



Welcome to the World of Forever

By Kerry Stackpole, FASAE, CAE, PMI CEO/Executive Director



Kerry Stackpole

What does it cost you to acquire a new customer? We know on average, the cost of acquiring a new customer is about seven times more than keeping an existing customer. The rudimentary calculation is straight up:

Customer acquisition costs (CAC) equal total costs of sales and marketing divided by number of new customers.

What we don't always know is the value of each of those new customer acquisitions. We do know what the plumbing code requires in terms of fixtures and faucets, so by extension we can estimate which new customers have extraordinary potential. For example, WaterSense Builder Partner of the Year KB Home has built more than 15,000 WaterSense-labeled and Water Smart homes and installed over 600,000 WaterSense-labeled fixtures. In today's environment, using water wisely is a key component of how people look at sustainability. That makes high efficiency and high performing fittings and fixtures an essential component.

Likewise, knowing your target customers and whom you can best serve is essential to your customer acquisition strategy. What data do you collect about your distributors, retailers, and end-user customers? What do you know about their buying patterns? Purchase amounts? Profitability to your company? Having a loyal, recurring customer who will pay you automatically and indefinitely has a decidedly higher value.

One of the most notable shifts at this year's Kitchen and Bath Industry Show (KBIS) in Las Vegas was the vast number of smart home devices and the accompanying brand extensions. The opportunity for growing a fresh new base of direct-to-manufacturer consumer relationships was ever-present. In an industry that has traditionally relied on intermediaries, new options for bypassing those intermediaries and going direct to end-users with profitable and recurring transactions is gaining strength.

What if I told you, you could have a customer for life? How much would that change your revenue forecast or profit picture? The idea of subscriptions and membership-based transactions continues to gain foothold in the plumbing products industry. Having the ability to drive recurring revenues and increasing customer lifetime value by delivering high value customer propositions is more enticing than ever. A plethora of scents, sounds, cleaners and conditioners for plumbing industry products designed to make consumers more comfortable and to put their minds at ease are proliferating. Plumbing product manufacturer-branded cleaners, sanitizers, and other products sat alongside an amazing array of high-performing, high-efficiency kitchen and bathroom fixtures and fittings.

The same concepts and principles are taking hold on the building side of the business, as well. The International Building Show (IBS) had an entire floor of software tools for streamlining the design, sales and marketing of projects. While classic blueprint images have gone digital, the addition of artificial intelligence (AI) tools enabling the automatic overlay of plumbing, electrical and HVAC systems requirements in minutes instead of hours or days are driving productivity levels skyward. There were tools on display that make it possible to receive reports about your home's status delivered to you via smartphone. These updates and alerts can tell you, for example, whether a window is open,

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PMI Creates Profitable Outcome in L.A. County for Members

By Ray Valek, PMI Communications Team, Valek and Co.

In early August 2019, Los Angeles County, America's most populous county, announced proposed amendments to the 2019 California Building Codes. The amendments called for a 20% reduction in plumbing product flow rates, beyond the requirements already mandated in California, the most stringent in the nation. The proposal called for a Jan. 1, 2020, implementation date.

By Nov. 26, a coalition consisting of PMI and its members and allies was able to persuade the Los Angeles County Board of Supervisors to remove the 20% flow rate reduction from the amendments that were approved, avoiding disruptions to a major market, inventories and production lines for PMI members.

The work involved to produce that profitable outcome for PMI members was substantial.

PMI's California Task Group springs into action

Shortly after the proposed amendments were announced, PMI and its members quickly called PMI's California Task Group into action, a group of PMI-member experts that had previously persuaded California regulators to amend

proposals with potential adverse effects on public health, safety and the industry.

The PMI group quickly reviewed the proposed amendments in detail and started to notify and engage members and allies in developing a response. They included the Alliance for Water Efficiency, American Society of Plumbing Engineers, Laborers' International Union of North America, IAPMO, and International Code Council, as well as expert consultants and scientists such as **Dr. Patrick Gurian** from Drexel University, **Gary Klein**, and **Dr. Paul Sturman** from Montana State University.

The PMI group developed evidence-based talking points about public health and safety threats, infrastructural risks, and the lack of product availability to fulfill the proposed requirements. They also participated in a conference call with county staff on Aug. 22. By the end of the call, county staff agreed to listen to additional input. Over the next several weeks, the PMI group and its allies continued to email suggestions and comments to the county, encouraging collaboration to achieve the win-win solution announced on Nov. 26

PMI also provides valuable research, forecasts and guidance

In addition to successfully advocating for its members in L.A. County, PMI introduced other member benefits in 2019, including the quarterly **PMI Market Outlook**, which provides member companies with key economic trend indicators in markets in which they

operate, including insights on business cycles, retail and wholesale indicators, residential and commercial building starts, and building material costs. Each outlook places more than 15 segments of industry in their current economic phase: A) recovery, B) accelerating growth, C) slowing growth, or D) recession and predicts each segment's future growth or decline while providing supporting evidence.

In anticipation of new consumer data privacy laws in development across the nation, PMI published the **2020 PMI Privacy Regulations Guidebook** containing the latest updates on consumer data privacy laws and regulations, along with checklists to help guide your compliance efforts. Similar regulatory guides on **conflict minerals**, **NAFTA rules of origin** and **Made in USA** were developed for PMI members during 2019.



As part of a coalition of hundreds of other organizations, PMI stated our industry's opposition to **tariffs** on Chinese goods. PMI provided frequent updates on the tariffs issue to PMI members, including information on how to apply for exemptions. In June 2019, PMI CEO/Executive Director **Kerry Stackpole** personally testified to the United States Trade Representative, along with representatives from PMI member companies.

Join Us

Engage with PMI to create positive outcomes and preparedness for your company and our industry. The primary source of information and education about issues and trends impacting the plumbing manufacturing industry, PMI gathers its members at signature events to establish a valuable community of peers that stand together to create profitable outcomes for their companies and industry. Learn more at tinyurl.com/yx77xfri



Registration Open for Popular Water Tech Symposium

EWTS

Emerging Water Technology Symposium

Interested in meeting well-known industry experts from across the globe who will share details on the latest water technologies, trends and installation practices? Registration is open for the 7th Biennial Emerging Water Technology Symposium (EWTS) (ewts.org) taking place May 12-13, 2020, in San Antonio, Texas.

Keynote speakers will include **Dr. Richard E. Thorsten**, chief impact officer for water.org, a nonprofit organization that has been working to bring water and sanitation to the world for 25 years, and **Robert Puente**, president/CEO of the public utility San Antonio Water System.

Popular among those working in the fields of plumbing, water distribution and water efficiency, EWTS offers new ideas, approaches and best practices about emerging water technologies, including managing building water systems to prevent the growth of opportunistic pathogens, such as Legionella, and innovative green plumbing and mechanical concepts.

The symposium, to be held at the Westin Riverwalk Hotel in San Antonio, is organized by PMI, the American Society of Plumbing Engineers, IAPMO, and the Alliance for Water Efficiency, in cooperation with the World Plumbing Council.

“PMI members look forward to EWTS each year because this meeting provides them with the chance to expand their horizons by hearing presentations from the broad array of professionals working in water-related industries,” said **Kerry**

Stackpole, CEO/executive director of PMI. “Over the course of two days, we will hear from fertile minds dedicated to tackling global challenges pertaining to safe plumbing and water delivery. With a record number of outstanding abstracts on hand, this year’s program promises to be enlightening and inspiring.”

EWTS provides the opportunity for participants to network, discuss their current challenges, and learn how the water utility, manufacturing, engineering and trade industries have found solutions through emerging technologies.

Attendees will get to view presentations and discussions on today’s most pressing water-related issues. Topics will include risk management best practices for Legionella and pathogen control, including high capacity filtration; key research needs for premise plumbing; enabling competitions to drive behavioral change; prevention of temperature fluctuations in showers; wastewater

Early Bird Rate Ends March 15

Register early as this symposium typically sells out! The early-bird rate of \$495 ends March 15. To register for the event, visit the ASPE website (tinyurl.com/uowuq2u).

Additional information about the event and videos of presentations from previous symposiums may be found online at ewts.org.

treatment and whether it can be a consumer product; the applied water-energy nexus — using an integration framework; PFAS contamination in water; and emerging “water-from-air” technologies.

Sponsors, presenters, and panelists participating in this symposium represent diverse expertise in several fields and issues including water, sanitation and health; water and energy efficiency; water reuse; water infrastructure; water quality; opportunistic pathogens; mechanical systems; plumbing research; and laws, regulations and policy development.



EWTS will be held at the Westin Riverwalk Hotel in San Antonio, Texas

Catch a Wave to Learning, Networking: PMI20 in San Diego

By Judy Wohlt, PMI Communications Team, Valek and Co.

Sun, sand and surf will provide the backdrop to the PMI20 Manufacturing Success Conference in San Diego, where PMI members will network, learn and expand their professional skills – all while fitting in a bit of fun.

To take place at Paradise Point (paradisepoint.com), Nov. 9-12, 2020, PMI20 will deliver thought-provoking content at a 44-acre beachfront resort with plenty of outdoor spaces to enjoy scenic views of Mission Bay, lagoons and lush, tropical gardens.

The resort has an interesting history dating back to 1952, when the San Diego city council approved a master plan for the \$60-million Mission Bay Aquatic Park. That project created 30 miles of shoreline beaches, including Paradise Point, with areas for water sports, fishing

and the Sea World Adventure Park. In the 1960s, movie producer **Jack Skirball** envisioned a fantasy-island setting for vacationers. Working with an architect and builder, Skirball turned his concept into reality – and Paradise Point was built.

Renovation and expansion continued over the next 40 years. Now, the resort contains two restaurants overlooking the impressive Mission Bay, 462 luxury cottages, five tennis courts, and five swimming pools.

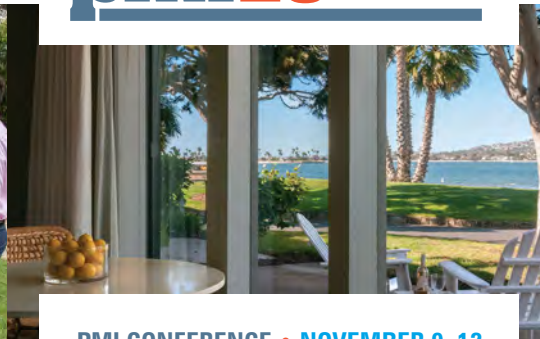
PMI20 participants will be able to enjoy the onsite luxury salon and spa, state-of-the-art fitness center, 18-hole putting course, and 14 bonfire pits. Bike rentals are available to explore nearby Pacific Beach, Mission Beach, Ocean Beach and 14 miles of waterfront bike and walking paths. Guests can enjoy the resort's

full-service marina, which is stocked with sailboats, kayaks, paddleboards, jet skis and speed boats. The Paradise Surf Academy provides daily surfing lessons.

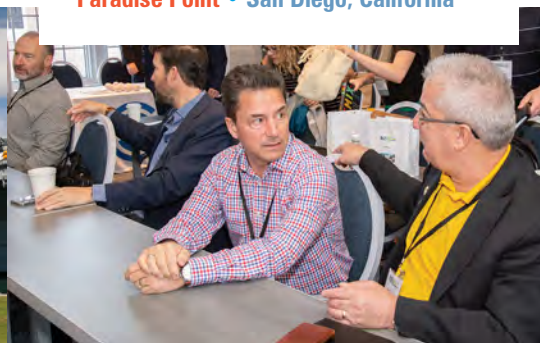
Conference attendees may wish to extend their stays at the resort to take advantage of San Diego's many cultural, historical and recreational attractions. Sea World is across the street from the resort and other popular sites are only minutes away. Old Town – known for its authentic Mexican fare, the world-famous San Diego Zoo, Balboa Park, and the Gaslamp Quarter are close by, as are the Mission Bay Aquatic Center and Seaport Village for shopping and dining along the waterfront. Nearby Torrey Pines State Natural Reserve in La Jolla offers some of the most scenic coastal hikes in San Diego.



pmi20 MANUFACTURING SUCCESS



PMI CONFERENCE • NOVEMBER 9-12
Paradise Point • San Diego, California



Celebrating Black Americans' Notable Feats in Plumbing

by Judy Wohlt, PMI Communications Team, Valek and Co.

From improving toilets on trains to breaking barriers in the plumbing trade, black Americans have made noteworthy contributions to the U.S. plumbing industry. The annual celebration of Black History Month in February provides an opportunity to honor and recognize several for their achievements.

Almost 150 years ago, **Lewis Latimer**, born to a family of slaves and known for several important inventions, co-patented an improved toilet for trains, known as the Water Closet for Railroad Cars. His invention helped reduce the drafts people experienced when opening the toilet as the train was moving and prevented debris from flying up, according to an article from Vision Launch (tinyurl.com/ux8vap6).

Inducted into the National Inventors Hall of Fame, Latimer was recognized for many creations, including improving the manufacturing process for filaments in light bulbs. He also applied what he had learned from the water closet invention process to create a precursor of today's air conditioner, the article stated.

George Clark, who became the first licensed black American master plumber in the state of Texas in 1939, developed ties with **Martin Luther King**

Jr., leader of the American civil rights movement in the 1950s and 1960s. Clark first crossed paths with a young Martin Luther King Jr. when he and his plumbing teacher at the Tuskegee Institute in Alabama traveled to Atlanta to work on the plumbing in the King's home, according to an article by My San Antonio (tinyurl.com/qtokyzo). Clark, who later marched for civil rights with King from Selma to Montgomery, Ala., in 1965, eventually started his own plumbing business – Clark & Sons, which is now run by his son **George Jr.**

More than 30 years ago, **Adrienne Bennett** broke through barriers in the male-dominated plumbing trade to become America's first black female master plumber. Her path to a plumbing career began in 1976, when she met a recruiter from the Mechanical Contractors Association of Detroit, who enticed her with an offer to earn \$50,000 a year as a plumber. That meeting opened the door to a five-year apprenticeship program with the Plumbers' Union, Local 98, in Michigan, according to a CNN article (tinyurl.com/t63r85w).

Bennett worked the required 4,000 hours to qualify for the master plumber exam, passed the test and received her state license in 1987, the article report-

ed. Today, she is CEO of Benkari LLC, a Detroit-based plumbing company working on major contracts including installing the plumbing at Little Caesars Arena in Detroit.



Adrienne Bennett, America's first black female master plumber

Bennett takes pride in her work and said in a PBS video, "My children can stand back and say 'My mom did that. She put the plumbing in that building.' And that is the reward of it." Watch the video on Bennett discussing her career – and passion for plumbing (tinyurl.com/u9dxgax).

Black History Month, also known as African American History Month, annually celebrates the achievements by African Americans and recognizes the central role of blacks in U.S. history. It was developed from "Negro History Week," created by historian **Carter G. Woodson** and other prominent African Americans, according to the History Channel. The 2020 theme for Black History Month, "African Americans and the Vote," honors the centennial anniversary of the 19th Amendment, which granted women's suffrage in 1920, and the sesquicentennial of the 15th Amendment, which gave black men the right to vote in 1870.



PMI Staff Gets Immersed in KBIS 2020 Experience

by Judy Wohlt, PMI Communications Team, Valek and Co.

Checking out new plumbing and design innovations, visiting PMI members and member booths, and hosting the PMI Power Break and Briefing were just a few activities the PMI staff checked off their long to-do lists at this year's KBIS 2020, which took place Jan. 21-23 at the Las Vegas Convention Center.

There was plenty to see and experience at the event, part of Design & Construction Week and the largest North American design and construction show, as 31,000 attendees gathered to network, get inspired and learn about the latest kitchen and bath trends.

PMI staff members, including PMI CEO/Executive Director **Kerry Stackpole**, PMI Association Manager **Jodi Stuhrberg**, PMI Technical Director **Matt Sigler**, and PMI Education Manager **Candace Spradley**, gave the soles of their shoes a good workout as they explored the 1 million-net-square-foot space, which hosted 600 exhibitors. PMI members exhibiting at the event included Delta Faucet Company; Hansgrohe, Inc.; House of Rohl, IAPMO; KEROX; Kohler Co.; LIXIL; Moen

Incorporated; NEOPERL, Inc.; Pfister; TOTO USA; and Viega.

“The members were excited about showing off their products and innovations and their excitement was contagious,” Stuhrberg said. “The exhibits were amazing, colorful and very large – and the show floor was vast, to say the least.”

The PMI Power Break and Briefing was a great success, as PMI staff met over breakfast with 21 manufacturing and allied members, including executives and various team members, and prospective members. Stackpole provided an overview of PMI resources and activities, including the WaterSense Market Penetration Study, Privacy Regulations Guidebook, PMI Market Outlook and updates on tariffs. **Jerry Desmond**, PMI's California government affairs consultant, and **Stephanie Salmon**, PMI's federal government affairs consultant, provided updates on legislation pertinent to the industry at both the state and federal levels.

Two PMI members won Best of KBIS awards. Moen won for its U by Moen Smart Faucet (tinyurl.com/qwdmuf4) in the Smart Home Technology category. Hansgrohe won a Best of KBIS Impact Award for its Rainfinity showerhead (tinyurl.com/rmxv9un).

As part of Design & Construction Week, PMI sponsored the 20th Annual Crystal Vision Awards Breakfast on Jan. 22 at Caesar's Palace in Las Vegas, where PMI member LIXIL won the Crystal Vision Partnership Award. The award recognizes LIXIL for supporting the Storehouse Program of World Vision with consistent and significant plumbing product donations, which included more than \$250,000 worth of supplies in 2019, and for promoting the program and event. The mission of The World Vision Storehouse is to help children and families struggling with poverty in the U.S.



Jerry Desmond, PMI's California government affairs consultant, briefs the attendees at the PMI Power Break and Briefing

LIXIL's CMO **Katty Pien** participated on the KBIS 2020 State of the Industry panel. Other KBIS presentations covered a wide array of topics from “The Dawn of a Decade - What to Expect from the ‘Roaring 20s,’” to “Power in Partnerships - Building Relationships Between Brands and Designers,” to “Zero Waste Kitchens - Upcycle and Recycle.”

Tackling the urgent need for talent in the design and construction trades was a hot topic at the event, too. The National Kitchen & Bath Association (NKBA), the not-for-profit trade association that owns KBIS, announced the launch of the NKBA NextUp workforce program to recruit the next generation of workers to help fill the 750,000 jobs expected to open in the design and construction industry through 2026, according to the NKBA website (nkba.org/nextup).

NextUp will use a three-pronged approach – creating experiences that introduce high school students to design and construction trades, starting a conversation about career paths to raise awareness about work opportunities, and creating strong networks of local talent to deliver exceptional experiences to homeowners looking to improve their kitchens and bathrooms.



Troy Benavidez accepts the Crystal Vision Partnership Award on behalf of LIXIL

PMI Makes Plans for Upcoming Legislative Fly-ins

By Ray Valek, PMI Communications Team, Valek and Co.

PMI is developing plans and agendas for its annual legislative forums and fly-ins, which bring together PMI members, lawmakers and regulators to discuss critical issues facing the plumbing manufacturing industry.

The California Legislative Forum and Fly-In, scheduled for April 27–28, will address several topics, including the California Consumer Privacy Act and regulatory activities involving proposed changes to maximum flow rates in plumbing products.

Jerry Desmond, PMI's California government affairs consultant, is working with the Advocacy/Government Affairs Committee, co-chaired by **Lowell Lampen**, Kohler Co., and **Troy Benavidez**, LIXIL, to create a blueprint to engage with the appropriate regulators and executive branch officials on those topics and other important issues.

Plans are also in the works for the Washington DC Legislative Forum and Fly-In to take place on June 23–24.

Stay tuned for more details in next month's issue of Ripple Effect.



Welcome to the World of Forever (Continued)

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a dishwasher cycle is completed, or if unexpected changes in water pressure suggest a leak.

One of the most common and recurring questions heard throughout the show was about voice-activated devices – lights, appliances, plumbing fixture and fittings. When would they become the standard and not the exception? Said differently, when will the mechanical interfaces most of us grew up with disappear behind networked, Bluetooth or wireless voice activation? Is that time 20 years from now? Ten years? Five years? The future imagined in the animated television show, *The Jetsons*, is fast approaching – well minus the flying cars – and it's not clear many saw it arriving in quite this fashion. Still, here we are.

In the midst of the smart home technology showcased at KBIS and IBS, United Nations Secretary-General **António**

Guterres delivered a wide-ranging speech to the General Assembly warning of the downsides of technology. Secretary General Guterres said bringing light to the dark side of the digital world will require action on several fronts, including in the labor market as automation will displace tens of millions of jobs in the next decade. The UN chief recommended that education systems be redesigned to address this reality by teaching people how to learn across the course of their entire lives.

Writing in the *Harvard Business Review*, author **Lisa Burrell** tells a story about a colleague who predicted that “What courses are you taking?” will replace “What are you reading?” as the question among co-workers. The article goes on to share the ideas of **Edward Hess**, a Darden business professor who suggests we need to create a workplace where people's jobs become their

classes – “where learners experience a combination of positive support and positive challenges.”

While there's no shortage of wisdom about the value of lifelong learning and its potential to enhance our understanding of the world around us, there are many questions about who should be driving the effort. As the plumbing products industry works to strengthen relationships with the ultimate end-user of our products, the need for an accelerated lifelong education and learning framework for customers and employees alike is gaining ground. PMI is rapidly expanding its learning opportunities through online offerings in codes and standards, the PMI Aspiring Leaders Program, the new PMI CEO Thinking Forum, and the PMI20 Manufacturing Success Conference.

We're in this together.

PMI@Work in Digital Manufacturing

By Genevieve Valek, PMI Communications Team, Valek and Co.

Manufacturing has become more than humans working with machines. Software, technological breakthroughs and new facilities continue to evolve manufacturing in ways that create new possibilities for companies that make things.

Digital manufacturing tops the list of ways manufacturing has developed over the recent past. Defined by Industry Week (tinyurl.com/t4zo9qx) as an integrated approach to manufacturing that is centered around a computer system, digital manufacturing is the fastest and easiest way to transform a concept into a reality.

First, your company designs with CAD (computer-aided design), from which a machine executes. According to a CB Insights' Research Briefs blog (tinyurl.com/yck-4m8ds), once you receive your part, you may do several things with it: make it into a prototype, build a mold, or put the part into production.

PMI member Grohe uses 3D printing to create a faucet

PMI member Grohe has brought digital manufacturing into its wheelhouse by means of 3D metal-printing, a technology that uses laser beams to melt layers of metal powder on top of each other. This powdered metal is spread across the entire build platform and selectively melted to previous layers, creating an additive process that allows metal parts to be grown out of a bed of powdered material.

In this video (youtu.be/ELxDloVuXKM), Grohe Vice President of Design **Michael Seum** explains and demonstrates the process of designing and producing an ultra-thin sink fitting called the Icon 3D. This fitting is named after the process that was used to create it and pushes the boundaries of what's possible for the future of the plumbing manufacturing industry through the use of digital manufacturing.

A variety of 3D metal-printing materials are available, including stainless steel, cobalt chrome, maraging steel, aluminum, nickel alloy, and titanium – materials used very frequently in bathroom fixtures.

3D printing one of three key digital manufacturing technologies

In addition to 3D printing, also known as additive manufacturing, other digital manufacturing technologies include laser cutting and computer numerical control (CNC), says the McKinsey & Company's Manufacturing Handbook (tinyurl.com/rouvslld). Laser cutting is a digital subtractive fabrication technique. To put it simply, it cuts or engraves a material – such as metal, wood or cardboard – by using a laser. CNC is another subtractive manufacturing process through which a computer controls the cutting and shaping of parts, which are typically metal.

With consumer habits and expectations ever changing, finding new methods of production is necessary, and digital manufacturing appears to be the best answer to this evolution, says McKinsey & Company. Allowing for iterative production, digital manufacturing is beneficial to meeting consumer demand, and is much quicker and more efficient in producing high-quality prototypes.

Iterative. Meets consumer demand. Quicker. Efficient. All good reasons why digital manufacturing is an exciting development in the production of plumbing products.

Read Blog Online

Read this article and others on our PMI@Work blog: safeplumbing.org/communications/pmiblog

PMI@Work explores efforts to develop the manufacturing workforce for the future, particularly among PMI members. If you'd like to submit a post or content for consideration, contact PMI communications team member **Ray Valek** at ray@valekco.com.

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