OF INVESTMENT PROPERTY; CONSTRUCTION MANAGEMENT, DESIGN, AND OTHER ACTIVITIES
**INCLUDES OPERATING, FINANCIAL, SALES AND MARKETING, AND GENERAL/ADMINISTRATIVE EXPENSES; DEPRECIATION; AND OWNER'S COMPENSATION

The National Association of Home Builders' latest *Cost of Doing Business Study* reporting 2020 financials from 607 builders provides benchmarks for the average share of hard costs against revenue and shows the impact of various operating expenses on net profit (see footnotes below chart), especially for those purchasing and developing land for all of their building projects.

source accurate financial and operational data from live enterprise resource planning (ERP) systems—in layman's terms, real (and real-time) data from real-world experiences.

"That system allows us to generate data and reporting that aligns with our mission and vision to enhance decision-making," he says. "Part of the art of data science is getting useful, pragmatic insight that is more than information alone." Whatever benchmarks Riverside establishes must be "validated and rooted, and support what we are doing as a company," he says.

The process can be arduous, or at least out of most builders' comfort zones. "It requires active listening, collaborating, and developing benchmarks and processes that enhance our ability to deliver what matters the most to our division leaders," Jacobson says, "and with a certain cheerful curiosity about your work and how to do it better."

## TRACKING TRENDS

"Home building is a business that rewards builders who provide value to homebuyers," says Ed Hudson, director of Market Research at Home Innovation Research Labs, in Upper Marlboro, Md. "The builders that do it most effectively stand to be rewarded the most, which is where the benefits of benchmarking come in."

At Home Innovation, Hudson and his team study the intersection of product innovation, builder practices, and consumer preferences to improve the quality, affordability, and sustainability of newly built and renovated housing.

In the process, they give builders valuable, product-specific insights into what their peers are up to and what consumers want—and will pay for—in a new home.

The Labs' Annual Builder Practices Survey (ABPS) gathers data for more than 50 product categories and home features from about 1,500 builders, a study with a bank of data representing the market volume and market share of almost every part of a house for the past 30 years.

**"THE IDEA OF BENCHMARKING IS REALLY SIMPLE: HOW DO YOU BEGIN TO LEARN FROM OTHERS ABOUT HOW THEY DO THINGS BETTER THAN YOU DO?" —GEORGE CASEY**

"We can provide that data down to the state or metropolitan area to allow builders to track trends and know what their competitors are doing," Hudson says.

In turn, builders can adjust their home designs, product specifications, and marketing strategies to either keep up with or surge ahead of the market while better meeting consumer wants and needs ... and taking "secret shopping" to the next level.

Hudson also keeps a close eye on Home Innovation's Annual Consumer Practices Survey, a companion to the builder version that studies the remodeling sector for design and product trends, which he says serve as data-driven indicators of what's to come in new construction.

"Consumers drive remodeling, so what goes into their home renovation projects is a more timely reflection of trends than new homes offer, especially for products such as flooring materials and cabinet styles," he says.

Consider the rise in popularity of luxury vinyl tile flooring, which Hudson says caught on much more quickly in remodeling than it did in new construction—one of several examples indicating that gap (see charts on page 42).

"If you want to improve performance through benchmarking, establish best practices to aim for," Hudson recommends. "And then benchmark your performance and improvements against them." **PB**

*Sean Vincent O'Keefe is a Denver-based writer and communications professional for the design, construction, and commercial building products industry.*