

How Artificial Intelligence and Machine Learning Will Reshape Small Businesses

Perspectives Report



Introduction | 2

What Are AI and Machine Learning? | 3

The Rise of Smart Apps for Small Businesses | 4

Implications for Small Businesses | 6

Summary and Perspective | 8

Laurie McCabe
Sanjeev Aggarwal

May 2017

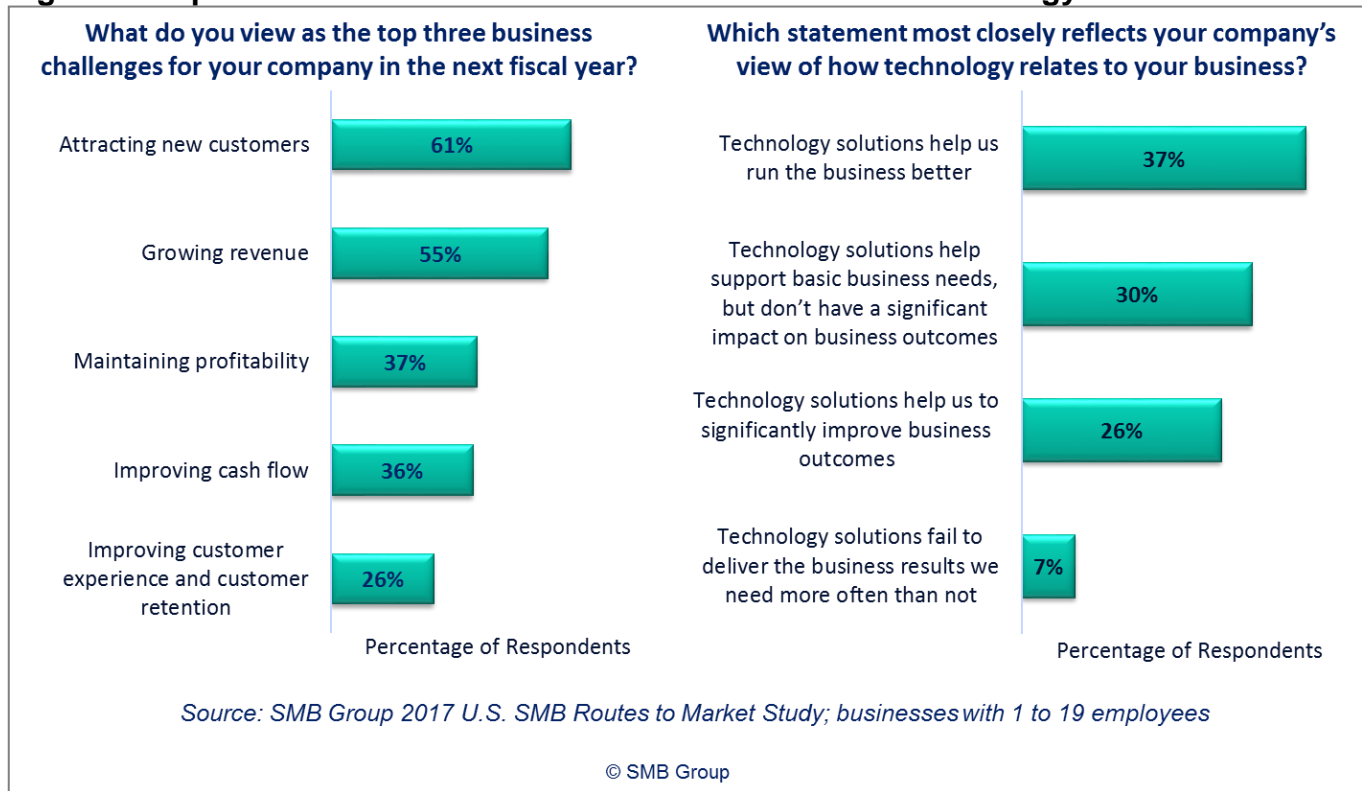
Sponsored by:

The Intuit logo consists of the word "intuit" in a lowercase, blue, sans-serif font, enclosed within a thin blue rectangular border.

Introduction

Year after year, in survey after survey, the top goals of small business owners have been consistent: to attract new customers, grow revenue, maintain profitability and improve cash flow (Figure 1). This is no surprise, as meeting these goals is always critical to success. Yet, as the pace of technological innovation accelerates, businesses need to put new tools to work to accomplish these goals. Most small business decision makers understand that technology is key to success: 26% of decision makers in businesses with 1 to 19 employees say that technology solutions can help them significantly improve business outcomes and/or run the business better.

Figure 1: Top Small Business Goals and Attitudes Toward Technology



Among the many technological innovations that promise to deliver these benefits, artificial intelligence (AI) and machine learning are arguably at the top of the list. These technologies make computer programs “smart” by enabling them to learn, predict patterns, spot anomalies, and recommend and implement new processes and activities.

Smart apps for consumers, such as Amazon’s recommendation engine and Apple’s Siri, have already become a mainstay of our daily lives, providing easy, automated access to the information we want, when we want it. Now, vendors are putting AI and machine learning to work to develop smart apps for small businesses. From accounting to customer relationship management, and from human resources to logistics, this new generation of solutions can give small businesses the insights and capabilities they need to run their companies more easily, efficiently and effectively.

What Are AI and Machine Learning?

From snail mail to email, DVDs to streaming, paper charts to electronic medical records, information creation, storage, communication and consumption are being digitized into the universal language of ones and zeros. As we digitize more information, businesses need better ways to crunch, analyze and feed data into decision-making and other activities.

AI and machine learning provide us with the ability to more easily analyze and learn from the vast amounts of digital data that we create. Computers can crunch massive amounts of data quickly, and machine learning makes computer programs “smart” by enabling them to learn, predict patterns, spot anomalies, and recommend and implement new processes or activities based on data. For instance, you could teach a computer to differentiate fruits from vegetables by entering a series of photos with the right identification. Then, you could feed in a new set of photos for the computer to identify. The program gets smarter and better at completing this task as it analyzes more data.

If you use Netflix, you’re already using machine learning algorithms, which are analyzing your viewing habits and comparing them to those of millions of other viewers to suggest what you might want to binge watch next. Likewise, smart cars use AI and machine learning to adjust settings, such as temperature and seat position, to driver preferences; provide advice about road conditions; report and fix vehicle problems; and drive themselves.

AI and machine learning also power chatbots, which “converse” with users via a fast, friendly interface to get things done. For example:

- Pizza Hut’s chatbots let customers place orders and ask about dietary information, delivery areas and more via Facebook Messenger and Twitter.
- FedEx is using Amazon.com application program interfaces (APIs) to build an app that lets customers ship packages by saying, “Alexa, I want to ship a package.” On the back end, instead of searching through lists, tables and invoices, a FedEx employee might use a chatbot to tell Alexa how much a package weighs and where it should be shipped.
- Wynn Hotels plans to outfit nearly 5,000 hotel rooms with Amazon’s Echo device, which will enable guests to ask Alexa for room, hotel and other information.

The Rise of Smart Apps for Small Businesses

Large companies that offer smart apps for consumers are garnering most of the media attention, but business application vendors are building AI platforms and developer ecosystems to create smart apps that learn, offer guidance and streamline operations for small businesses. These apps require lots of data to optimize learning, so vendors with cloud platforms and large user bases are leading the charge by developing apps that not only use a small company's internal data, but also draw upon pertinent external data to learn and offer insights.

For instance, smart apps can give accountants and bookkeepers the ability to sift through financial data more quickly and easily as well as do a better job of interpreting the data. Intuit, for example, is infusing its QuickBooks Online and QuickBooks Self-Employed solutions with AI and machine learning capabilities to take the friction out of and put insights into everyday tasks (Figure 2).

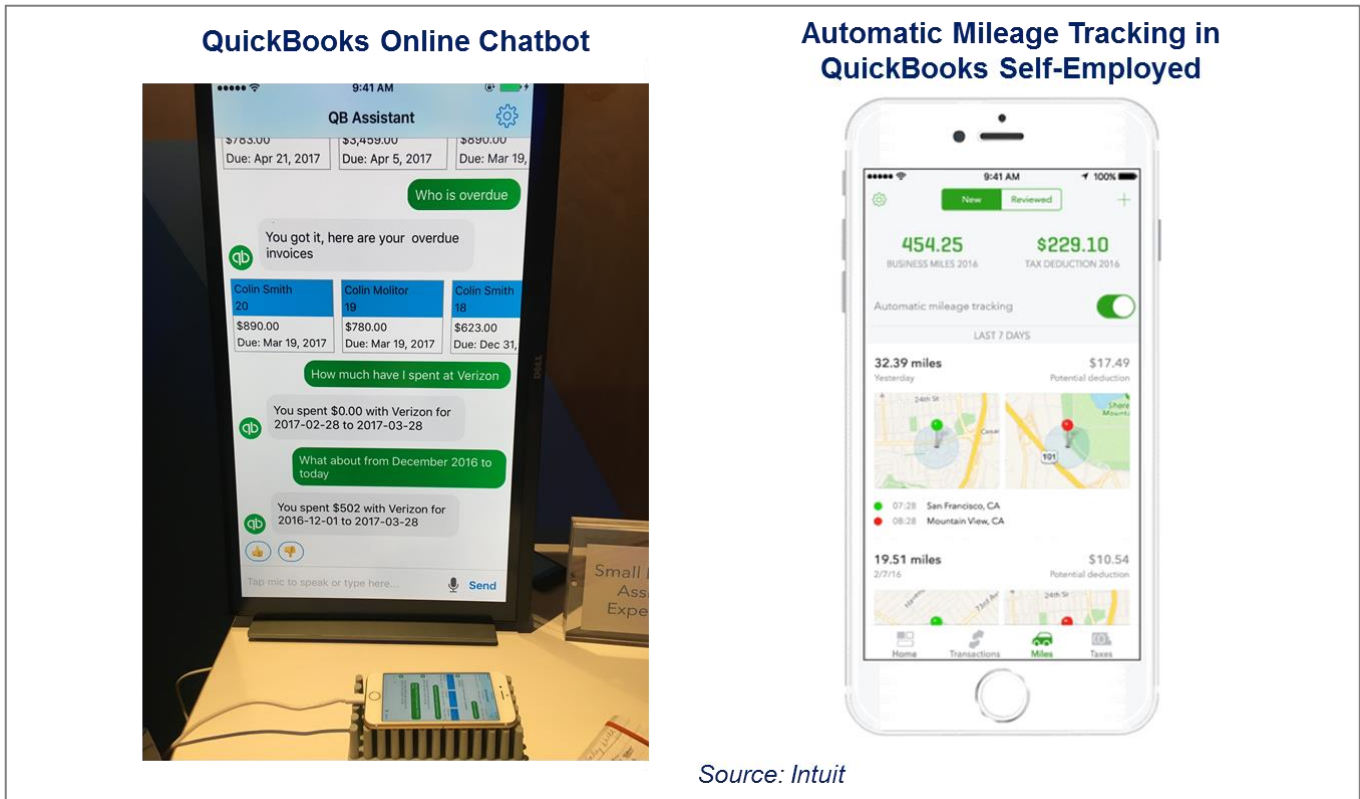
Some of the AI capabilities that Intuit is working on include the following:

- Automatic mileage tracking, which is available now in QuickBooks Self-Employed, tracks mileage every time you drive your car—whether the QuickBooks Self-Employed app is open or not. At your convenience, you simply swipe to the left or right to tag mileage for each trip as a business or personal expense.
- The QuickBooks Online chatbot, which Intuit is currently experimenting with, lets users query their phones in a Siri-like fashion to get answers from and execute tasks in their QuickBooks account. For example, a user might ask, “What clients owe me money?” and then tell the system to send reminders to clients to pay overdue invoices.

In the machine learning area, Intuit has introduced the following capabilities:

- When users download bank transactions, automatic categorization in QuickBooks Online suggests the best possible category match for every transaction based on the patterns and habits of millions of customers and billions of transactions.
- Expense Finder helps users to identify more tax deductions in QuickBooks Self-Employed. The app securely connects to a client's bank account, automatically finds and imports business transactions from the past year, and then sorts them into Schedule C categories to reveal potentially deductible expenses.

Figure 2: Intuit QuickBooks Online Chatbot and QuickBooks Self-Employed Mileage Tracker (screen shots)



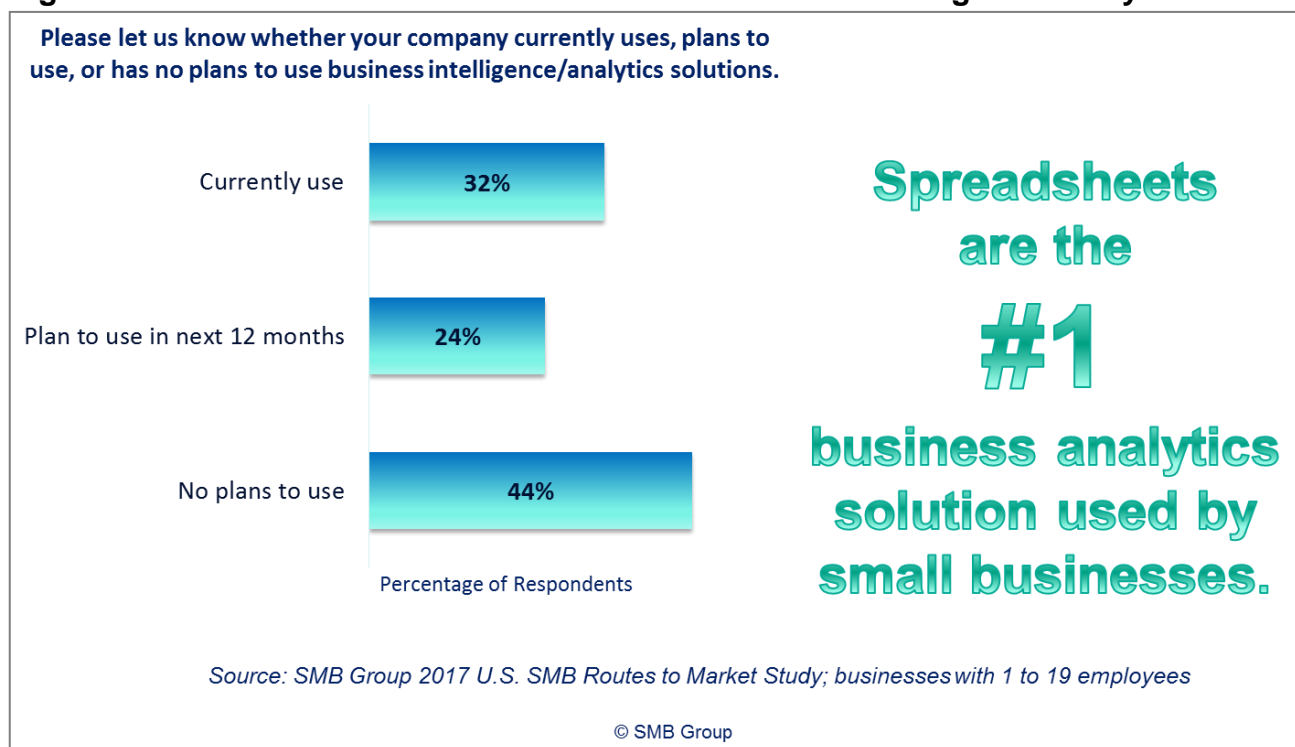
Many business solution vendors are applying AI and machine learning to applications across the business solution spectrum. For example:

- Salesforce Einstein embeds AI capabilities into its sales, marketing and customer service solutions. Einstein can discover and provide insights, make recommendations, answer questions, automate tasks, and help personalize marketing, sales and service.
- Slack's AI chatbot, Slackbot, can fetch weather reports, serve up a file and interface with other applications.
- Shopify recently acquired Kit CRM Inc., which uses machine learning, short-message service (SMS) and Facebook Messenger to create highly targeted and personalized Facebook and email campaigns to help online retailers boost sales.
- Microsoft is developing a real-time translation system in Skype to help bridge the language barrier during web conferences.

Implications for Small Businesses

Among small businesses with fewer than 20 employees, owners and decision makers cite “gaining better insights from our data” as a top technology challenge, yet only 32% say they use analytics solutions. When they do use analytics, spreadsheets are the most frequently used solution (Figure 3). But spreadsheets have limited capabilities for real-time data updates, tracking, collaboration and security. Consequently, they open the door for people to make mistakes that may go undetected forever and to potentially make decisions based on the wrong information.

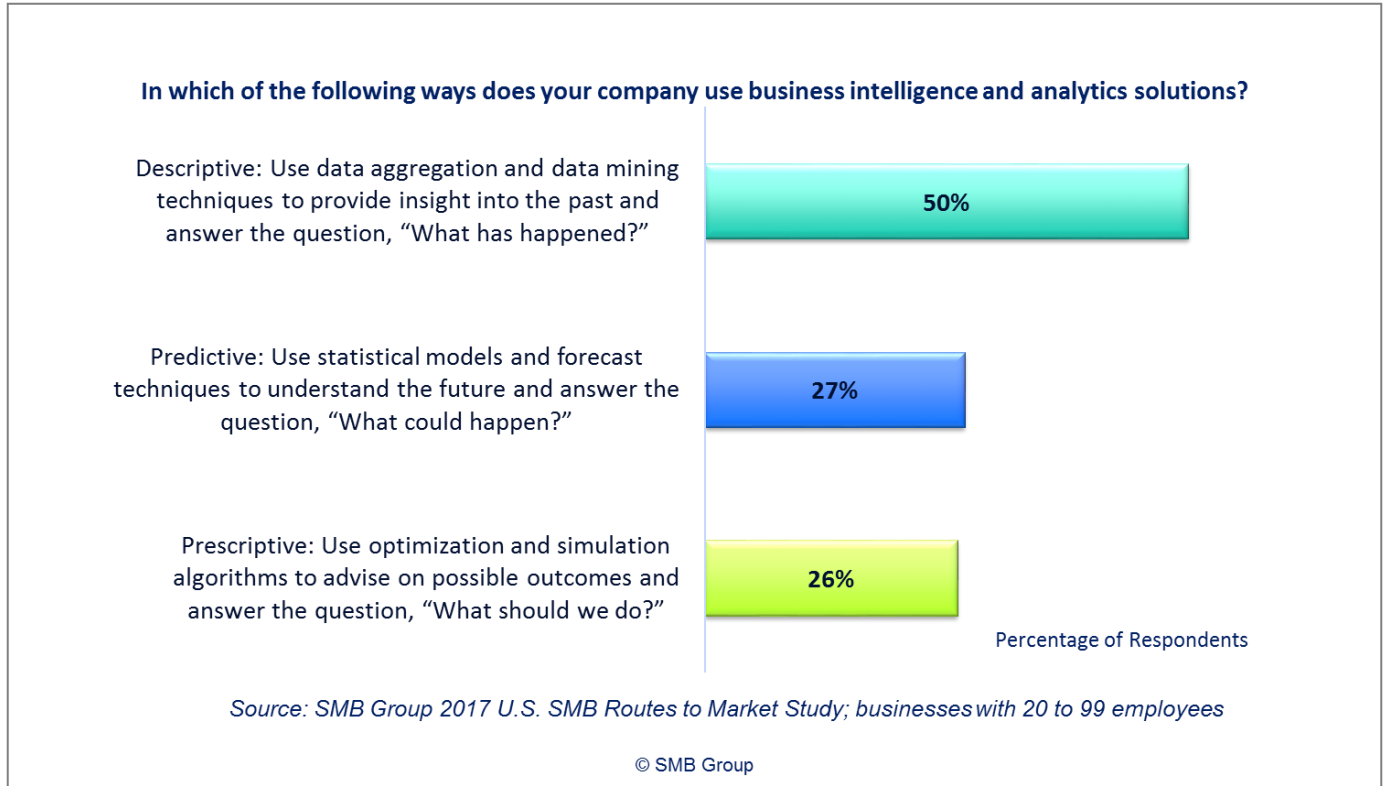
Figure 3: Small Business Use of and Plans for Business Intelligence/Analytics Solutions



Most small businesses tolerate the limitations of spreadsheets and low-end tools because they can't attract or afford to hire data scientists or consultants who can utilize more sophisticated analytics tools.

Even among larger small businesses with up to 100 employees, most only have the ability to examine historical data to help answer questions about the past (Figure 4). Just 27% of small businesses that use analytics solutions use them to help predict trends and understand what might happen in the future, and only 26% use analytics to get insights into and advice about what actions to take to prepare for the future.

Figure 4: How Small Businesses Use Analytics



Smart apps change this equation. By putting analytical power directly into the hands of business users, small businesses have an easier way to gain the insights necessary to understand changing conditions and requirements. The result is business apps that not only automate time-consuming, repeatable tasks, but also help detect patterns and predict outcomes.

Summary and Perspective

Business growth will always be a goal of small businesses, but the tools that can help these companies achieve that goal are changing. AI and machine learning solutions offer small businesses the means to offload mundane work to machines so their people can focus on more creative, value-added activities that help their companies grow.

Smart apps also crunch massive amounts of data and offer insights and analytics. This can help small businesses leapfrog from spreadsheets and “gut checks” to more informed, proactive and strategic decision-making methods that are essential to long-term business success.

Vendors that are baking AI and machine learning into the fabric of their business solutions are providing a turnkey approach that enables small businesses to take advantage of these innovations without long learning curves or big up-front investments of money or human resources. In fact, over time, SMB Group expects AI and machine learning to become so integral to application development that most users will simply expect their business solutions to include the kinds of capabilities that these technologies provide.

Now is the time for small businesses to put AI and machine learning on their priority list when making business solution decisions. SMB Group recommends that these companies evaluate their operations and consider the areas where smart apps can help them improve productivity, decision making and business performance. By getting ahead of the curve, businesses can reap the advantages that smart apps offer sooner rather than later.

© SMB Group, 2017

[SMB GROUP, INC.](#)

SMB Group focuses exclusively on researching and analyzing the highly fragmented “SMB market”—which is composed of many smaller, more discrete markets. Within the SMB market, SMB Group’s areas of focus include Emerging Technologies, Cloud Computing, Managed Services, Business and Marketing Applications, Collaboration and Social Media Solutions, IT Infrastructure Management and Services, IoT and Green IT. Read our [2017 Top 10 SMB Technology Trends](#) for our views on game-changers in these and other areas of the SMB market.