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Solving The Millennial Skill Gap With Artificial Intelligence

E-BOOK

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INTRODUCTION

Changing workforce demographics and a labor shortage among skilled technicians don’t need to spell doom for your service team performance. Artificial Intelligence (AI) technology is key to capturing untapped tribal knowledge and making that knowledge accessible across your workforce, empowering less tenured employees with the wisdom of your experts. The results are quicker, more comprehensive training for new hires, increased job satisfaction, and ultimately, a better customer experience.

WHERE ARE THE SERVICE PROS?

Service teams are in a labor crunch. According to 2018 global research by Manpower Group, skilled trade positions, particularly technicians and engineering roles, are the hardest to fill. This didn't happen overnight. The Service Council detailed the coming storm in the labor market in 2015 research, noting that "70% of service organizations indicate they will become burdened by a retiring workforce over the next five to ten years." We are in the midst of that talent shortage and organizations are scrambling to fill openings, with more than 70,000 service technician jobs listed across the country.

Baby Boomers, who make up a significant majority of the workforce in the service industry, are now retiring. In the next ten years about 10,000 Boomers a day (across all industries) hit retirement age. That's a lot of farewell parties. Analysts and economists have been sounding the alarm bells for years about the coming crisis, but many companies have struggled to pivot quickly.

While Millennials now make up the largest portion of the workforce overall, the service industry has struggled to attract and retain the digital generation, due in part to housing shifts from the suburbs to the city, and the large number of millennials who hold bachelor's degrees compared to a generation ago. While the majority of customer call center and field service jobs don't require a college degree, the jobs do offer many qualities that young talent are seeking, such as room for advancement and a sense of purpose[3]. In order to recruit and retain young employees, an emphasis on professional development is crucial.

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DON'T LET KNOWLEDGE LEAVE WITH YOUR EMPLOYEES

In addition to contributing to the labor crunch, retiring boomers are exacerbating the knowledge gap in service. Unlike other industries where institutional knowledge is indexed, best practices documented, and lunch and learns held monthly with pizza, technicians often work solo or have limited interactions with other team members. In lieu of imparting tips and tricks, technicians often keep knowledge of a myriad of parts, fickle machines, and client quirks tucked away in their head or scribbled down on paper work orders that fill desk drawers and glove compartments.

There's also an employment tenure gap between generations, which is causing more turnover overall. 2016 research [4] found the overall average employee tenure across all industries and age groups to be 4.2 years. Millennials average roughly 3 years and Gen X average tenure is 6.5 years. Boomers have an average tenure of 10 years, but most are at or close to retirement age. Even if you could hire more Millennials, the knowledge drain is forecasted to continue as the pace of churn quickens.

TENURE BY GENERATION:

This graph represents the average employee tenure at companies across all industries, broken down by generation.

OVERALL AVERAGE: 4.2 YEARS

CURRENT KNOWLEDGE TRANSFER PRACTICES AREN'T WORKING

The labor shortage forces organizations to choose between immediate needs, such as having their most senior staff in the field addressing urgent customer issues, and long-term goals of documenting their knowledge and training new employees. As most managers know, when resources are tight, the biggest fires get put out first and long-smoldering issues continue to be put off until they can't be ignored.

It's not that companies haven't tried to harness insider info and scale training. There are mobile apps and field service tools designed to capture notes from the field. However, change management can be a bigger barrier than the C-suite anticipates, leaving managers tasked with motivating the workforce to use the technology that some in the field consider clunky or time-consuming. And even when these tools are successfully put into use, it's difficult to make these notes and comments that are captured on customer tickets actionable. They're often riddled with typos and contain information about multiple tasks in one long, free text form. How can any organization parse that information and use it effectively?

This challenge is at the root of why so many internal knowledge bases are missing the deep insights of employees in the field. Plus, most of these solutions are static databases, as opposed to connected learning tools that know what information is necessary, can prompt employees to ask the right questions, and then figure out logical solutions based on partial inputs. Digitally savvy employees are used to using tools like Siri that understand their location and habits and can offer intelligent solutions without the user having to do all the legwork.

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UNCOVER EXISTING DATA TO FILL THE GAPS

People make the best mentors and trainers, and those with deep on-the-job knowledge often excel at diagnosing obscure problems that newer employees may have never experienced, but these deeply knowledgeable employees only have so much time and ability to impart their wisdom. As organizations seek to meet high customer service expectations, human knowledge must be combined with an artificial intelligence discipline called machine learning in order to democratize that knowledge.

USE MACHINE LEARNING TECHNOLOGY TO DISTRIBUTE EXISTING KNOWLEDGE

Customer-facing organizations have far more information and institutional knowledge squirreled away than most managers and executives realize. There are free text notes, product images that sit within and outside of CRM, ERP, WFM, and other databases. Technology partners that leverage Machine Learning (the process of computers improving responses with experience) can capture this unstructured information and add it to the knowledge base, alongside real-time data, producing a rich and interactive pool of information that all employees can draw from. The right application can make actionable recommendations and predictions based on this data, helping teams solve customer and service challenges efficiently.

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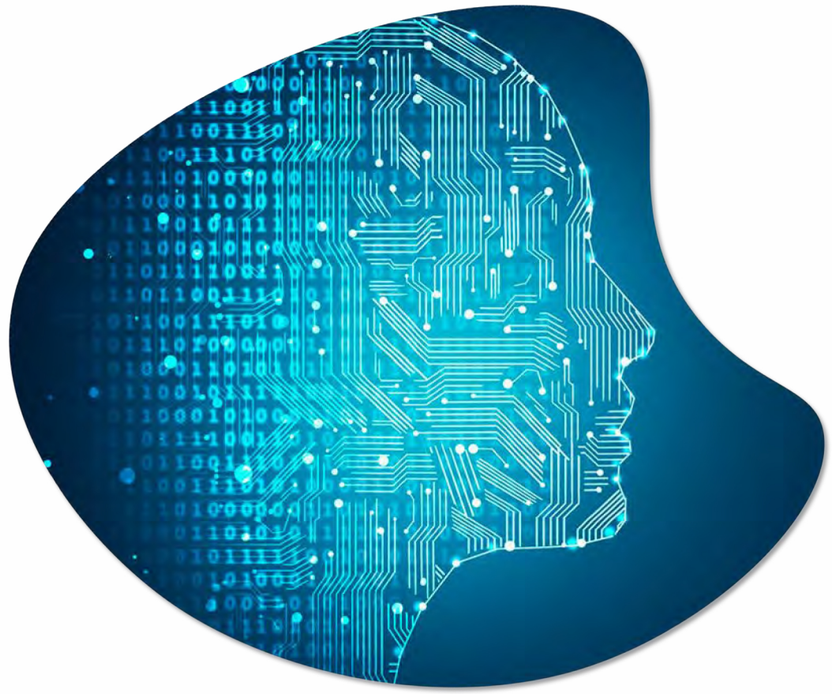
APPLY NATURAL LANGUAGE PROCESSING ON TOP OF THE INFORMATION MOUNTAIN

With the amount of data in play, it's not enough to simply convert current and historical information into structured data which can easily be indexed and searched. The problem is that different customers or regions might have different terms for the same issue. Plus, case notes about this issue might contain typos and misspellings, making it difficult to manually identify and categorize records.

A solution that offers Natural Language Processing, in combination with Machine Learning, digs deep into the historical information and acts as a translator. It will understand the root issue regardless of how it's described by analyzing the past examples, whether it's faulty equipment or new installs. It will map these different ways of describing issues back to the same solution—even if the descriptions contain mistakes. In addition to helping call center agents and techs in the field, it's an essential learning tool to help employees level-up by quickly accessing critical data to get the job done.



VALIDATE AI WITH HUMAN KNOWLEDGE

Much has been made of the idea that machines can replace humans for essential job functions. The truth is that AI is nothing without the real-life expertise of humans to guide and validate its findings. Automating insights from historical data is not enough on its own. In order to ensure that findings about the solutions to service challenges are accurate, an organization must bring in its experts to assess and improve the solutions offered.

Before AI, organizations needed to take experts out of the field for months to help with training or knowledge sharing. With the right AI solution, experts can optimize insights in a matter of hours. When solutions to challenges are automatically generated by a system, it enables members of the service team to spend more time doing what they do best—which is applying their expertise in the field.

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SPEED UP TRAINING AND EXPERTISE

With easy-to-access information that understands what you mean regardless of specific phrasing, and a dynamic pool of information to draw from, smart systems give all employees equal access to previously hidden information. Skills that previously took years to learn (usually by waiting to personally encounter and solve each unique problem) can now be passed down to newer employees in a matter of days. In addition to solving the practical problem of onboarding new hires, it also helps to engage Millennials in a way they are more comfortable with. And when knowledge is easier to acquire, employees can work on acquiring soft skills like customer service and relationship building, which can’t be taught by even the most powerful machines.

3D SYSTEMS:

SCALING THE WORKFORCE & DECREASING REPEAT VISITS WITH ACTIONABLE INSIGHTS

3D Systems empowers modern manufacturing with best-of-breed plastic and metal 3D printers. They help manufacturing clients dramatically reduce build time and enable healthcare organizations to custom-fit solutions and improve patient outcomes.

With a robust global client base, they needed to onboard new service techs quicker to get them out in the field and solving complex service problems. As the workforce grew, one of the hardest issues was extracting the organizational knowledge out of the heads of the most experienced engineers and into the hands of everyone in the field.

They turned to Aquant's AI-powered service intelligence platform to mine and analyze all their information, including data stored in field service solutions, CRM, and parts systems. In addition, the tool was able to uncover info that lay dormant in free text notes. The Natural Language Processing (NLP) engine embedded in the technology is even able to map different phrases and words all back to the same problem, which structured the data more efficiently and made it easier to search.

During the install process, which took less than a week, the tool scoured and categorized data, and then their best engineers sat down to validate the data and improve findings.

3D Systems is now able to leverage Aquant's Intelligent Triage product to assess and troubleshoot customer tickets quickly, helping service pros resolve issues on the first visit. They've also decreased parts costs and usage by correctly identifying the source of the problem and sending the right tech, with the right skills into the field with the right parts. All employees have more equal access to knowledge, making it easy for junior techs to get up to speed quickly.

As a result of implementing Aquant across the organization, 3D Systems has seen a 62% reduction in parts usage and a 39% decrease in repeat visits, driving significant cost savings.

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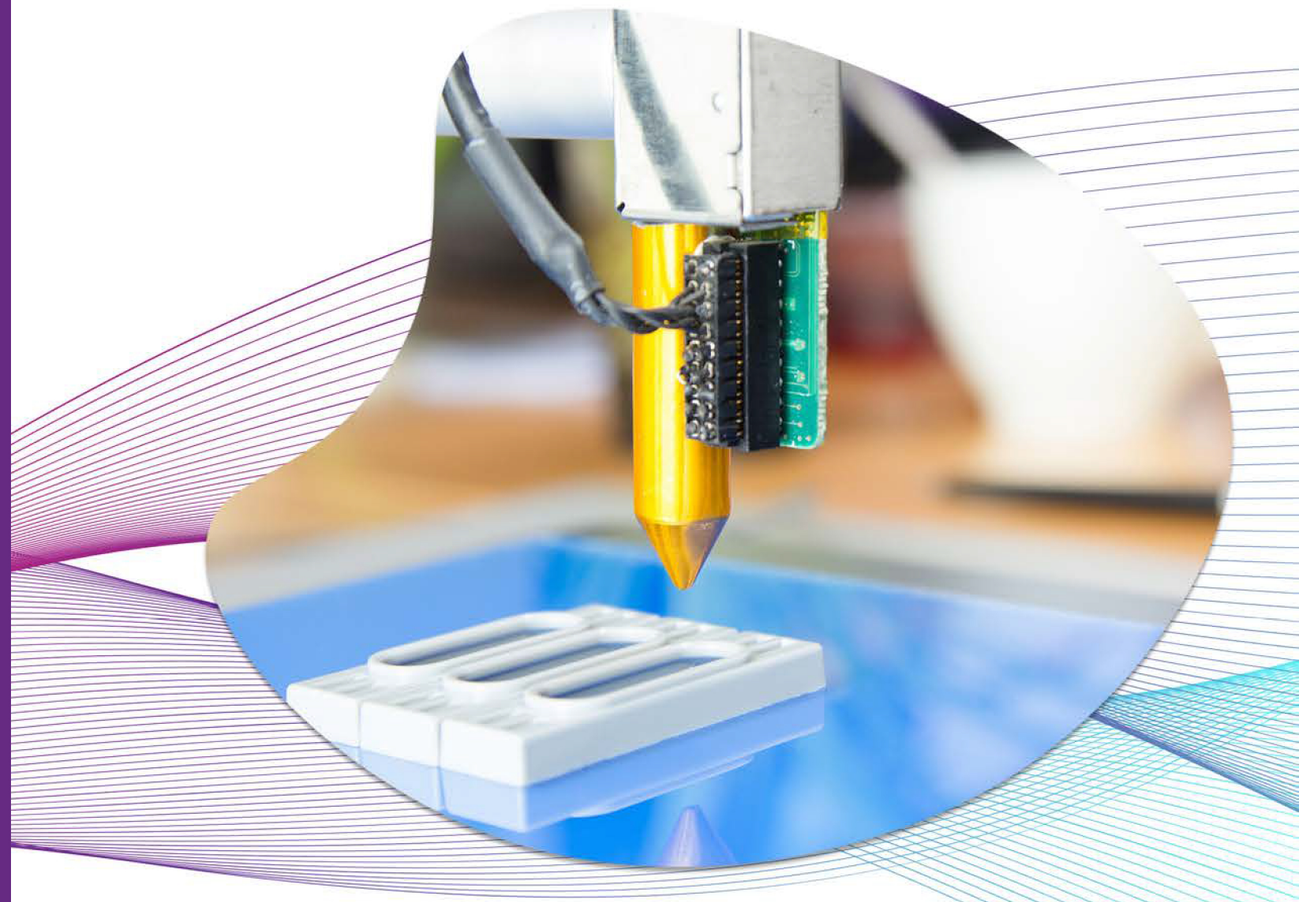
39% REPEAT VISITS

62% PARTS USAGE



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About Aquant

Aquant's service intelligence platform supercharges service performance by unlocking a new dimension of insight from enterprises' existing data. The platform mines and analyzes data that is scattered across different systems, hidden in free text, and locked in the minds of the enterprise's most experienced people. It empowers teams to use that data to improve first time resolution, optimize service team performance, assess risk, and drive exceptional customer experiences.

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For more information, visit www.aquant.io.