Artificial intelligence for small and midsize businesses

Getting started with practical applications of AI

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AI is increasingly a part of how businesses stay competitive. Companies are now using AI to predict customer behavior, automate rote tasks, personalize customer experiences, improve go-to-market strategies, manage supply chains and more. Some are leveraging AI across multiple functions to achieve goals such as more efficient operations or superior customer service.

AI-powered technology isn't just for large enterprises. Many small and midsize businesses (SMBs) are already enjoying the benefits of AI through the applications they're using — even though they might not realize that the technology itself is intelligent. QuickBooks, for example, can automatically categorize expenses for customers because it has AI embedded in its software.

In a Vistage survey of 1,467 SMB leaders, 13.6% of respondents said that they are currently leveraging AI in their business, with 6.9% using it for business operations and 6.1% for customer engagement. Nearly one-third (29.5%) of respondents say they believe AI is among the technologies that will have the greatest impact on their business in the next year.

Laurie McCabe, co-founder and partner of SMB Group, Inc., believes that AI can bring value to any SMB, regardless of its size or industry. "There is no business that can't get value from this," she says. "Every SMB should understand that the efficiency and insight that AI brings can be a huge differentiator for their business."

If you're an SMB CEO, that doesn't mean that you can simply "buy AI" in an effort to modernize your business. Rather, you should first consider whether AI can help you execute on your core business strategy, automate manual tasks for your employees or answer key questions for your business. You should also consider how to realistically integrate this into your business, given the financial implications and technical risks.

This report offers a roadmap for getting started.

Expert Insight

Marco Casalaina

Vice president of product management, Einstein at Salesforce

AI has unleashed the Fourth Industrial Revolution

"There have been seismic changes in the last 200 years or so that have changed how humanity operates. The First Industrial Revolution was steam. The Second Industrial Revolution was electricity. And about 40 or 50 years ago, computation became the Third Industrial Revolution. Now, the Fourth Industrial Revolution is intelligence — and, more than that, embedded intelligence.

"Concepts of artificial intelligence have been around, more or less, since the 1950s — or even since the 1930s, if you consider notions of statistical regression. But what has changed in the last few years is the increasing ability of mobile devices, paired with the increasing availability of computers and storage, to embed intelligence into the applications that we use every day. Now, you use intelligence all the time without thinking about it.

"It's a subtler revolution than people may think. Intelligence is just being injected into what you do every day."

Part I: The fundamentals of artificial intelligence

What, exactly, is artificial intelligence? It is the theory and development of computers to perform tasks that normally require human intelligence, such as visual perception, speech recognition and decision-making. Artificial intelligence makes it possible for machines to process massive amounts of data in order to identify patterns, glean insights and take action based on those insights.

"AI is the science of building a system that can gather the data that you're already collecting, and then take action on that data," says McCabe, who cites a home-monitoring device (called Nest) as an example. "Nest is basically gathering data about the conditions in your home and taking action based on that data."

A subset of AI, machine learning, uses algorithms that enable computers to "learn" and improve as they process more and more data. "Machine learning is really about the algorithms that adapt and learn from data," says McCabe. One example might be a hotel group that uses data about guests (e.g., where they live and work, what type of rooms they typically book, when they take vacations) to predict whether they will stay at a certain hotel.

To be clear, AI is different from business intelligence (BI). BI looks at data and tells you what happened in the past and what the future would look like based on those patterns. AI looks at data and tells you why things happened the way they did, what will happen in the future and what you can do about it.

"With BI, you can determine which customers you want to look at," explains **Lee Blackstone**, founder and CEO of Blackstone + Cullen. "With AI, you can begin to understand how you want to interact with those customers. AI plus BI equals the customer experience."

Descriptive, predictive and prescriptive analytics
Understanding the value of BI versus AI

Analytics level	Type	Answers the question	Example
Descriptive analytics	KPIs/metrics	What happened?	A company had great sales results in California last quarter. Descriptive analytics can explain what happened.
Predictive analytics	Business intelligence	What will happen going forward?	A company lost a lot of customers in Kentucky last quarter. Predictive analytics can help a company identify other customers in Kentucky that they might lose so they can focus on retaining them.
Prescriptive analytics	Artificial intelligence	What would happen if I took a particular action?	A company wants to find out what would happen if they offered a different pricing model to at-risk customers in Kentucky. Prescriptive analytics could show the company whether that would actually retain those customers, and how many. Once the results were known, rules could be put into place to automatically offer customers in Kentucky the most successful pricing model.

Part II: Artificial intelligence in action

"AI performs very narrow tasks very well," says Blackstone.

For most companies today, the real value of AI comes from its ability to "do the grunt work for you," says Casalaina. "In sales, it does the grunt work of finding opportunities and forecasting. In service, it interacts with customers and handles long-running processes. In marketing, it handles targeting. In e-commerce, it handles product recommendation. So it really cuts across everything that a business does today."

In operations, AI helps companies with everything from performing preventative maintenance to solving problems on the production line to optimizing settings on machines.

"We use AI tools to predict outcomes and then prescribe solutions based on questions such as: Do we need to change our schedule? Do we need to readjust what this machine was expecting to do based on what happened prior in the sequence of events?" explains **Mark Merino**, IT solutions business development manager for Polaris Automation. "We also use AI to manage machine settings. A lot of machine settings are managed by experienced operators — but when those people retire, a knowledge gap exists. We want to replace their experience with algorithms that can properly set the machine parameters based on learning."

CEOs share their plans and predictions.

73.2% of SMB CEOs plan to invest in business software or business applications in the next 12 months, with customer relations management applications leading at 45.5%.

Source: Q2 2018 Vistage CEO Confidence Index, n=1,467

Real-world applications of AI

How SMBs are currently using AI across different areas and functions

Among the 13.6% of SMBs leveraging AI, most are using it to improve business operations, followed by customer engagement.

Bar chart:
- Business operations: 51.0%
- Customer engagement: 45.5%
- Talent management/hiring: 20.2%
- Financial reporting: 16.2%
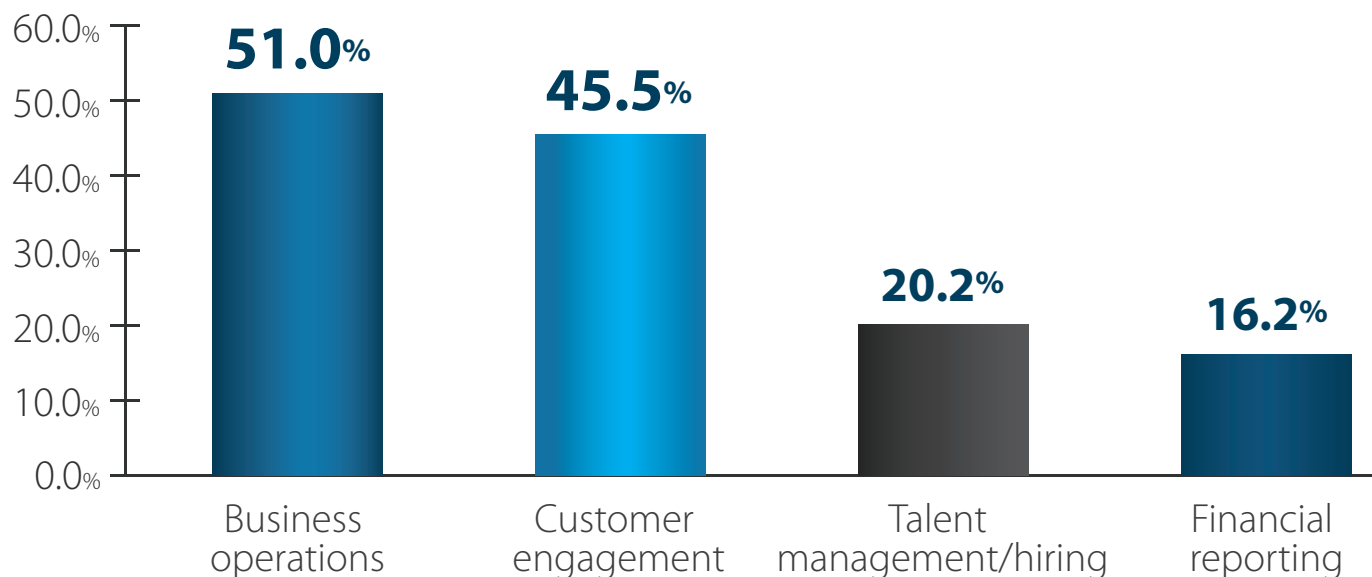
Source: Q2 2018 Vistage CEO Confidence Index

Base: SMBs using AI in their business, n=198

Real-world applications of AI continued

Business Operations

Applications	Use case
• Predict wear and tear on machinery • Perform preventative maintenance based on predictive analytics • Predict demand for new inventory • Automate routine tasks • Prescribe solutions • Manage process control • Apply control-loop decision-making • Upgrade old equipment with sensors and automation capabilities	A manufacturing firm wants to identify what machines are not running and why they're not running. It uses an AI-powered application to collect data from every point in the manufacturing process — from the point where raw materials are brought in to when finished goods are shipped — and to flag when something happens in the middle of the process. It helps answer the question: *How does the inefficiency of one machine affect everything else in this process, and how do we fix it?*

"There are manufacturing systems that operate like a brain and nervous system to control the function of a machine. Now we also want those systems to react to something that an ERP or business system is telling them to do."

Scott Cooke
President of Polaris Automation

Customer Engagement: Sales and Marketing

Applications	Use case
• Identify leads and opportunities • Forecast sales • Capture sales activities and log customer data • Suggest next-best actions and recommended email responses • Deliver the right content to the right people at the right time through the right channel • Determine likelihood of opening an email	A small medical device company wants its sales team to spend less time searching for sales leads and more time meeting with prospective clients in the field. It invests in an application that can target and predict which prospects are most likely to convert into customers so that the sales team knows where to direct its energy.

"For almost every business that I've talked to, marketing targeting tends to be the on-ramp onto AI. That is usually the path of least resistance to get into AI. It's a place where you can get some pretty decent ROI fairly quickly."

Marco Casalaina
Vice president of product management, Einstein at Salesforce

Customer Engagement: Service

Applications	Use case
• Manage basic customer inquiries • Classify and route customer service cases • Recommend solutions and knowledge articles • Facilitate self-service communities and automated assistants	An e-commerce company wants to improve the speed and quality of its customer service and engagement. It purchases a chat bot — an agent-like assistant powered by machine learning — to answer customer questions quickly. This gives support agents more time to provide one-on-one support to customers and solve difficult customer problems. In turn, customer satisfaction increases and the company sees higher revenue retention.

"Today, AI is being applied to listen to the tonal inflection of customers that reach out to call centers. The technology can identify if a person is angry or happy; it can compare that customer's tone to the last time they called in. And then it can help answer some questions such as 'Is there a chance we can upsell this customer?'"

Lee Blackstone
Founder and CEO, Blackstone+Cullen

Talent Management

Applications	Use case
• Provide better information to HR decision-makers • Capture data from recruiting processes to inform future hiring • Target the right candidates at the right time • Write better job postings • Discover passive job seekers and target them with personalized messages at the right time	An HR team is struggling to manage its workload and find the right candidates for top positions. To improve the efficiency of its processes, it starts using an AI-powered assistant to schedule interviews with candidates, and then uses an intelligent application to automatically find and rank candidates according to their credentials and qualifications.

"If you're looking to hire a greater marketer, there are applications that can help you identify the characteristics that separate the top 20% of marketers from the other 80% of marketers. Then, when you go search for new talent, you might realize, 'Wow, maybe I've been paying attention to the wrong things when I interview these people.' Other applications can help protect against unconscious bias in making hiring decisions."

Laurie McCabe
Co-founder and Partner, SMB Group, Inc.

The real value of AI in business operations emerges when it connects business systems and manufacturing systems.

"AI will have a large impact on how manufacturers make decisions in the future. As business information converges with manufacturing information, we will see decisions being made by algorithms rather than humans.

"Manufacturers typically have a mixture of old and new equipment. There is not a one-size-fits-all solution. The first step toward enabling the interaction between manufacturing and business systems is the implementation of a strategy outlining the manufacturing data that will be required, the resolution of the data and the IT infrastructure required to support it. This is a daunting task, but very important.

"If something happens on the production floor that could impact scheduling, and the business system has a schedule of what you're going to be doing over the next month, the manufacturing system needs to know how to react to that. In a more traditional setting, those decisions would have to be made in a meeting between operations and the business. AI will close that gap."

Scott Cooke
President, Polaris Automation

Part III: Recommendations for SMBs

Vistage research revealed that only 22% of SMBs have leaders dedicated to IT. Furthermore, most of them are IT generalists — versus data scientists who know how to seamlessly integrate AI into their businesses.

The good news is, your company doesn't need a team of data scientists to gain access to, or value from, AI. "Intelligence is built into a lot of business applications now," explains Casalaina. "You can use it if you know where it is."

McCabe agrees. "No matter what CRM you use, those applications are all building AI and machine learning into solutions," she says. "And those solutions keep learning from the information that is entered into the system, so they can start to predict patterns."

Manufacturers don't need to replace their old equipment in order to access AI or machine learning, either. Instead, they can use instrumentation to upgrade that equipment and automate processes.

"Most manufacturing facilities contain equipment that's 10 to 40 years old," says Cooke. "We apply instrumentation that will allow you to automate processes. And then, perhaps five years later, you upgrade that automated system. But you're not replacing equipment."

To begin reaping these benefits, experts recommend focusing on the steps in these four categories.

1. Strategy

Consider your strategy first. Instead of looking for ways to bring AI into your business, look for ways to use AI to execute your business strategy. "You can't bolt on artificial intelligence and machine learning," says McCabe. "You have to look at your strategy and say, 'How can the vendors that I work with help me do the strategic things that will help me really grow? How do I use these applications to successfully execute my strategy?'"

Identify the yes/no questions that are important to your business. Practical AI usually starts with a yes or no question, says Casalaina. "Find the yes or no question that matters to your business and that you would like to predict going forward," he explains. "It's usually something that you're already reporting on your BI, like 'Will we win the deal?'"

Laurie McCabe

Co-founder and Partner,
SMB Group, Inc.

If you find it hard to prioritize technology investments, you're not alone.

"SMBs have limited budgets and typically lack technology expertise. They also have other things competing for their money besides IT — whether it's trucks, new furniture or hiring people. When they look at the 2.5% or so of their total budget that might go to IT, they want to make sure they spend it on something that will give them the best bang for their buck.

"Seeing a direct connection between the investment and the return is critical. For example, investing in new sales and marketing applications is usually a high priority, because they know if they can do a better job of engaging prospects and working with clients, they can make more money. Internet of Things (IoT) is also becoming a hot area, because they can easily see how an IoT solution can, for instance, help them to control physical systems and save money on heating, cooling, lighting and other utilities. Those kinds of things are really attractive to SMBs."

2. Data management

Look for an area where you have a lot of data already.
Without the right amount of data, AI isn't going to work for you. "You have to look for areas where you have data sufficiency to add intelligence," says Casalaina." If you have a list of 100,000 email addresses, you need to target your marketing or if you have 100,000 leads, you need lead scoring."

Clean up your data. If you aren't already using a CRM system, your data is probably spread all over the place — in spreadsheets, emails, marketing systems and more. You've got to clean up this data and get it organized in order to be ready for AI. McCabe explains, "If you have data in all these different places, you have to take a step back and say, 'I don't want to bake in the mess that I've already created with a new solution. I want to get the solution off with a better recipe.'"

Treat data as your most valuable resource. Establish a system that effectively collects the data that you care about. "We used to say cash is king," says Merino. "Now, data is king. It's the next level of Lean Six Sigma. We're trying to eliminate as much waste as possible — and without understanding what is going on, you can't identify the waste."

Collect data that will inform decision-making. This is particularly pertinent to manufacturers, says Cooke. "You certainly can't make decisions unless you have data to solve those decisions," he says. "If you're in building materials and there's a hurricane, your demand will suddenly go up overnight. You'll want to harness the technology available to make decisions about how to meet this new demand and not let your competition grasp that market share."

3. Technology and systems

Look for AI in your applications. Check to see if the applications or systems that you're currently using — or considering investing in — have already incorporated AI. "You have to make sure that your vendor is making it easier for you to get more insight that can improve your business," says McCabe.

Ask for help. Don't be afraid to ask your vendors to guide you through this process. "Ask them, 'Can you tell me if I'm implementing this right? Can you warn me if I'm going down the wrong path? Can you help me with predictive models and prescriptive models to look into the future?'" says Blackstone. "See if you can use what someone else has embedded into their application so that you don't have to spend a lot of money doing the basic research."

Use your applications to identify trends and opportunities.
Your applications can probably work harder for your business than you think. "Look for anything that might signal, 'Huh, here's something that I could use to better market my business or save money or whatever," says McCabe. "Or, 'Here's a red flag that the system is surfacing that can hurt my business if I don't address it.'"

Look for repetitive tasks that you can automate. These would be low-value functions that people do every day and spend a lot of time doing. Think about whether an application could take the time and aggravation out of completing those tasks by performing them automatically.

Consider upgrading your old equipment with new sensors that can gather data analytics. But recognize that this process involves a certain level of customization. "There is no one-size-fits-all solution," says Cooke. "But, fortunately, we are on the right track for coming up with something that will fit the space. So there could be a pseudo-universal solution for manufacturers."

> **57.6% of SMB CEOs think advanced technology will impact their business in the next year.**
>
> - **59.8% said connected devices or Internet of Things is a technology that would have the greatest impact.**
>
> - **29.5% believe that AI would have the greatest impact.**
>
> *Source: Q2 2018 Vistage CEO Confidence Index, n=1,467*

Expert Insight

Ask the right questions about AI.

"A senior executive from an LA-based fashion house came to me and said, 'Everybody's talking about AI. I want to buy some, but I don't know where to buy it.' I think that's probably what a lot of people are thinking today.

"I began to ask him questions like: Why do you want to do this? How are you going to implement it? Who knows about your system internally? When do you want to implement it? Where do you want to implement it? What do you have now? What does success look like for you? What do you think AI will do for your business?

"Those are the questions that leaders of small and midsize businesses should ask themselves. You need to understand what you really need to automate and how it's going to benefit you. How is AI going to change your business so that you can respond faster than your competitors? And how can you use it to compete with the big guys and respond better than they can?"

Lee Blackstone
Founder and CEO,
Blackstone+Cullen

4. Expertise

Don't try to manually implement AI. Companies that manually implement AI have a very high failure rate, says Casalaina. "People don't realize how difficult it can be to do this manually," he notes. "All of the steps that you have to go through — preparing the data, gathering the data from different places, creating the model, using algorithms and scoring, and then putting it back into the system that people are using — are actually more difficult than people realize."

Consider engaging an expert. You may want to consider working with an expert if you want to use AI to inform your company's decision-making processes. "A subject-matter expert will make sure you understand the data and the decisions that are being applied *before* you try to throw data into a magic machine and have it figure out what decisions should be made," Merino explains. Adds Cooke, "[In manufacturing] you want to look at whether a business has the instrumentation that will give teams what they need to make those decisions. They may have the right instrumentation to operate the plant, but they may not have the correct instrumentation or IT infrastructure that allows them to grab data at a rate they need to solve problems on the technology side."

Expect to make continual adjustments. "Recognize that most of the models you are going to run are only going to be about 25% successful the first time," says Blackstone. "And you have to tweak them and then tweak them again."

Research perspective

Artificial intelligence is already all around us. While the future of AI is vast and unlimited, the practical applications are just beginning to emerge. There is no question that AI is in your future; it just may not be something for you today.

Early adopters are beginning to realize the benefits of automation and the deep insights harvested from big data. There is no need to become a data scientist or even to hire one. Instead, identify and select business applications that have AI embedded in them. Look for opportunities to automate the routine that will free your people for more creative work.

We're a long way from the Terminator's "Skynet," but the journey has begun.

Joe Galvin

Chief Research Officer,
Vistage Worldwide

Contributors
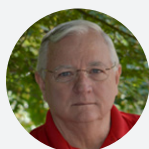
Lee Blackstone

Owner and CEO, Blackstone+Cullen, Inc.

With a career spanning 20+ years working for global companies and 25+ years as an entrepreneur, Lee has a passion for driving client success, measured by the fact that over 80% of his clients' project owners receive bonuses or promotions as a result of the solutions delivered. With broad and deep global industry experience, Lee is uniquely qualified to bring cross-industry solutions to complex problems. As an entrepreneur, Lee has assembled a team of "A Players" who have the same passion and drive for ensuring client success by providing elegant solutions to complex problems.

Marco Casalaina

Vice President of Product Management, Einstein, Salesforce

Marco S. Casalaina is VP of product management of Salesforce Einstein. He was previously VP of applications at RingCentral, where he ran RingCentral's contact center and collaboration business units. Prior to that he was VP of products at machine learning startup KXEN, which was acquired by SAP AG in 2013. This is, in fact, Marco's second stint at Salesforce — during his first term at Salesforce, from 2005 to 2010, he was one of the original developers of the Service Cloud product, and then its product manager. He holds a bachelor's degree in computer science from Cornell University.

Scott Cooke

President, Polaris Automation

Scott began his career with Polaris Automation in 1993 after serving in the U.S. Army's 82nd Airborne Division. He is currently responsible for the vision and strategy of the business and has held nearly every position within the company. Scott has a passion for people, developing lasting relationships, and helping others identify how to properly implement technologies to accomplish efficiency improvements.

Joe Galvin

Chief Research Officer, Vistage Worldwide

As chief research officer for Vistage, Joe Galvin is responsible for providing Vistage members with the most current, compelling and actionable thought leadership on the strategic issues of small and midsize businesses. Joe is an established thought leader and analyst who has researched and presented to business leaders around the world on customer management, world-class sales performance, and CRM and sales force automation technology.

Laurie McCabe

Co-founder and Partner, SMB Group, Inc.

Laurie brings more than 25 years of experience in the IT industry to her current role as co-founder and partner of SMB Group. Laurie has built widespread recognition for her insights in the small and medium business (SMB) technology market. Prior to SMB Group, Laurie worked in analyst roles as a partner at Hurwitz & Associates; vice president of SMB insights and solutions at AMI-Partners; and vice president at Summit Strategies, where her original research of the emerging cloud computing model earned her broad recognition as a thought leader in this area.

Mark Merino

IT Solutions Business Development Manager, Polaris Automation

Mark's focus at Polaris Automation is developing capabilities for new and existing customers in the manufacturing field. Throughout his career, which started at Alkon, Mark has been driven by the belief that it is imperative to discover the right answer while constructing the framework needed to ensure continued success in a variety of situations.

Anne Petrik

Director of Research, Vistage

As director of research, Anne Petrik leads the design, deployment and analysis of member surveys for Vistage, capturing the sentiment and practices of the Vistage CEO community. This analysis, in collaboration with perspectives from experts and partners, helps create insights for SMB CEOs through the thought leadership published by Vistage.

About Vistage Worldwide

Vistage is the world's leading business performance and leadership advancement organization for small and midsize businesses. For more than 60 years, we've been helping CEOs, business owners and senior executives solve their greatest challenges through confidential peer advisory groups and one-to-one executive coaching sessions with accomplished business leaders. Today, more than 23,000 members in 20 countries rely on Vistage to help them make better decisions for their companies, families and communities. The results prove it: Vistage member companies grow 2.2 times faster than average small and midsize U.S. businesses, according to a 2017 study of Dun & Bradstreet data.

Learn more at vistage.com.

About our research

Vistage curates expertise from our community and collaborates with top thought leaders to create unique content. Vistage executives gain actionable, thought-provoking insights from the Wall Street Journal/Vistage Small Business CEO Survey and Vistage CEO Confidence Index results, as well as national and local economic trends. Since its start in 2003, the Vistage CEO Confidence Index has been a proven predictor of GDP, two quarters in advance. Vistage provides the data and expert perspectives to help SMB CEOs make better decisions.

Visit vistage.com/confidenceindex and vistageindex.com to learn more.

About Salesforce

Salesforce, the global CRM leader, empowers companies to connect with their customers in a whole new way. Its out-of-the-box solutions let small and midsize businesses find customers, win their business and keep them happy for life. Salesforce lets you easily implement cutting-edge technology and connects to all your systems so you can build closer relationships with customers and grow your business faster than ever.

Learn more about Salesforce at salesforce.com.

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