AI in Business

How Small Business Owners Are Learning, Using, and Navigating Challenges with AI Tools

By Miles Chandler, Howard Wial, and Dobbin O. Bookman | February 2025

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Executive Summary

The last two years have seen rapid advances in the capabilities and accessibility of artificial intelligence (AI). AI has the potential to make small businesses competitive with much larger firms, but it also carries risks, such as potentially replicating social biases and eroding information privacy. This report aims to help small businesses use AI responsibly in ways that enable them to improve their productivity and competitiveness.

The report is based on five focus groups and a survey of U.S. small business owners that the Initiative for a Competitive Inner City (ICIC) conducted in 2024. The survey received responses from 3,752 small business owners. It asked them about their businesses' current use of AI, their understanding of and attitudes toward AI, who in their organization has adopted AI, their preferences about topics and methods for learning about AI, and any barriers they may face to implementing AI in their businesses. The focus groups addressed small business owners' knowledge, concerns, fears, and general attitudes toward AI.

The report addresses three broad topics:

1. How small businesses use AI
2. The barriers they face in using and understanding AI
3. The ways they have learned about AI and would prefer to learn about AI in the future

Using AI

AI use is widespread among small businesses.

About 89 percent of business owners indicated that someone at their business currently uses AI tools.

At businesses with employees other than the owner, AI is most commonly implemented by or with oversight from management or business owners.

Although collaborative approaches to new technology implementation have been shown to increase the efficacy of these technologies, decision making around AI implementation that involves both workers and management is currently less common.

Most small business owners who have adopted AI for their business reported that it has had positive effects.

Over 60 percent of business owners who say they use AI at their business reported that they have seen positive changes in employee job satisfaction and productivity.

Businesses are largely using AI tools to speed up or automate routine tasks such as analyzing data, creating marketing materials, drafting emails and other communications, and summarizing web content.

While more complex uses of AI are currently less common, a majority of owners whose businesses already use AI to help with routine tasks are seeing clear increases in worker productivity and employee job satisfaction as a result.

Business owners are considering using AI for increasingly complex and core business tasks in the future.

The most popular future use cases for AI that business owners are considering are data analysis, marketing materials, strategic planning, product design, and editing and proofreading.

Decision making around AI implementation that involves both workers and management is currently less common.

Barriers to Adopting and Understanding AI

Most business owners report a medium or high level of comfort using AI for their businesses, but gender and racial differences exist.

Owners of businesses in professional, scientific, and technical services and in other services (except public administration) reported the highest comfort levels. Older business owners are generally less comfortable with AI than younger owners. Business owners who are men report higher levels of comfort with AI than those who are women, nonbinary, or gender-nonconforming. Minority business owners reported low comfort with AI tools at about twice the rate of non-minority business owners. Comfort with AI tools is also higher for owners of larger small businesses than for owners of the smallest businesses, including solo entrepreneurs without employees.

Among small business owners whose businesses do not use AI, almost three-quarters said that a lack of knowledge of new digital tools is keeping them from adopting AI.

Other important reasons business owners gave for not using AI are a belief that AI is not useful in their businesses and (especially among owners of businesses with more than 100 employees) a lack of knowledge about how to keep sensitive data safe when using AI.

Small business owners' concerns about the security of personal and proprietary information are important obstacles to expanding their use of AI.

Addressing these concerns should be a priority for small business assistance providers.

The most frequently cited barriers to *understanding* AI are the cost of AI tools, the perception that AI technology is changing too quickly, and the complexity of information involved in AI topics.

Owners of the smallest businesses also cited a lack of time as a barrier to understanding AI.

Learning About AI

The most common resources small business owners employ to understand how to use AI are on-demand and digital resources,

including podcasts and videos, online forums and social media, online courses and trainings, and webinars. Trial and error (learning by doing) is also an important means of learning about AI. In-person courses and trainings, industry conferences, and professional networks are less commonly used, and business owners were reluctant to depend on resources that require substantial planning or foresight. Similarly, a recurring theme in the focus group discussions was the need for hands-on exposure to AI tools to build comfort. Books/articles and peers/professional contacts are the resources that business owners least commonly use to learn about AI.

The AI topics business owners most want to learn more about are how AI can help make their businesses grow and become more profitable, data privacy and security, and how to get the best results (e.g., how best to write prompts).

Owners expressed less interest in learning about the costs and risks of implementing AI in their businesses, industry-specific uses, and the ethical implications of AI. Notably, however, a majority of nonbinary and gender-nonconforming business owners expressed interest in learning about the ethical implications of AI; they are the only group of business owners we surveyed for whom that is true.

Recommendations

Our findings indicate that there is a pressing need for small business educational programming around responsible and effective AI use. Accordingly, most of our recommendations address that topic. Where education alone is insufficient to address the concerns business owners expressed in our survey and focus groups, we offer examples of policy recommendations that might be leveraged to address these concerns, though we do not advocate the adoption of any specific recommendations.

1 Educational programs should be flexible and reflect the diversity in needs and preferred training styles of small business owners.

- Educational programs for small businesses should be designed to fit into the busy schedules of entrepreneurs and/or include components that are accessible on demand.
- Educational programs for small businesses should be delivered in multiple formats so that business owners can choose the one(s) they prefer (e.g., online, in-person, step-by-step guides, on-site trainings at their businesses, podcasts and videos, peer learning groups).
- Small business assistance providers should be aware of differences in AI comfort level by business owners' race, gender, and age and take them into account in designing education and assistance programs to serve groups with low levels of comfort.
- Industry-specific programs are important for educating small business owners and managers about how best to use AI in their businesses.
- More sophisticated AI uses (e.g., market exploration, product design, and accounting/finance) may be growth areas for small business AI use and, therefore, for small business education and technical assistance about AI.

2 Small business owners should be aware of the advantages of including employees in decision making around new technology for effective AI adoption.

- Small business owners and managers should involve workers in decisions about the use of AI.
- Small business owners would benefit from education about the potential productivity and efficiency benefits of lower-level workers learning to use AI effectively in their jobs.

3 Transparency about the benefits and risks of AI use will help small business owners understand how to use AI responsibly.

- To be seen as trusted sources of information about how to implement AI, small business assistance providers (including SBA Small Business Development Centers, local chambers of commerce, and other small business educators) must be candid with small business owners about the privacy-, intellectual property-, and social bias-related risks of AI tools and, where possible, help them avoid or minimize those risks. Where possible, information about those risks should be specific to how the small businesses are using AI tools.
- Small business owners should be educated about the risks that using AI for monitoring employee performance can pose to their businesses.
- Improving small business owners' trust in AI will require greater transparency about the benefits and risks of adopting AI technology. Transparency can include how AI developers use personal, confidential, copyrighted, or customer-supplied information in the training of their technologies.

Documenting the perspective of small business owners around AI adoption is essential for ensuring that AI can be adopted effectively throughout the U.S. economy. The voices of small business owners can provide small business assistance providers with insights that will enable them to be trusted and relevant resources for the companies they serve.

Introduction

For more than a decade, forms of artificial intelligence (AI) have been used in many applications, including spelling and grammar checkers, spam filters, online translators, and voice assistants such as Siri and Alexa. While these AI tools make predictions, they do not create any new content. In recent years, however, generative AI—software powered by large language models (LLMs)—has gained significant attention for its ability not only to predict but also to generate new text, images, music, and other forms of content. This technology has been rapidly adopted for business purposes. Generative AI indelibly entered the public sphere in late 2022 with the release of OpenAI's ChatGPT, the first consumer-facing LLM.[1]

Since then, the technology world has been abuzz; it seems new developments are made almost daily, and the frontier of AI has moved substantially even in the last six months.[2] This groundbreaking innovation has not only become the raison d'etre for the large tech firms that have a stake in developing it, but has also captivated even the smallest businesses in the U.S. with the promise of increased efficiency, heightened competitive advantage, and heightened work satisfaction. AI has the potential to make small businesses competitive with much larger firms by increasing the efficiency of all employees, augmenting the capabilities of less senior workers, and reducing their need for specialized contract labor like design services.

These promises have the potential to become real, but so do the substantial risks of AI. Amidst the frenzy of activity around the relatively unprecedented capabilities of LLMs and the competitive jockeying of AI developers marketing a variety of novel tools, there are also some concerning trends, including the possible replication of social bias and the risks of implementing a powerful but poorly understood technology. Meanwhile, there is a generalized lack of trust around information privacy between public and private corporations that are currently leading the charge on AI development.[3] Alongside its potential to boost small businesses, AI has the potential to leave those businesses behind as bigger businesses develop an increasing performance advantage through their use of AI.

To help small businesses use AI responsibly in ways that improve their productivity and competitiveness, ICIC has undertaken extensive research on the attitudes, knowledge, aptitudes, goals, and interests of small business owners in relation to AI. This work aims to inform small business owners, small business assistance providers, chambers of commerce, and public policymakers about the best ways to support small business owners as they learn about AI.

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Methodology

This report draws insights from two primary data sources: a wide-ranging survey of small businesses and a series of focus groups that aimed to obtain more depth of detail from business owners. In August 2024, we surveyed business owners nationally about their attitudes toward AI-based tools and the current use of these tools at their businesses. We first sent the survey to ICIC business program alumni and small businesses from Intuit's networks. Those businesses then distributed the survey through their networks. Our survey consisted of a series of background questions on the demographics of business owners and characteristics of their businesses, followed by a series of questions asking about their businesses' current use of AI, their understanding of and attitudes toward AI, who in their organization has adopted AI, their preferences about topics and methods for learning about AI, and any barriers they may face to implementing AI in their businesses.

We limited our sample to responses from owners of businesses currently operating in the United States. In all, we received 3,752 valid responses. Unless otherwise indicated, all our survey findings are based on these 3,752 responses. To make our survey data more representative of business owners nationally, we used public data from the Census Bureau's 2022 Annual Business Survey to weight responses based on national business benchmarks for industry, race of owner, gender of owner, and employment size of companies. We repeated this process to weight the responses of business owners in each of the subgroups (groups defined by race, age, and gender of business owners and the industries and sizes of the businesses they own) that we compared to the overall sample. The Appendix provides the size of each subgroup as well as the survey questions.

For each survey response item, we determined margins of error for both the total sample estimates and the subgroup estimates.[4] We color-code relevant figures in this report to show any differences we report between the entire sample and any of the subgroups that fall outside both margins of error.

To gather more detailed information about business owners' attitudes and aptitudes around AI use, we hosted a total of five focus groups: two virtual focus groups with business owners from across the country, and three in-person groups, one each in the Atlanta, Des Moines, and Los Angeles metro areas. The focus groups took place between June and October 2024. The focus group protocol was designed to gather insights from small business owners on their knowledge, concerns, fears, and general attitudes toward AI. For each focus group, we chose small business owners of various backgrounds as well as a mix of those who have used, are using, have never used, or are hesitant to use AI.

Each focus group was organized around five major segments:

1. Current knowledge of, feelings about, and usage of AI
2. Concerns and challenges related to AI
3. Routine tasks and opportunities for implementing AI
4. Future opportunities and plans to implement AI
5. A general question and discussion section

The questions were open-ended and designed to facilitate a natural, honest conversation between the business owners and the moderators, so each group naturally delved into one or more of the five topic areas depending on the makeup of the group. We identified the major themes that emerged in each group as well as the overall themes expressed by participants in all groups and used these rich qualitative data to help contextualize the findings from our survey.

In both the focus groups and the survey, we left it up to respondents and participants to define what artificial intelligence means. Because we care not only about whether and how business owners are using AI, but also about the range of opinions and attitudes that business owners may have toward using AI in their businesses, we did not want to impose on them a preconceived idea about what AI is and did not want to limit our survey or focus groups to generative AI alone. Consequently, the technologies that focus group participants and survey respondents define as AI are relatively diverse, including predictive text, voice recognition software such as Siri and Alexa, and the high-profile generative AI tools such as ChatGPT that have been developed more recently.

There is no single widely accepted definition of a small business. The popular conception of a small business might resemble a "mom-and-pop shop" with somewhere between one and 20 employees, but some official definitions of a small business, such as the Small Business Administration's definition, include companies with up to 500 employees.[5] Our survey data include responses from non-employer businesses (self-employed business owners without employees) as well as from the owners of businesses with more than 100 employees. Importantly, our sample only includes businesses with identifiable owners and does not include data on any publicly held (usually large) corporations. Nearly 88 percent (3,292) of the business owners in our survey reported that their businesses have fewer than 100 employees, and over 72 percent (2,728) of our respondents' businesses had fewer than 50 employees. For the purposes of this report, we consider all businesses in our sample to be small businesses.

Nearly 88 percent (3,292) of the business owners in our survey reported that their businesses have fewer than 100 employees, and over 72 percent (2,728) of our respondents' businesses had fewer than 50 employees.

Findings

We have grouped our findings into three large sections: Using AI, Barriers to Adopting and Understanding AI, and Learning About AI.

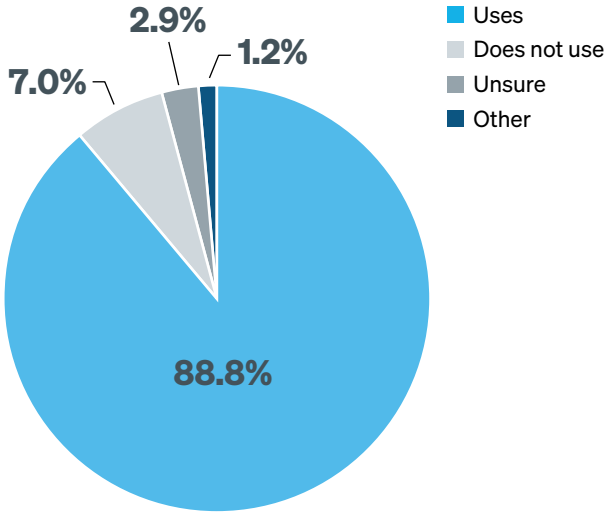
Using AI

The findings in this section describe the number of businesses and kinds of employees who use AI, business owners' perceptions of AI's impact on productivity and job satisfaction at their businesses, who makes decisions about AI use in the business, how businesses decide whether AI is appropriate for their businesses, and the kinds of tasks for which businesses are currently using AI and planning to use it in the future.

Who Is Using AI?

About 89 percent of business owners in our survey indicated that someone at their business currently uses AI tools (Chart 1). While this estimate is fairly high compared to some studies, it compares reasonably well to previous research on AI adoption by small businesses from 2023 (which found that around 83 percent of small businesses had adopted AI, a year before we administered our survey), and is consistent with the rapid rate of AI adoption by small businesses that other similar studies have noted over the past two years.[6]

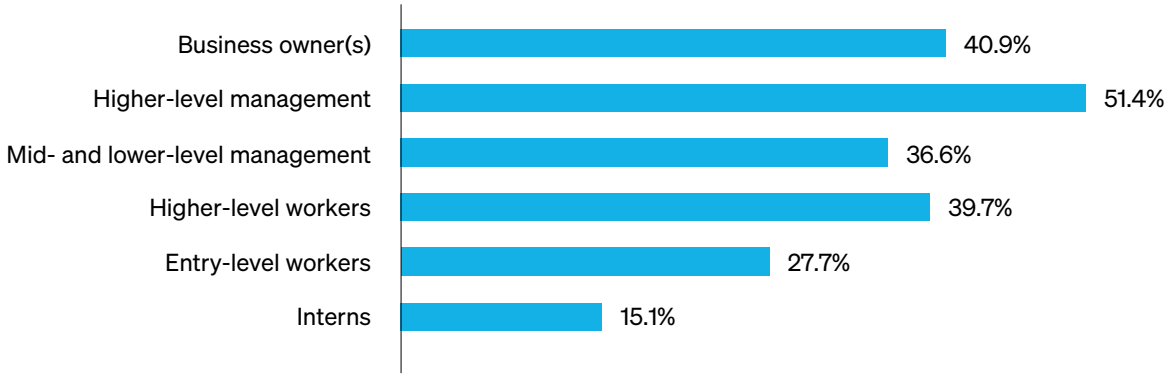
CHART 1. Rates of AI Use in Small Businesses



Source: ICIC 2024 survey of business owners.
Note: Percentages may not add to 100% due to rounding.

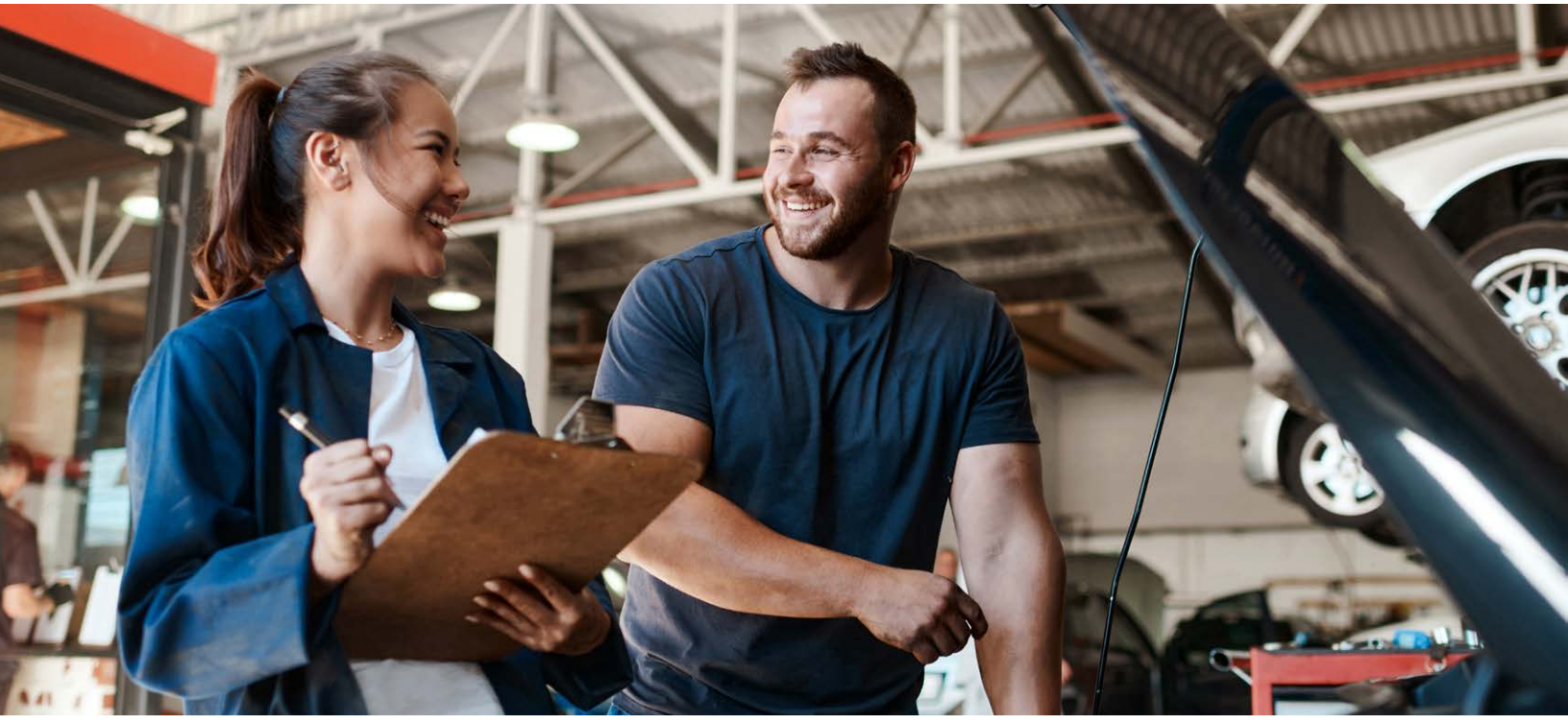
What Kinds of Employees Use AI? Overall, more owners of employer businesses reported that senior employees at their companies are using AI tools. About 51 percent of business owners indicated that higher-level management is using AI tools, 41 percent indicated the owner(s) of their businesses, and 40 percent said higher-level workers are using AI tools (Chart 2). Owners were less likely to report that lower-level workers (mid- and lower-level management, cited by 37 percent of owners; entry-level workers, cited by 28 percent; and interns, cited by 15 percent) use AI tools.[7]

CHART 2. Types of Employees Small Business Owners Reported as Using AI at Their Companies



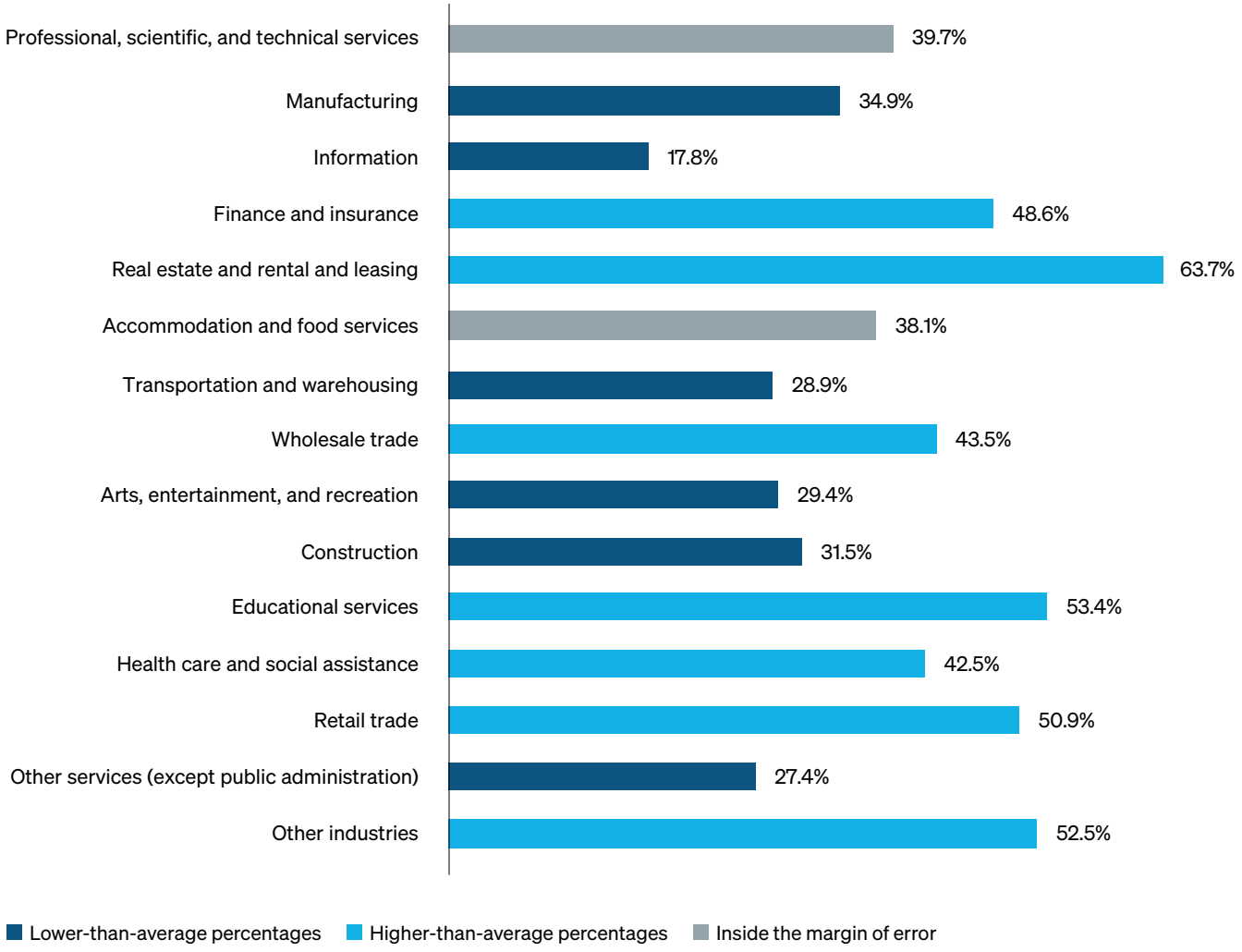
Source: ICIC 2024 survey of business owners.

Notes: Percentages do not add to 100% because respondents were allowed to select as many responses as applied. Responses of "unsure" and "other (please specify)" have been removed because less than 1% of respondents chose these answers. Responses are from the 3,531 sample business owners (unweighted) whose businesses have employees other than the owner.



There are some differences among industries in the types of employees who use AI. Owners of businesses in real estate and rental and leasing (64 percent), educational services (53 percent), other industries (a category that includes utilities and unclassified industries) (53 percent), retail trade (51 percent), finance and insurance (49 percent), wholesale trade (44 percent), and health care and social assistance (43 percent) were most likely to report that they themselves (the owners) are using AI tools (Chart 3).

CHART 3. Percentages of Small Business Owners Reporting that the Owner Uses AI, by Industry

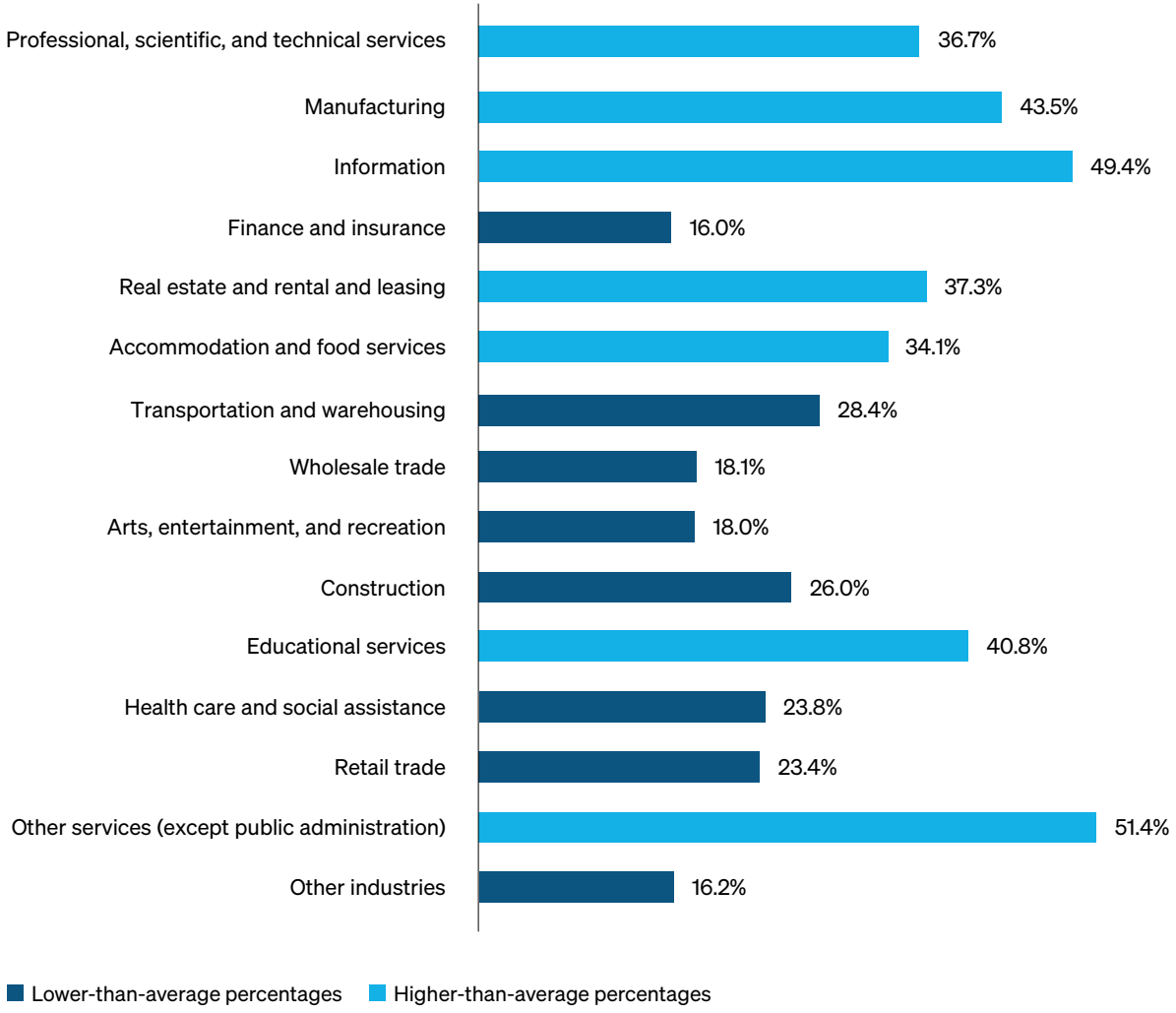


Source: ICIC 2024 survey of business owners.

Notes: "Other industries" include utilities and unclassified industries. Light blue bars indicate higher-than-average percentages and dark blue bars indicate lower-than-average percentages that differ from the overall sample percentage by more than the margin of error of both the overall sample and the comparison group.

Compared to employer business owners overall (37 percent of whom said that their mid- and lower-level managers use AI), 51 percent of owners of businesses in other services (except public administration), 49 percent of owners in information, 44 percent of owners in manufacturing, 41 percent of owners in educational services, around 37 percent each of owners in professional, scientific and technical services and real estate and rental and leasing, and 34 percent of owners in accommodation and food services reported that mid- and lower-level management use AI tools at their business (Chart 4).

CHART 4. Percentages of Small Business Owners Reporting AI Use by Mid- and Lower-Level Management at Their Businesses, by Industry

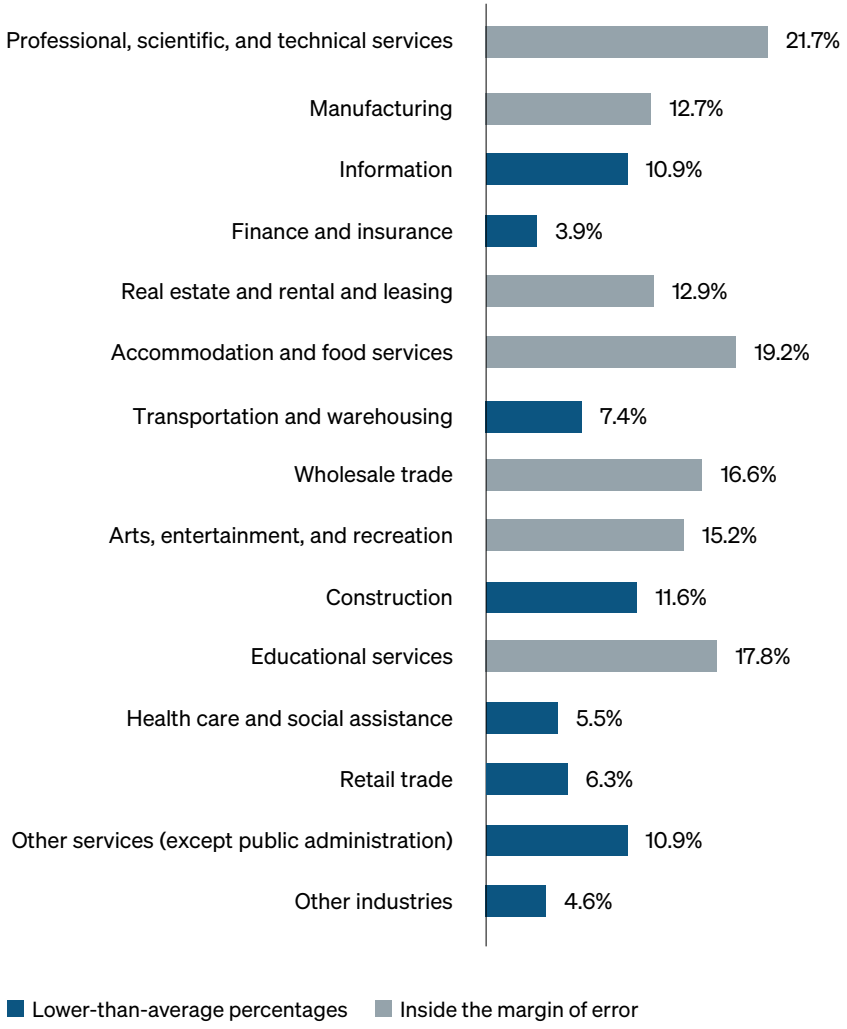


Source: ICIC 2024 survey of business owners.

Notes: "Other industries" include utilities and unclassified industries. Light blue bars indicate higher-than-average percentages and dark blue bars indicate lower-than-average percentages that differ from the overall sample percentage by more than the margin of error of both the overall sample and the comparison group. Responses are from the 3,531 sample business owners (unweighted) whose businesses have employees other than the owner.

Across all industries, business owners were less likely to report that interns and entry-level workers use AI tools than that more senior employees use them. However, several industries stand out for AI use by less senior employees. Business owners operating in professional, scientific and technical services (22 percent), accommodation and food services (19 percent), wholesale trade (17 percent), and educational services (18 percent) were most likely to say that interns at their businesses use AI tools (Chart 5).

CHART 5. Percentages of Small Business Owners Reporting AI Use by Interns at Their Businesses, by Industry

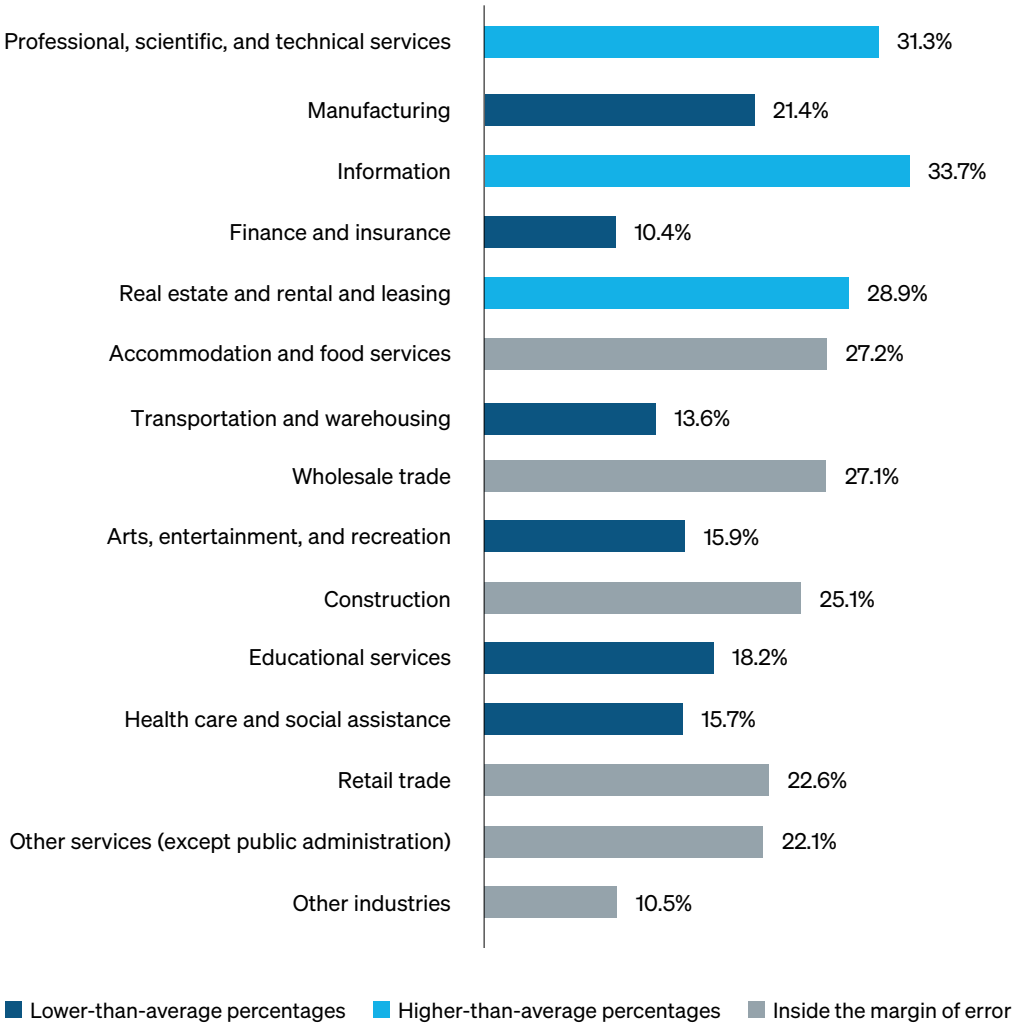


Source: ICIC 2024 survey of business owners.

Notes: "Other industries" include utilities and unclassified industries. Dark blue bars indicate lower-than-average percentages that differ from the overall sample percentage by more than the margin of error of both the overall sample and the comparison group. Responses are from the 3,531 sample business owners (unweighted) whose businesses have employees other than the owner.

While 28 percent of business owners overall said that entry-level workers in their companies use AI, owners of businesses in information (34 percent), professional, scientific and technical services (31 percent), and real estate and rental and leasing (29 percent) were more likely to report AI use by entry-level workers (Chart 6). Business owners' greater perceptions of AI use by lower-level employees in these industries may be related to the greater degree of independence that workers at all levels in these industries have, as well as to the higher likelihood that lower-level employees are in a position to use AI regularly (e.g., they use computers, and their jobs involve more writing or analytical tasks). The ways in which AI adoption varies by industry suggest that industry-specific support will be necessary and that no one-size-fits-all approach to small business AI programming will be effective.

CHART 6. Percentages of Small Business Owners Reporting AI Use by Entry-Level Workers at Their Businesses, by Industry



Source: ICIC 2024 survey of business owners.

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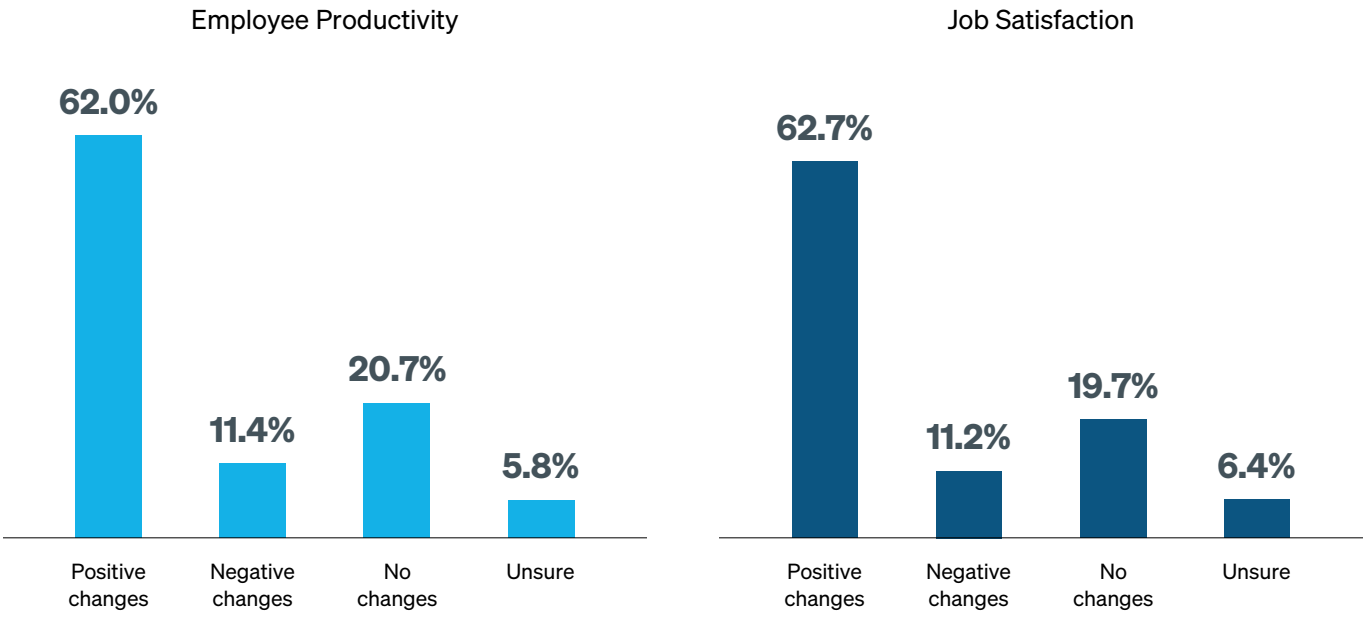
Focus groups. In the focus groups, business owners and managers shared a wide range of experiences with AI use by their employees. Although focus group participants said that the majority of AI use occurs at the senior management or ownership level, they emphasized that AI tools are beginning to be adopted by other employees in their organizations. Business owners in some industries said that entry-level employees and interns are starting to apply AI to routine tasks such as drafting emails or creating social media posts.

Interestingly, a number of focus group participants from the real estate, construction, and manufacturing industries said that they are actively training their teams to use AI tools and expect broader use among mid-level employees soon. Although participants expressed widespread interest, if not eagerness, to adopt more AI technologies and to deepen and broaden AI use in their businesses, they indicated that there is still a notable gap in use between senior staff and those lower in the organizational hierarchy. This is due to the complexity and variety of emerging tools as well as the need for proper guidance and training on which tools to use and how to use them. It is also quite possible that business owners do not know whether some employees are using AI tools. Therefore, our findings may understate the extent to which employees are using AI.

AI's Impacts on Employee Productivity and Job Satisfaction

About 62 percent of business owners whose businesses had already adopted AI tools reported positive changes in employee productivity since implementation, and 63 percent of employer businesses who already use AI reported having seen positive changes in job satisfaction (Chart 7).

CHART 7. How Small Business Owners Reported That Employee Productivity and Job Satisfaction Have Changed Since Their Businesses Implemented AI



Source: ICIC 2024 survey of business owners.

Notes: Percentages may not add to 100% due to rounding. Responses are from the 3,531 sample business owners (unweighted) whose businesses have employees other than the owner.

Who Decides How AI Is Implemented?

The way AI is introduced at a business can matter for how effectively it is used. Research indicates that when business owners involve their employees in decisions about how they implement new technologies, they improve the efficacy and efficiency of the new system and improve productivity and the quality of the business's products or services.[8] If small businesses are to fully realize the business potential of AI, they will need to develop collaborative organization-wide strategies for effective implementation.

Among all small businesses with employees, AI seems to be implemented by or with oversight from management or business owners. When asked who in their companies decides how AI is implemented, 48 percent of employer business owners indicated that management decides, 40 percent said that management and employees collaboratively decide, and 33 percent indicated that the owner(s) decide. Around a fifth of respondents said that individual employees make decisions around implementation. (Survey respondents were allowed to indicate more than one type of AI decision maker.) See Chart 8.

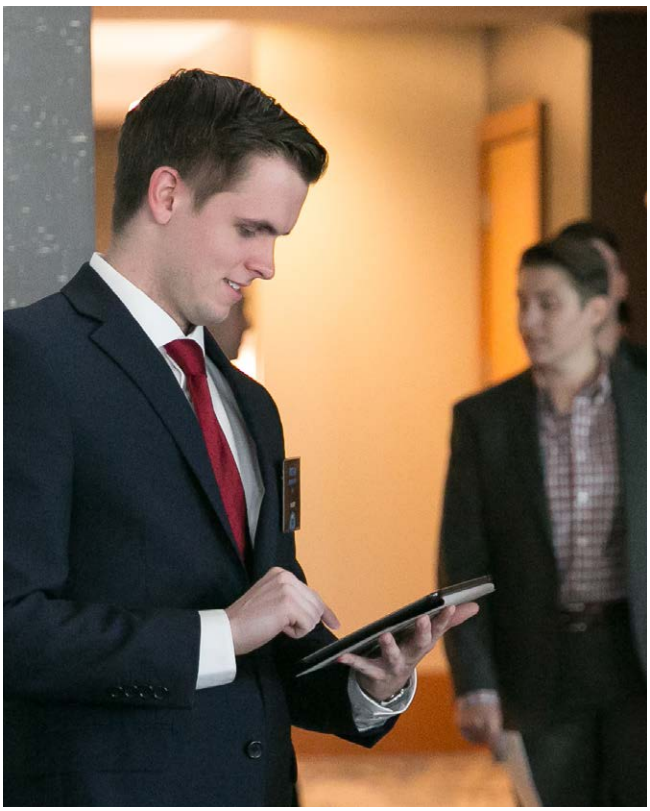
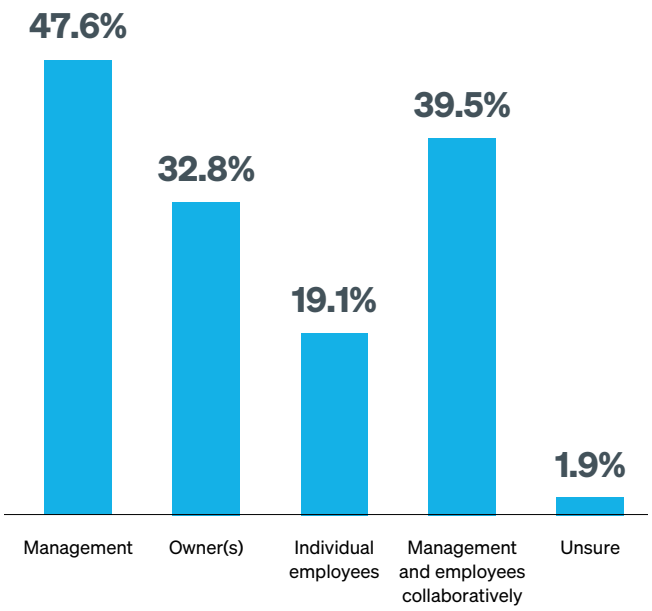


CHART 8. Who Small Business Owners Said Makes Decisions About Implementing AI at Their Businesses

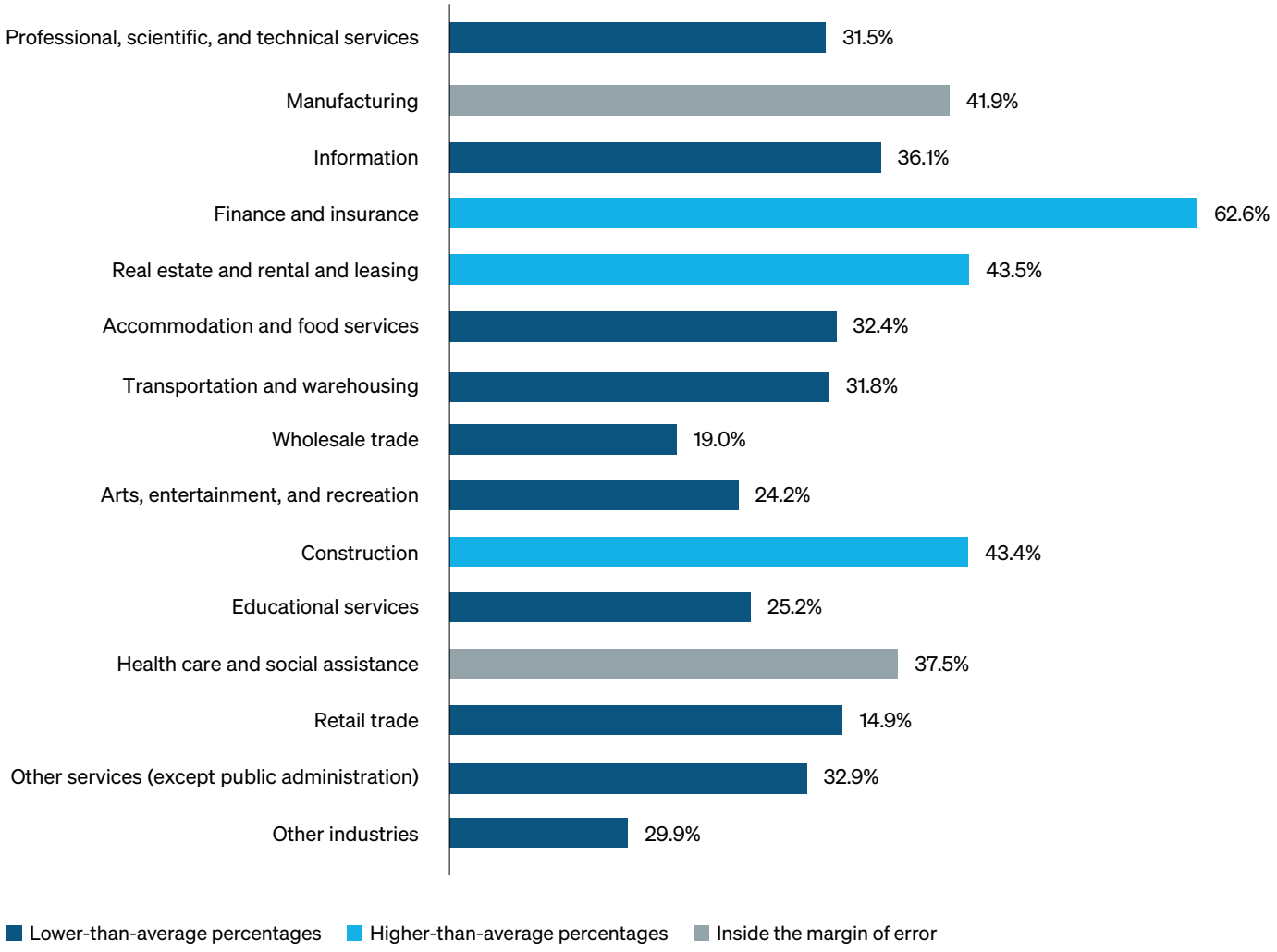


Source: ICIC 2024 survey of business owners.

Notes: Percentages do not add to 100% because respondents were allowed to select as many responses as applied. Responses are from the 3,531 sample business owners (unweighted) whose businesses have employees other than the owner.

Industry differences. In some industries, businesses take a more collaborative approach to AI implementation. Businesses in finance and insurance (63 percent), real estate and rental and leasing (44 percent), and construction (43 percent) were most likely to report that decisions around AI implementation are made by management and employees collaboratively (Chart 9).

CHART 9. Percentages of Small Business Owners Who Said Management and Employees Make Decisions About AI Implementation Collaboratively, by Industry



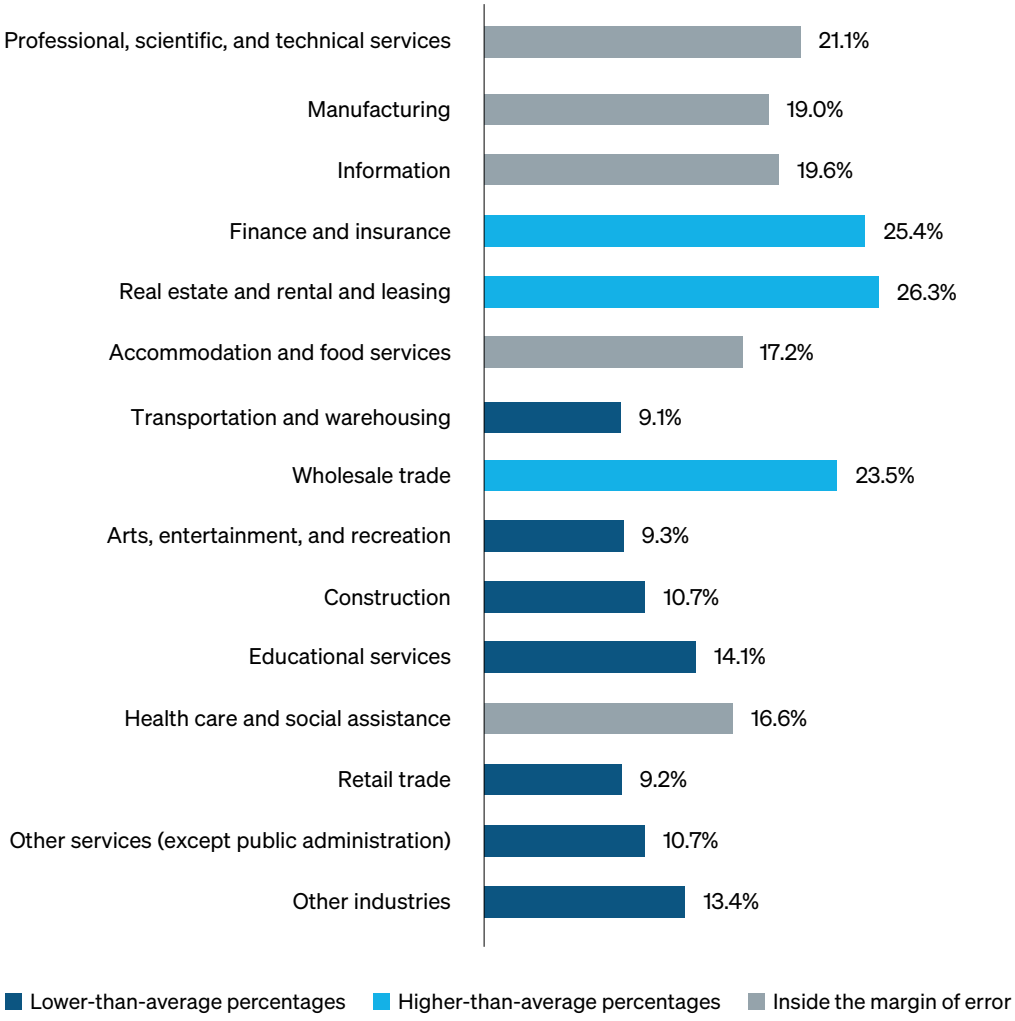
Source: ICIC 2024 survey of business owners.

Notes: "Other industries" include utilities and unclassified industries. Light blue bars indicate higher-than-average percentages and dark blue bars indicate lower-than-average percentages that differ from the overall sample percentage by more than the margin of error of both the overall sample and the comparison group. Responses are from the 3,531 sample business owners (unweighted) whose businesses have employees other than the owner.

Roughly a quarter each of businesses in finance and insurance, real estate and rental and leasing, and wholesale trade reported that individual employees are responsible for deciding how AI is implemented in their businesses. These percentages are higher than the percentage for all industries combined (19 percent). In transportation and warehousing, retail trade, and arts, entertainment, and recreation, the percentage of business owners who reported that individual employees make decisions about AI is only about 9 percent, the lowest percentage among all industries (Chart 10).

Focus groups. In most focus groups, participants indicated that decisions about how AI is used in their businesses are made at the management level, with a strong top-down approach. The research evidence we have cited (see endnote 8) suggests that these business owners may be sacrificing productivity and/or quality by taking this approach. However, several business owners, particularly those in smaller companies or startups, said that they involve employees in the decision-making process. A real estate developer mentioned that his team collectively decides on the use of AI tools for tasks such

CHART 10. Percentages of Small Business Owners Who Said Individual Employees Make Decisions About AI Implementation, by Industry



Source: ICIC 2024 survey of business owners.

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as scheduling and cost estimation. Similarly, a participant from the finance industry said that while management typically leads AI implementation, there is input from mid-level staff to ensure that the tools serve the team's operational needs.

How Small Businesses Decide Whether AI Is Appropriate

Business owners' responses about the steps decisionmakers at their company take to determine whether an AI tool is appropriate for addressing a particular task or problem varied widely, without any clear consensus. As shown in Chart 11, 29 percent of business owners indicated the decisionmakers conduct research and analysis; 25 percent said they consult with industry experts; 23 percent each said they rely on recommendations from individuals they know, consult professional or business associations, or rely on trial and error; 21 to 22 percent each said they review guidance from large corporations, read tech website or other publications' reviews, or consult with business partners; and between 17 and 20 percent of owners said that decisionmakers either consult vendor recommendations or review guidance from chambers of commerce or from government organizations. This lack of consensus around sources of information on AI and decisionmakers' slight preference for conducting their own research over relying on external guidance suggest that, to be effective, education providers need to be seen as reliable.

CHART 11. Steps Decisionmakers at Small Businesses Take to Determine Whether AI Is Appropriate for a Business Use Case

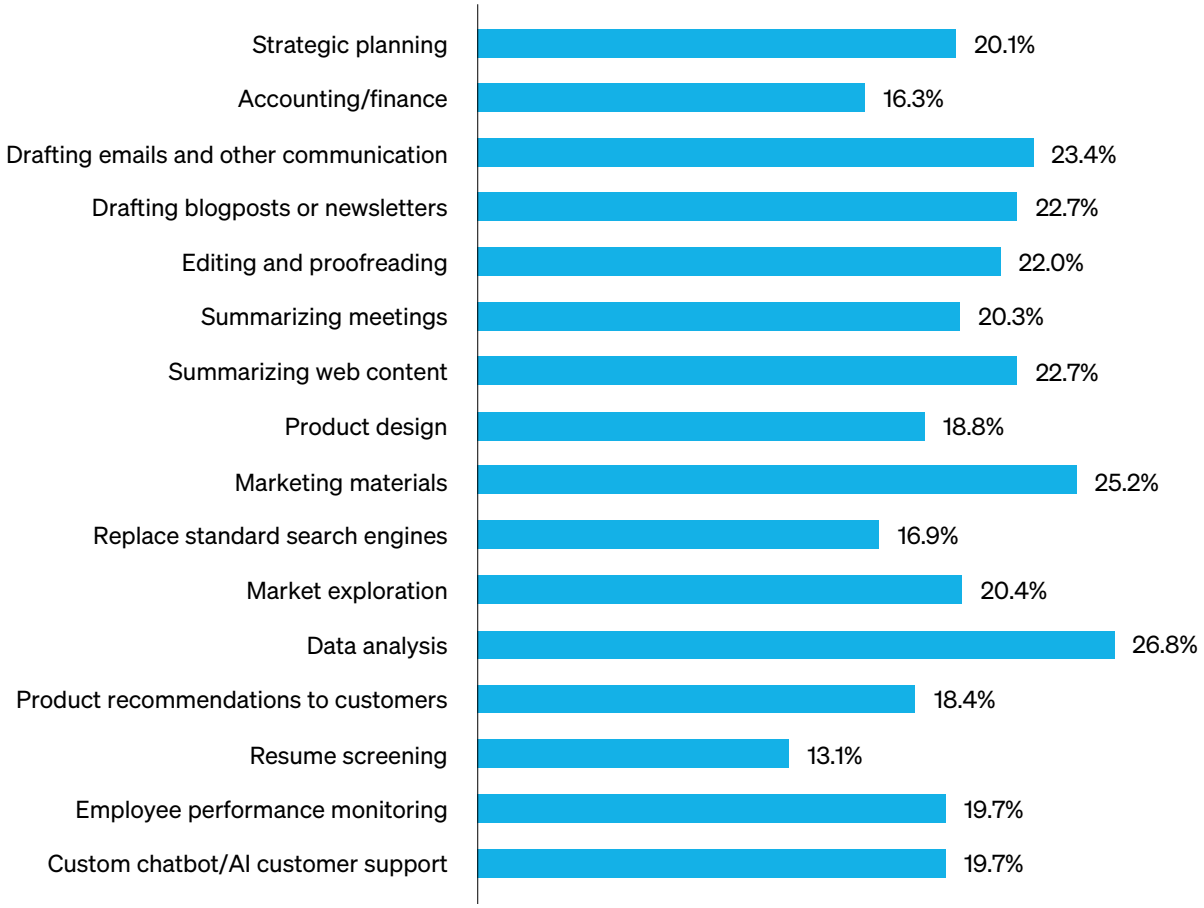
Source: ICIC 2024 survey of business owners.

Note: Percentages do not add to 100% because respondents were allowed to select as many responses as applied.

How Small Businesses Are Using AI

Small businesses are largely using AI tools to speed up or automate routine tasks. The largest percentages of business owners who currently use AI tools in their businesses said they use it for speeding up and streamlining routine tasks such as data analysis (27 percent), creating marketing materials (25 percent), drafting emails and other communication (23 percent), drafting blogposts or newsletters (23 percent), and summarizing web content (23 percent). As shown in Chart 12, slightly lower percentages of business owners said their businesses are using AI for less regular applications such as strategic planning (20 percent), product design (19 percent), and accounting and finance (16 percent). The smallest percentage of businesses (13 percent) indicated that they use AI for resume screening, which may indicate some reluctance to use new technologies in human resource processes. However, roughly 20 percent of business owners said that they currently use AI for employee performance monitoring, which indicates that some small businesses are applying AI in a way that risks undermining employees' trust in their employers.[9]

CHART 12. AI Uses Reported by Small Business Owners



Source: ICIC 2024 survey of business owners.

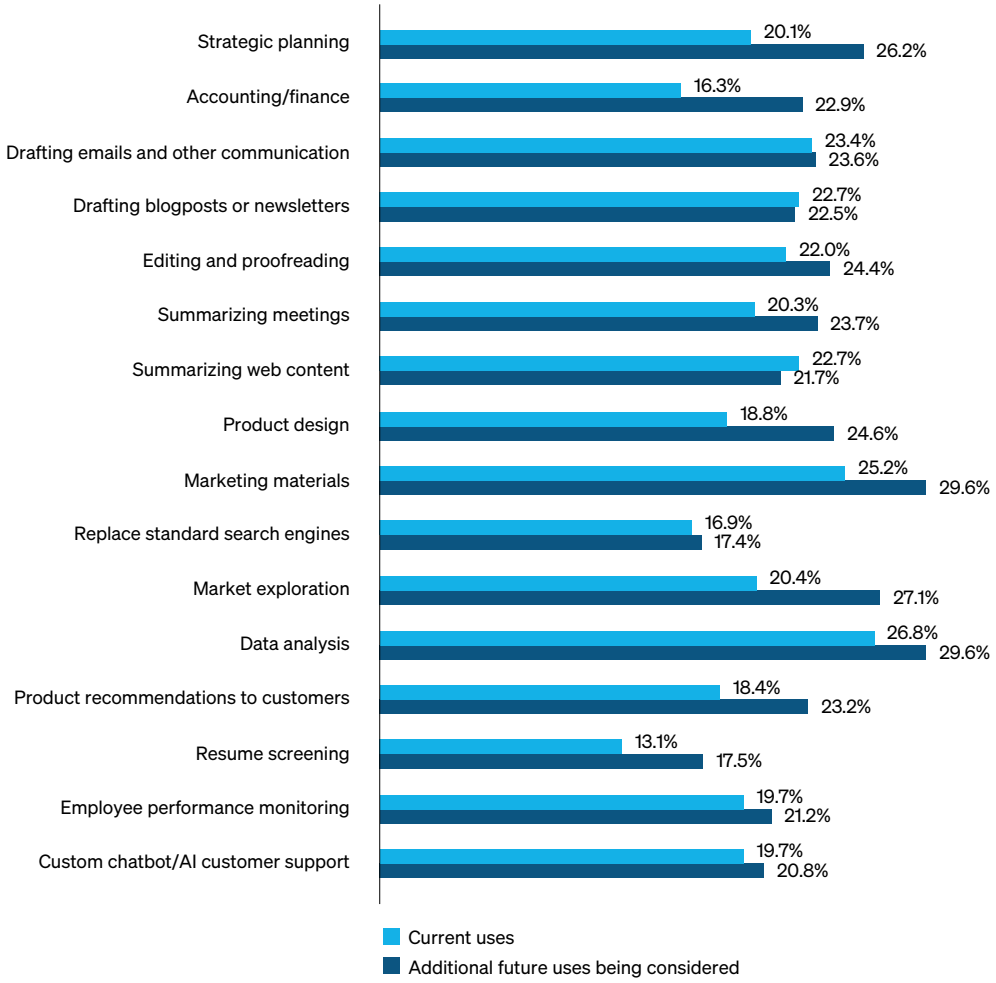
Note: Percentages do not add to 100% because respondents were allowed to select as many responses as applied.

How Small Businesses Are Considering Using AI in the Future

Understanding differences between how small businesses currently use AI and the future applications they find most attractive is important for anticipating the course that AI small business education will need to take. It can also help small business assistance providers prepare to address any mismatches between the practical capabilities of AI and the desired use cases of business owners.

In addition to using AI to automate or assist with routine tasks, business owners are considering using it for increasingly complex and core business tasks in the future. Chart 13 shows how business owners are considering using AI in their businesses in the future. The most popular future use cases for AI that business owners are considering are data analysis (30 percent), marketing materials (30 percent), market exploration (27 percent), strategic planning (26 percent), product design (25 percent), and editing and proofreading (24 percent).

CHART 13. How Small Business Owners Currently Use AI in Their Businesses Compared with How They Are Considering Using It in the Future



Source: ICIC 2024 survey of business owners.

Notes: Responses of "unsure" and "other (please specify)" have been removed because less than 1% of respondents chose these answers. Percentages do not add to 100% because respondents were allowed to select as many responses as applied.

The future use cases that business owners chose at the highest rates *relative to their current uses* are market exploration (27 percent, a slightly under 7 percentage point increase over current use) accounting and finance (23 percent, a slightly under 7 percentage point increase over current use), strategic planning (26 percent, a roughly 6 percentage point increase over current use), and product design (25 percent, a roughly 6 percentage point increase over current use). Chart 13 shows that the future use cases that business owners chose at the lowest rates relative to their current uses are summarizing web content (22 percent, a one percentage point decrease from current use), drafting blogposts or newsletters (23 percent, a less than one percentage point decrease from current use), drafting emails and other communication (24 percent, a less than one percentage point increase over current use), and replacement of standard search engines (17 percent, a less than one percentage point increase over current use).

Focus groups. Focus group participants were generally optimistic about AI's potential to enhance their business in some way. Many saw AI as a way to streamline routine or repetitive tasks and improve efficiency, allowing them to focus more on strategic higher-level decision making and customer service. As their experience and comfort level increase, most expressed willingness to consider using AI for more critical tasks such as financial forecasting, competitive analysis, and customer interfacing. One California business owner said that AI "was a dream" and has helped him generate quotes and correspondence faster, freeing up time for him to focus on expanding his business on the sales side. Others shared similar aspirations, particularly in the real estate and professional services industries, where AI can help with complex tasks such as cost estimation and strategic planning.

"AI can help us be more efficient, but it can't replace the human touch that our customers expect."

— LOS ANGELES-AREA FOCUS GROUP PARTICIPANT

Focus group participants expressed a strong interest in expanding their use of AI into more complex and strategic areas of their businesses. Many said they would like to use AI for tasks such as data analysis, financial forecasting, and customer interfacing. Some participants were particularly excited about AI's potential to help them stay competitive in their industries by providing insights that would otherwise take too long to generate manually. Some focus group participants have already used AI to reduce costs (e.g., some noted having saved design contracting or other professional service expenses by employing AI technology to review or advise instead of hiring a professional).

At the same time, all were cautious about AI's limitations. Several expressed concerns about using AI for tasks that require a high level of human judgment, such as customer relationship management or legal work. As one participant from the Los Angeles-area focus group put it, "AI can help us be more efficient, but it can't replace the human touch that our customers expect."

Business owners were cautious about relying too heavily on AI for high-stakes decisions. We heard clear concerns about data privacy and the potential for AI to make mistakes that could harm their businesses. All acknowledged that AI is a tool but not the whole solution, and that they still need to use human judgment to make sure AI-generated output is appropriate for their businesses.

Overall, the focus group results indicate that small business owners see AI as a tool that can help them grow, innovate, and compete with much larger businesses. However, participants emphasized the need for continued oversight and human involvement, especially when it comes to high-stakes decisions and processes that carry large risks for their businesses.

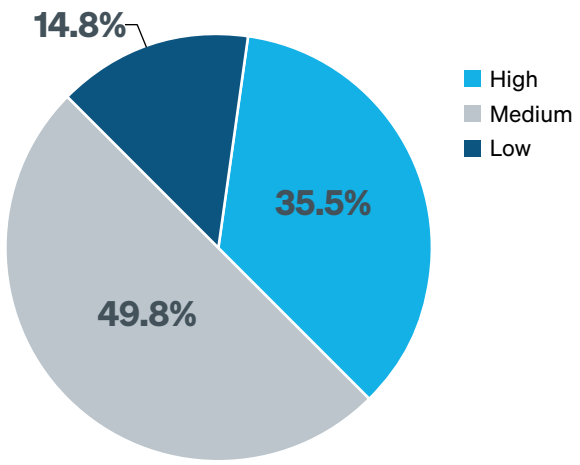
Barriers to Adopting and Understanding AI

The findings in this section address barriers that may be preventing small businesses from making more or better use of AI: lack of comfort with AI, the reasons business owners give for not using AI in their businesses, and the barriers they face in understanding AI.

Small Business Owners' Comfort Levels With AI

Overall, most business owners report a medium (50 percent) or high (36 percent) level of comfort using AI for their businesses, while 15 percent report a low level of comfort (Chart 14). The varying levels of comfort using AI can be interpreted in two ways. Business owners could be self-evaluating on whether they feel competent using a technology they perceive as advanced and complex, which is how many focus group participants described AI tools. Or they could be describing their comfort with AI in relation to their perception of the risks involved in using the technology. The non-restrictive wording of the survey question "What is your comfort level using AI for your business?" means we likely have a mixture of both interpretations and that differences in responses among our comparison groups probably relate to the willingness of different groups of business owners to adopt and rely on AI.

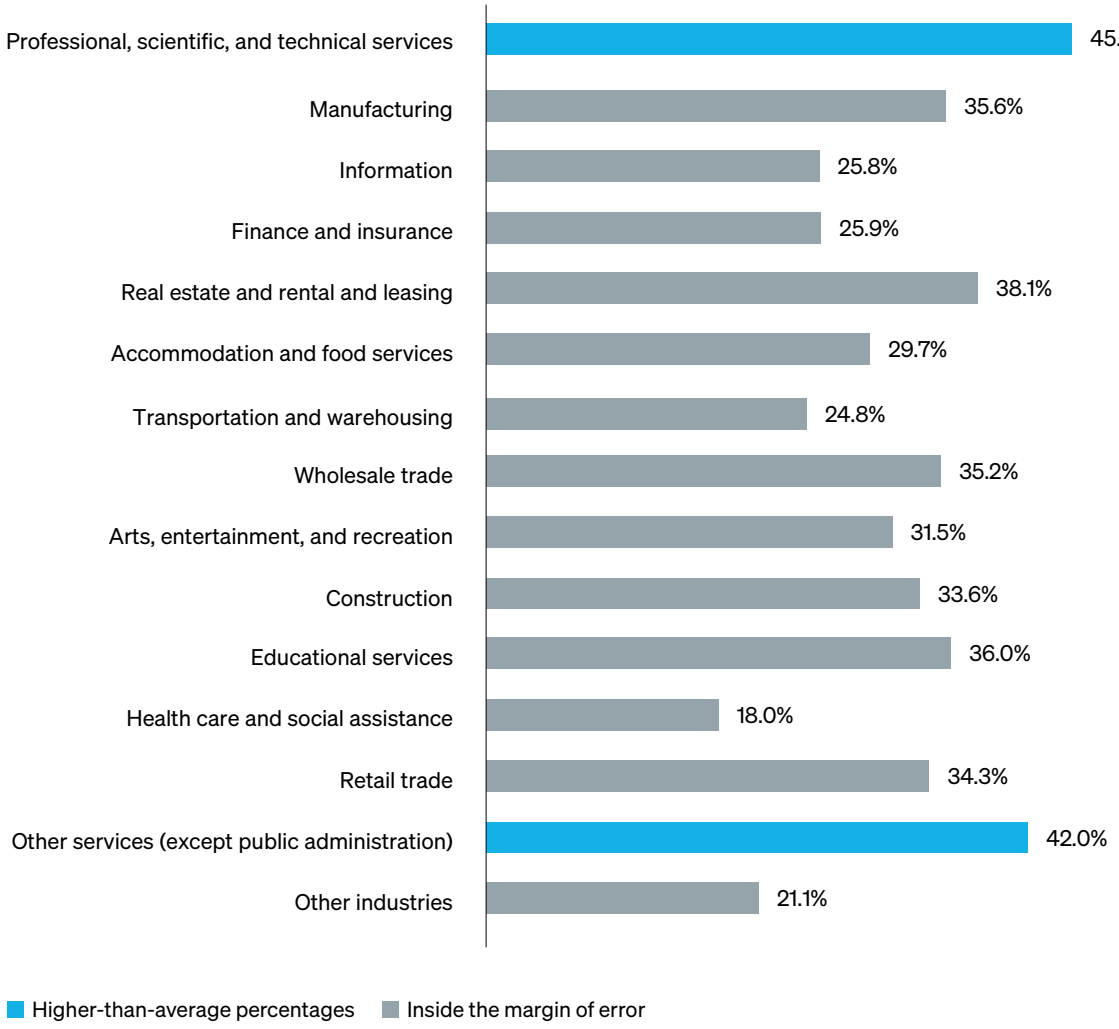
CHART 14. Small Business Owners' Comfort Using AI for Their Businesses



Source: ICIC 2024 survey of business owners.
Note: Percentages may not add to 100% because of rounding.

Industry differences. Business owners in professional, scientific and technical services (45 percent) and other services (except public administration) (42 percent) were most likely to report having high comfort using AI (Chart 15).

CHART 15. Percent of Small Business Owners with a High Level of Comfort Using AI for Their Businesses, by Industry

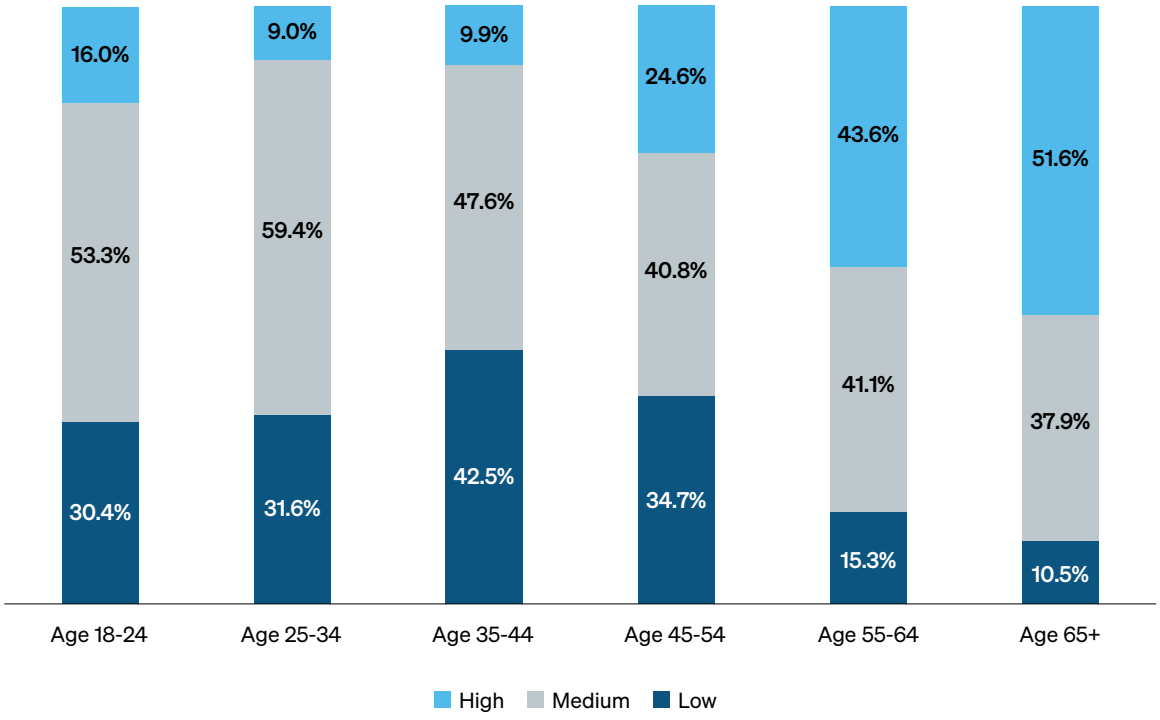


Source: ICIC 2024 survey of business owners.

Notes: "Other industries" include utilities and unclassified industries. Light blue bars indicate higher-than-average percentages that differ from the overall sample percentage by more than the margin of error of both the overall sample and the comparison group.

Age differences. Comfort with AI tools varies by age group, with older business owners generally being less comfortable. About 32 percent of business owners between the ages of 25 and 34 reported having high comfort with AI (compared to 36 percent for all age groups combined), while only 9 percent of owners in this age range expressed low comfort with AI (a lower percentage than the average of 15 percent for all age groups). About 43 percent of business owners between the ages of 35 and 44 reported being highly comfortable with AI, a percentage higher than that of any other age group. Business owners aged 45 to 54 (25 percent), 55 to 64 (44 percent) and 65 and over (52 percent) were most likely to report having low comfort with AI (Chart 16).

CHART 16. Small Business Owners' Comfort Using AI for Their Businesses, by Age

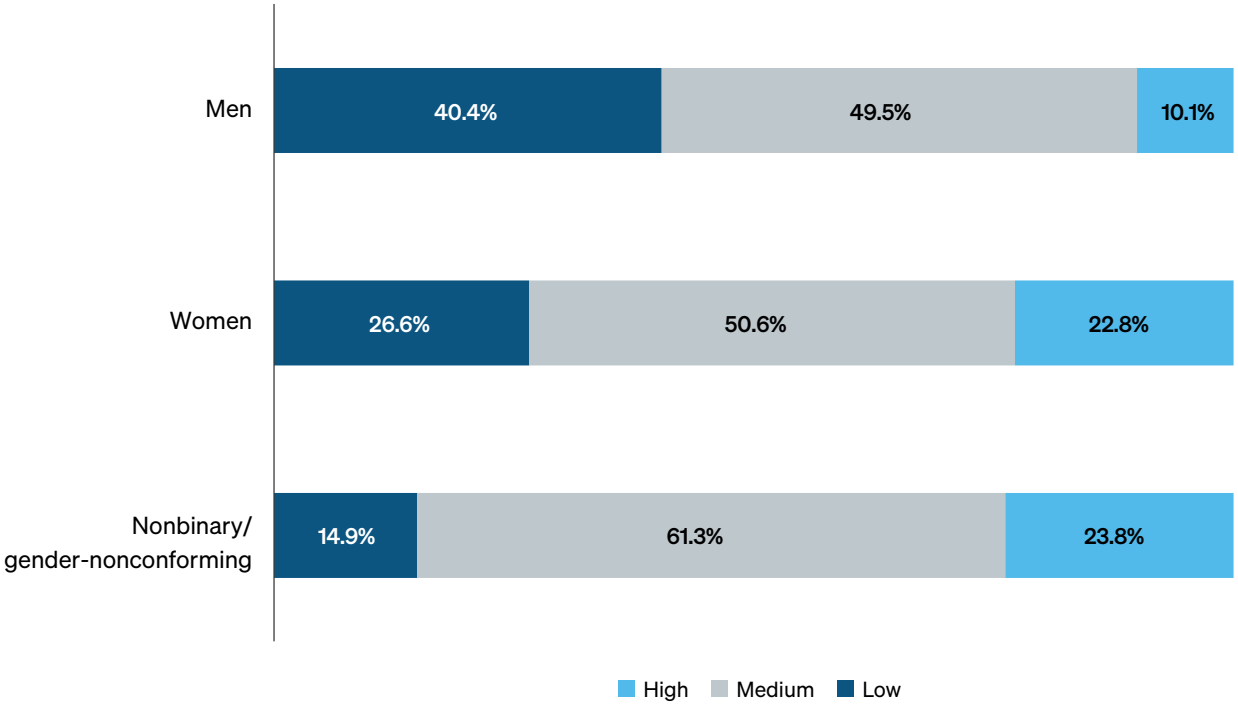


Source: ICIC 2024 survey of business owners.

Note: Percentages may not add to 100% due to rounding.

Race and gender differences. Comfort level with AI also varies by the gender and race of business owner. Chart 17 shows that a greater proportion of business owners who are men (40 percent) than of business owners who are women (27 percent) and nonbinary and gender-nonconforming business owners (15 percent) reported being highly comfortable with AI. About 23 percent of women and 24 percent of nonbinary or gender-nonconforming business owners reported low comfort using AI for their businesses, compared with 10 percent of men business owners.

CHART 17. Small Business Owners' Comfort Using AI for Their Businesses, by Gender

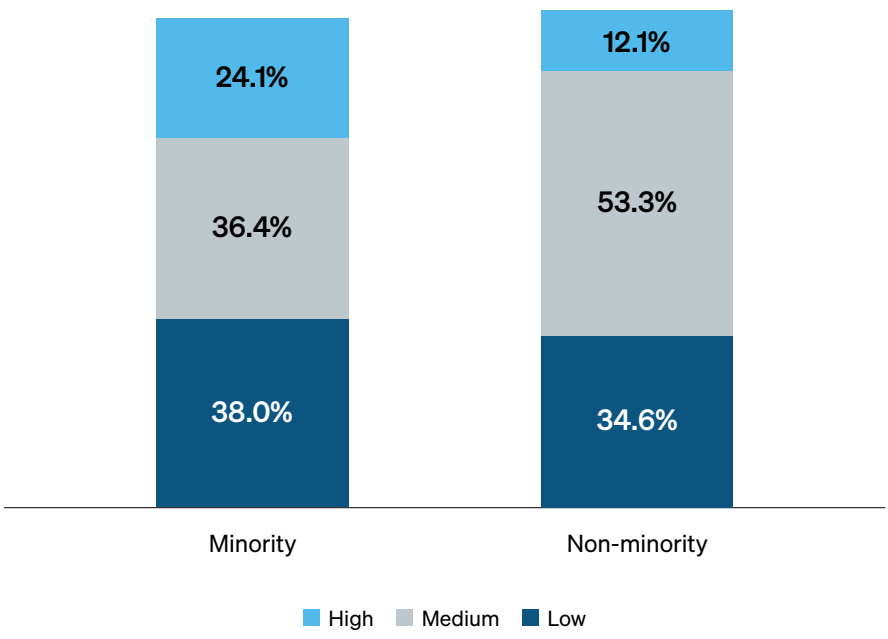


Source: ICIC 2024 survey of business owners.

Notes: Percentages may not add to 100% due to rounding. Responses are from the 3,721 business owners (unweighted) who reported their gender.

There are some differences in comfort using AI by race of business owner. Chart 18 shows that minority business owners (including Black, Asian, Hispanic, Native American, Native Hawaiian and Pacific Islander, Middle Eastern, and other racial backgrounds) were about twice as likely as non-minority (white) business owners to report low comfort using AI. A greater percentage of non-minority business owners (53 percent) than of minority business owners (36 percent) reported medium comfort using AI. More than a third each of minority- and non-minority business owners reported high comfort with AI.

CHART 18. Small Business Owners' Comfort Using AI for Their Businesses, by Race



Source: ICIC 2024 survey of business owners.

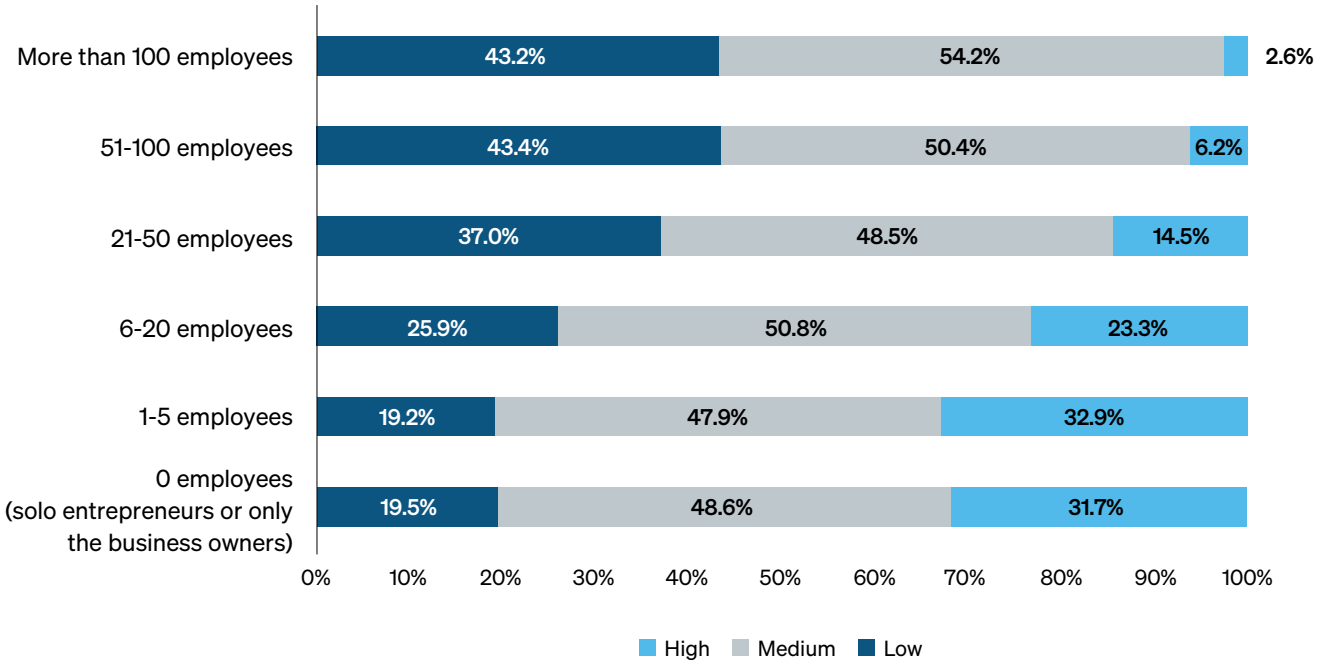
Note: Percentages may not add to 100% due to rounding.

Business size differences. Comfort with AI tools is higher for owners of larger small businesses than for owners of smaller ones. About 20 percent of solo entrepreneurs expressed high comfort and 32 percent expressed low comfort with AI. At the other extreme, owners of companies with 100 or more employees have higher-than average rates of high comfort (43 percent) and medium comfort (54 percent) and a much lower-than-average rate of low comfort (3 percent). See Chart 19.

Focus groups. Focus group participants' feelings about the use of AI at their businesses ranged from anticipation to apprehension. Some business owners who have already begun using AI for tasks such as writing proposals, customer service, and RFP review reported feeling more comfortable as they became familiar with the technology. However, participants who had not yet adopted AI tools were generally more cautious, citing concerns about data security, accuracy, and the loss of human interaction.

A recurring theme in the focus group discussions was the need for hands-on exposure to AI tools to build comfort. Participants frequently mentioned that their comfort level increased once they had the opportunity to experiment with AI and see its benefits firsthand. For example, one participant in the Los Angeles-area focus group described AI as initially "overwhelming" but noted that after using it to automate scheduling and customer communication, they began to see it as an "opportunity." Some also realized that they have likely been using AI technology embedded in other applications (such as iPhone and Gmail) without previously being aware it was AI. This trend will likely continue as LLM-based tools continue to diversify into new applications and use cases. Participants communicated the ongoing challenge in trusting AI to handle complex tasks without human oversight.

CHART 19. Small Business Owners' Comfort Using AI for Their Businesses, by Business Size



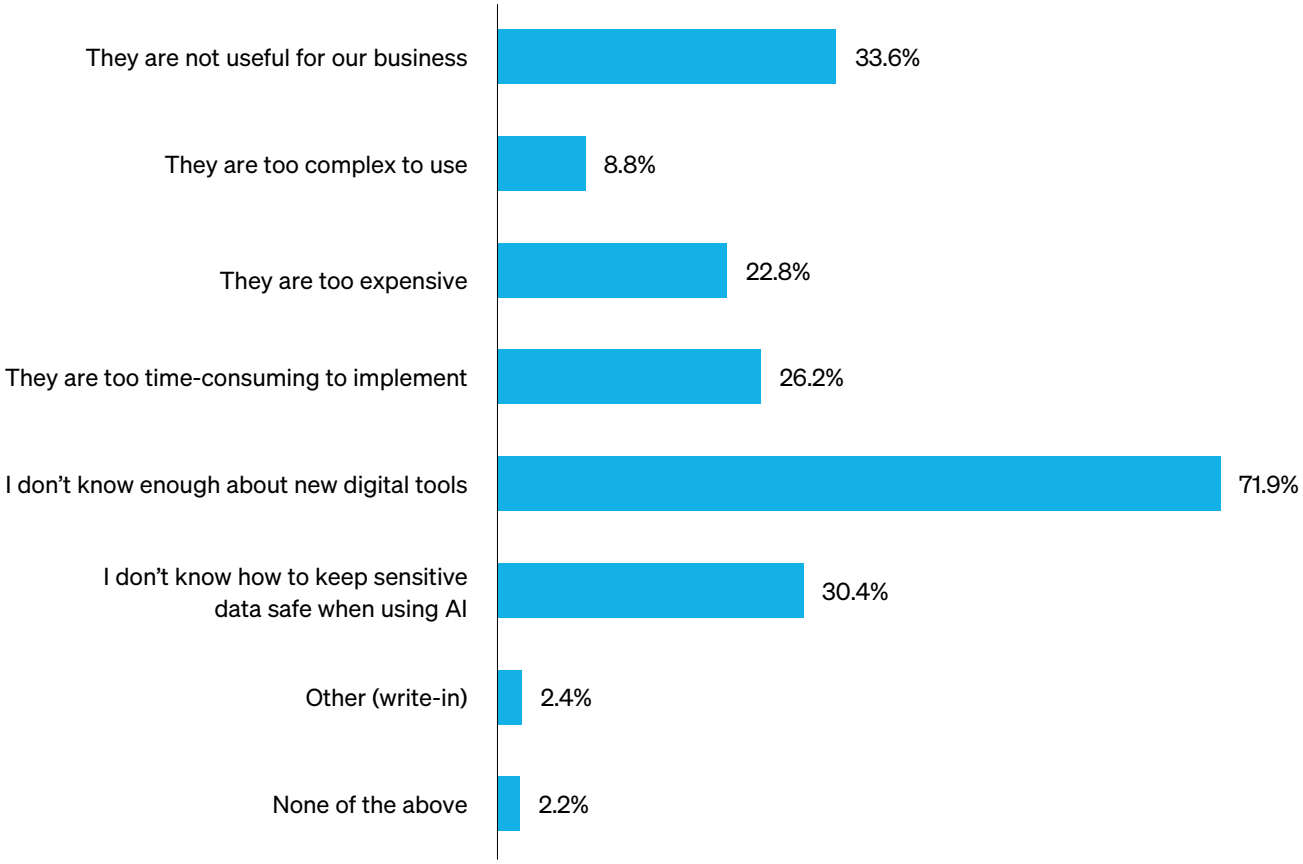
Source: ICIC 2024 survey of business owners.

Note: Percentages may not add to 100% due to rounding.

Reasons for Not Using AI

Small business owners who have not used AI in their businesses perceive artificial intelligence as complex and rapidly changing and are unsure about whether tools that use AI are worth the investment. They also reported that their lack of knowledge is the single greatest barrier to adopting AI tools at their businesses. About 72 percent of non-adopters indicated that a lack of knowledge of new digital tools is keeping them from adopting AI tools, while 34 percent of non-adopters also said that AI tools are not useful for their businesses and 30 percent said they do not know how to keep sensitive data safe when using AI (Chart 20).

CHART 20. Main Reasons Small Business Owners Reported for Not Adopting AI Tools for Their Businesses



Source: ICIC 2024 survey of business owners.

Notes: Percentages do not add to 100% because respondents were allowed to select as many responses as applied. Responses are from the 152 business owners (unweighted) who said their businesses do not use AI.

Larger small businesses expressed concerns about the security of sensitive data as a primary reason for not adopting AI tools. Chart 21 shows that 29 percent of businesses with 51 to 100 employees and 32 percent of businesses with 100 or more employees responded that not knowing how to keep sensitive data safe when using AI is a main reason why they have not adopted AI tools, as compared to 14 percent of solo entrepreneurs, 15 percent of businesses with one to five employees, and 22 percent of businesses with six to 20 employees who said this was a primary reason for not having adopted AI. Larger businesses often have more complex digital infrastructure that may be susceptible to compromise, and the stakes of information security are higher for them because they are more likely to store sensitive and confidential information or high-value intellectual property. For these reasons, their owners' emphasis on data privacy and implementation risks makes sense.

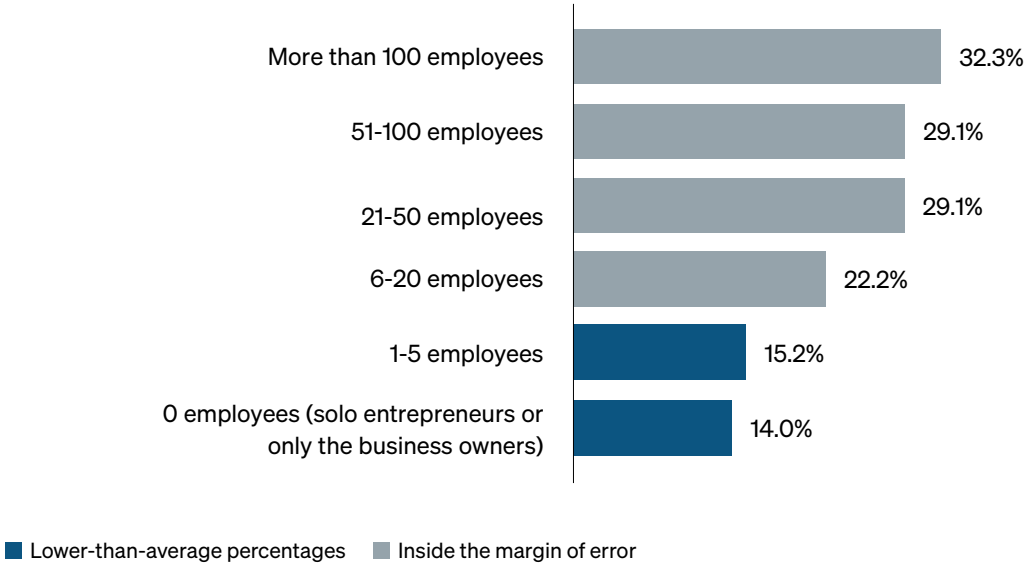
Focus groups. For those who have not adopted AI in their business, the reasons were clear and consistent across the focus groups: lack of knowledge, lack of trust, and lack of training. Focus group participants expressed concerns about the complexity of AI tools and how quickly the technology is evolving. As one participant from Des Moines put it, "AI feels like it's moving faster than we can keep up, while still focusing on the day to day."

"AI feels like it's moving faster than we can keep up, while still focusing on the day to day."

— DES MOINES FOCUS GROUP PARTICIPANT

Participants who had not yet adopted AI felt that it is too risky to implement tools without a clear understanding of how they worked (e.g., how or where output is sourced). Others expressed concerns about AI's potential to replace jobs or diminish the human element of their businesses. Some mentioned the challenge of finding the time to explore AI tools, especially in industries where resources (human and capital) are already stretched thin.

CHART 21. Percentages of Small Business Owners Who Reported Not Adopting AI Because of Information Privacy Concerns, by Business Size



Source: ICIC 2024 survey of business owners.

Notes: Dark blue bars indicate lower-than-average percentages that differ from the overall sample percentage by more than the margin of error of both the overall sample and the comparison group. Responses are from the 152 business owners (unweighted) whose businesses do not use AI.

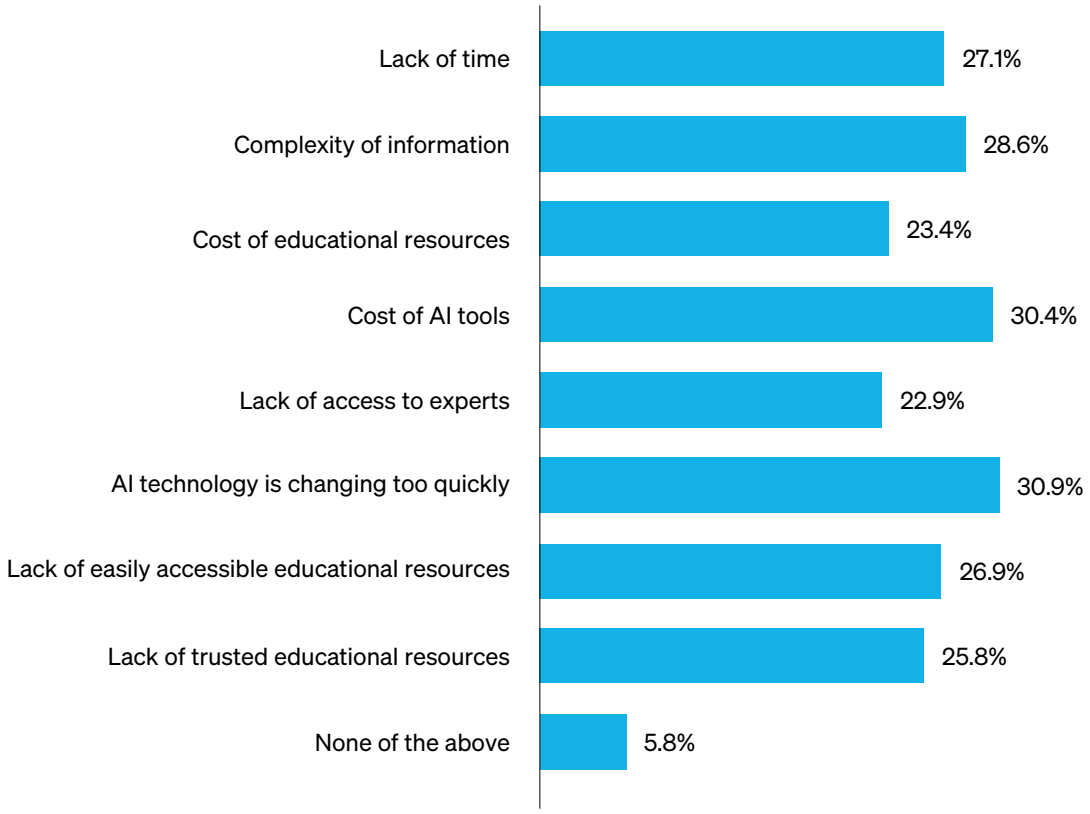
Several participants voiced interest in AI but said they were waiting for more structured training, and guidance from trusted sources, before making the leap. For example, a small business owner in the retail industry shared that they were hesitant to use AI because of the potential risks to their customer relationships but would be willing to adopt the technology if they had access to industry-specific or just-in-time training.

Insights from the survey and focus groups both make clear that small business owners' lack of knowledge about AI tools and their concerns about the security of private, valuable, and personal information are important obstacles to expanding their use of AI. Addressing these concerns should be a priority for small business educators and technical assistance providers.

Barriers to Understanding AI

Among all small business owners (both those whose businesses use AI and those whose businesses do not use it), the three most frequently cited barriers to *understanding* AI are the perception that AI technology is changing too quickly (31 percent), the cost of AI tools (30 percent), and the complexity of information involved in AI topics (29 percent).[10] See Chart 22. These also consistently ranked among the top concerns of small business owners of different racial groups, age ranges, and sizes of business in other recent studies of AI adoption.

CHART 22. Barriers Small Business Owners Reported to Improving Their Understanding of AI



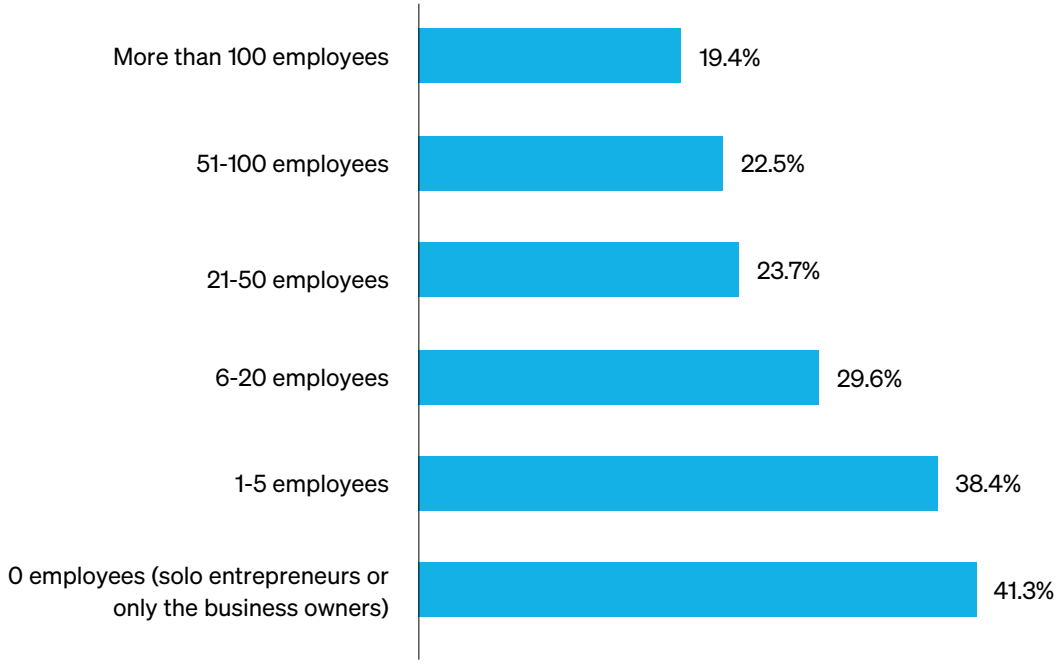
Source: ICIC 2024 survey of business owners.

Notes: Responses of "other (please specify)" have been removed because less than 1% of respondents chose this answer. Percentages do not add to 100% because respondents were allowed to select as many responses as applied.

A higher percentage of owners of smaller businesses reported a lack of time as a barrier to improving their understanding of AI. As Chart 23 shows, 41 percent of solo entrepreneurs, 38 percent of owners of businesses with one to five employees, 30 percent of owners with six to 20 employees, 24 percent of owners with 21 to 50 employees, 23 percent of owners with 51 to 100 employees, and 20 percent of owners with 100 or more employees reported that a lack of time was a significant barrier to understanding AI.

These findings suggest that smaller businesses with lower bandwidth, or those whose workers need to "wear more hats," are having more difficulty contending with the administrative burden of staying up to date on AI. Importantly, because most businesses that use AI are using it to speed up or automate routine tasks, the businesses whose owners said they do not have time to learn more about AI are also the businesses that could stand to gain the most from implementing AI. AI education that aims to be inclusive of smaller businesses should be administered in such a way that it is able to fit into the busy schedules of entrepreneurs or can be accessed on an on-demand basis.

CHART 23. Percentages of Small Business Owners Who Reported Lack of Time as a Barrier to Improving Their Understanding of AI, by Business Size



Source: ICIC 2024 survey of business owners.

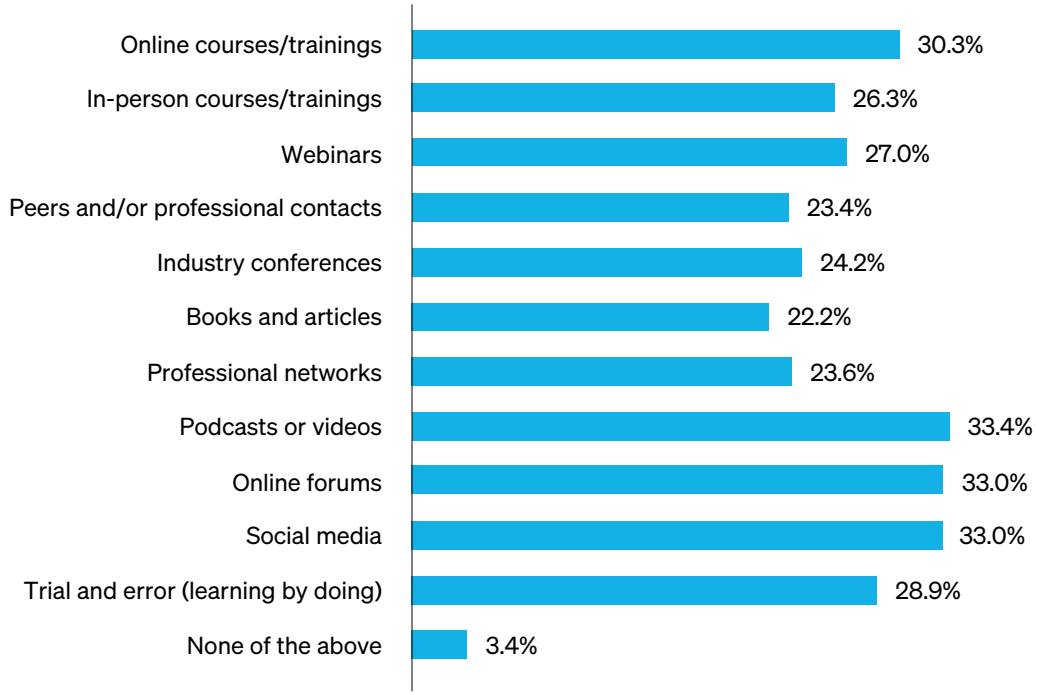
Learning About AI

The findings in this section address the kinds of educational resources small business owners have used to learn about AI, the kinds of resources they want to use to help them better understand AI, and the AI topics they would like to learn about.

Use of Educational Resources for Learning About AI

The greatest percentages of business owners reported that they have relied on on-demand and digital resources to learn about AI, including podcasts and videos, online forums, and social media (33 percent each), online courses and trainings (30 percent), and webinars (27 percent). Trial and error (learning by doing) was also one of the most commonly used learning methods (29 percent). See Chart 24. Business owners reported that they are less likely to have used physical media, on-site trainings, or other sources that require substantial planning/foresight, including in-person courses and trainings (26 percent), industry conferences (24 percent), and professional networks (24 percent). Books and articles (22 percent), and peers or professional contacts (23 percent) are the resources that business owners use least commonly to learn about AI.

CHART 24. Resources Small Business Owners Said They Have Used to Learn About AI

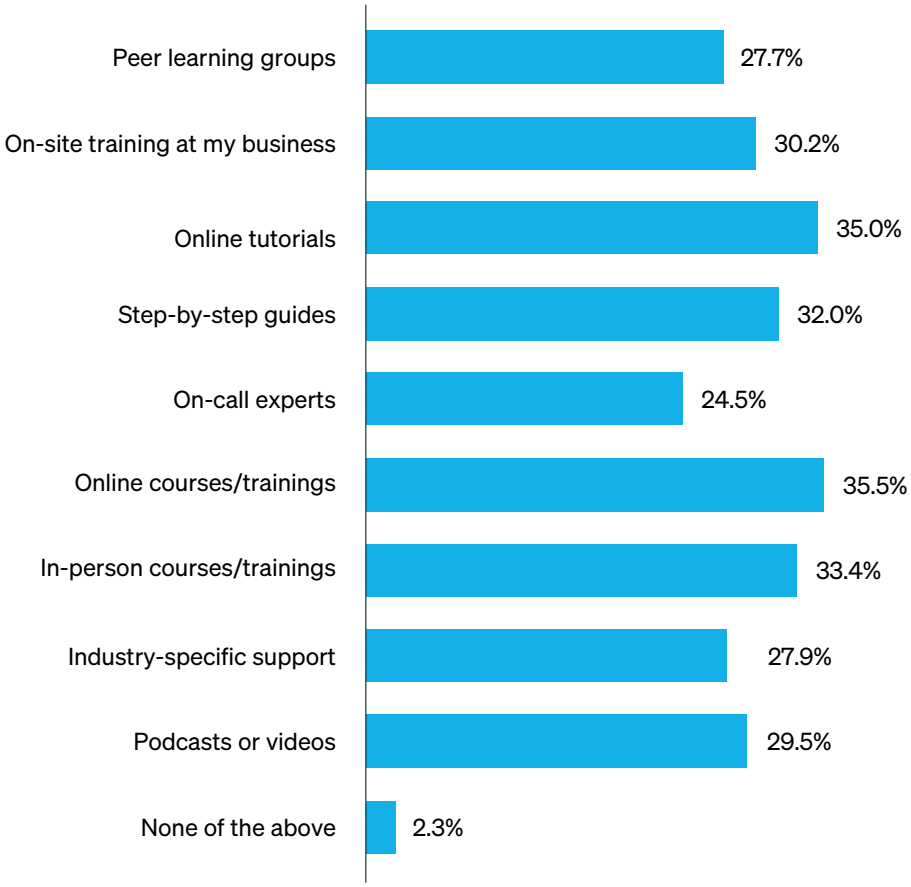


Source: ICIC 2024 survey of business owners.

Notes: Responses of "other (please specify)" have been removed because less than 1% of respondents chose this answer. Percentages do not add to 100% because respondents were allowed to select as many responses as applied.

When asked what kinds of support *would help them better understand AI,* business owners displayed a slight preference for online materials. About 35-36 percent of business owners said they would like online courses or trainings or online tutorials, while 33 percent said they would like in-person courses and trainings (Chart 25). About 32 percent said they would like step-by-step guides, 30 percent said they would like on-site trainings at their businesses, 30 percent said they would prefer podcasts and videos, and 28 percent said they would like to receive AI support through either peer learning groups or industry-specific support. A somewhat smaller percentage of business owners (25 percent) said that support from on-call experts would help them better understand AI. Owners were allowed to choose as many resources as they found useful.

CHART 25. Resources Small Business Owners Said Would Help Them Better Understand AI



Source: ICIC 2024 survey of business owners.

Notes: Responses of "other (please specify)" have been removed because less than 1% of respondents chose this answer. Percentages do not add to 100% because respondents were allowed to select as many responses as applied.

Age differences. There are some age-based differences in the types of support that business owners said would help them improve their understanding of AI tools. Business owners between the ages of 35 and 54 expressed higher-than-average interest in almost all kinds of support, younger business owners (those between the ages of 18 and 34) expressed lower-than-average interest in about half of the modes of support listed, and a large majority (71 percent) of business owners aged 65 and up reported that online courses/trainings would better help them understand AI (Table 1).

TABLE 1. Resources Small Business Owners Say Would Help Them Better Understand AI, by Age

	Age 18-24	Age 25-34	Age 35-44	Age 45-54	Age 55-64	Age 65+
Peer learning groups	20.8%	24.1%	30.6%	33.1%	21.6%	11.1%
On-site training at my business	22.1%	28.2%	36.3%	25.8%	19.1%	9.8%
Online tutorials	35.7%	30.7%	36.5%	41.1%	32.7%	29.9%
Step-by-step guides	37.2%	26.1%	32.1%	37.5%	45.1%	32.8%
On-call experts	10.1%	21.0%	27.7%	30.5%	17.7%	12.4%
Online courses/trainings	37.3%	33.7%	32.3%	42.7%	39.5%	70.9%
In-person courses/trainings	26.3%	27.5%	36.6%	37.2%	35.2%	37.6%
Industry-specific support	19.2%	26.4%	26.1%	35.9%	36.3%	29.2%
Podcasts or videos	31.8%	27.6%	29.1%	33.3%	35.5%	18.9%
Other	0.0%	0.0%	0.5%	0.1%	4.4%	4.3%
None of the above	2.2%	2.2%	0.9%	5.4%	5.9%	3.9%

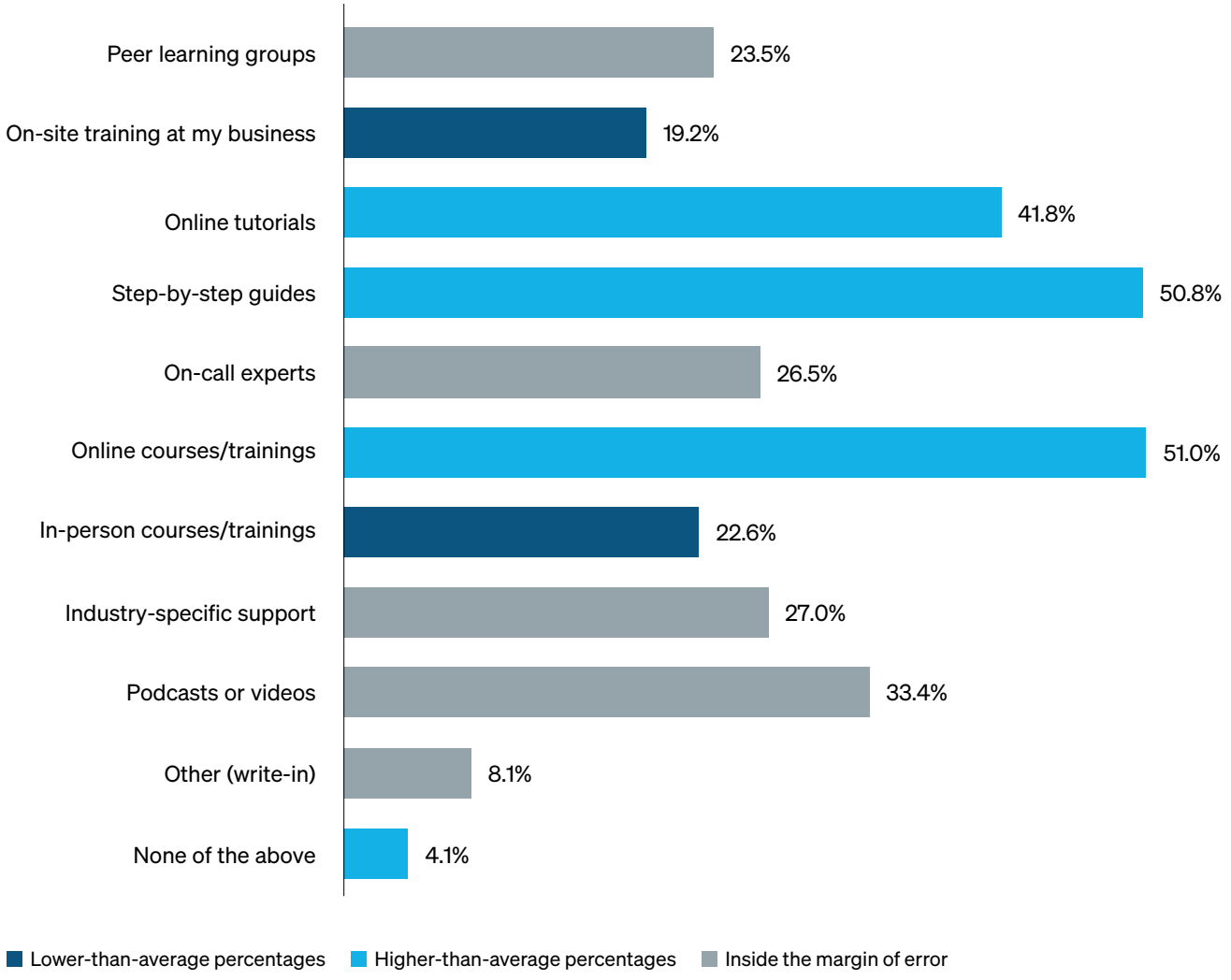
■ Lower-than-average percentages ■ Higher-than-average percentages ☐ Inside the margin of error

Source: ICIC 2024 survey of business owners.

Notes: Table shows percent of each age group choosing a resource. Columns do not add to 100% because respondents were allowed to select as many responses as applied. Light blue cells indicate higher-than-average percentages and dark blue cells indicate lower-than-average percentages that differ from the overall sample percentage by more than the margin of error of both the overall sample and the comparison group.

Business size differences. Chart 26 shows that just over half of solo entrepreneurs said that online courses and trainings and step-by-step guides would help them better understand AI, with 51 percent favoring each of these instructional formats. (Owners were allowed to choose as many formats as they found useful.) About 42 percent indicated that online tutorials would help them better understand AI. Solo entrepreneurs chose these three responses at higher rates than the average of all small business owners. (Among all small business owners, 36 percent favored online courses and trainings, 32 percent favored step-by-step guides, and 35 percent favored online tutorials.) Solo entrepreneurs also said that podcasts and videos (33 percent), industry-specific support (27 percent), on-call experts (27 percent), and peer learning groups (24 percent) would help them understand AI better.

CHART 26. Resources the Owners of Non-Employer Small Businesses (Solo Entrepreneurs) Said They Have Used to Learn About AI



Source: ICIC 2024 survey of business owners.

Notes: Percentages do not add to 100% because respondents were allowed to select as many responses as applied. Light blue bars indicate higher-than-average percentages and dark blue bars indicate lower-than-average percentages that differ from the overall sample percentage by more than the margin of error of both the overall sample and the comparison group. Responses are from the 220 business owners (unweighted) whose businesses have no employees other than the owner.

TABLE 2. Resources Small Business Owners Said Would Help Them Better Understand AI, by Gender

	Men	Women	Nonbinary/gender-nonconforming
Peer learning groups	27.9%	27.3%	40.3%
On-site training	32.7%	27.0%	24.7%
Online tutorials	35.6%	34.3%	42.6%
Step-by-step guides	32.2%	32.1%	30.4%
On-call experts	24.3%	25.2%	54.2%
Online courses/trainings	36.3%	35.3%	23.6%
In-person courses/trainings	33.9%	33.0%	26.4%
Industry specific support	27.1%	29.5%	25.2%
Podcasts or videos	30.2%	29.2%	21.4%

■ Higher-than-average percentage ☐ Inside the margin of error

Source: ICIC 2024 survey of business owners.

Notes: Columns do not add to 100% because respondents were allowed to select as many responses as applied. Responses of "unsure," and "other (please specify)" have been removed because less than 1% of respondents chose these answers. Light blue cells indicate higher-than-average percentages that differ from the overall sample percentage by more than the margin of error of both the overall sample and the comparison group. Responses are from the 3,721 business owners (unweighted) who reported their gender.

Gender differences. The only notable gender-based difference in preferences among AI educational resources is that nonbinary and gender-nonconforming business owners said they prefer on-call expert support, while online courses and trainings and online tutorials are the types of support most often chosen by both men and women business owners (Table 2). A clear majority (54 percent) of nonbinary and gender-nonconforming business owners said that on-call experts are a type of support that would help them better understand AI.

Focus groups. Focus group participants expressed a preference for on-demand learning tools. Many said they relied on online tutorials, webinars, and digital resources to learn about AI on their own, as these formats allowed them to fit training into their busy schedules. Yet participants in the Des Moines focus group, who were asked specifically about whether they would find in-person instruction valuable, unanimously replied in the affirmative.

At the same time, participants highlighted the importance of interactive learning environments. Several focus group members mentioned that they would benefit from in-person workshops or hands-on demonstrations, particularly if these sessions were tailored to their specific industry or led by other trusted small businesses. One participant noted that online resources are great, but being able to have a conversation with a topic expert is important for a deeper understanding of how this technology can help them. Although some participants were open to using digital resources such as podcasts and videos, they emphasized the importance of trusted sources. Many said they would be more likely to engage with AI training if it were offered by reputable organizations such as local universities, community development financial institutions (CDFIs), the U.S. Small Business Administration (SBA), or industry associations.

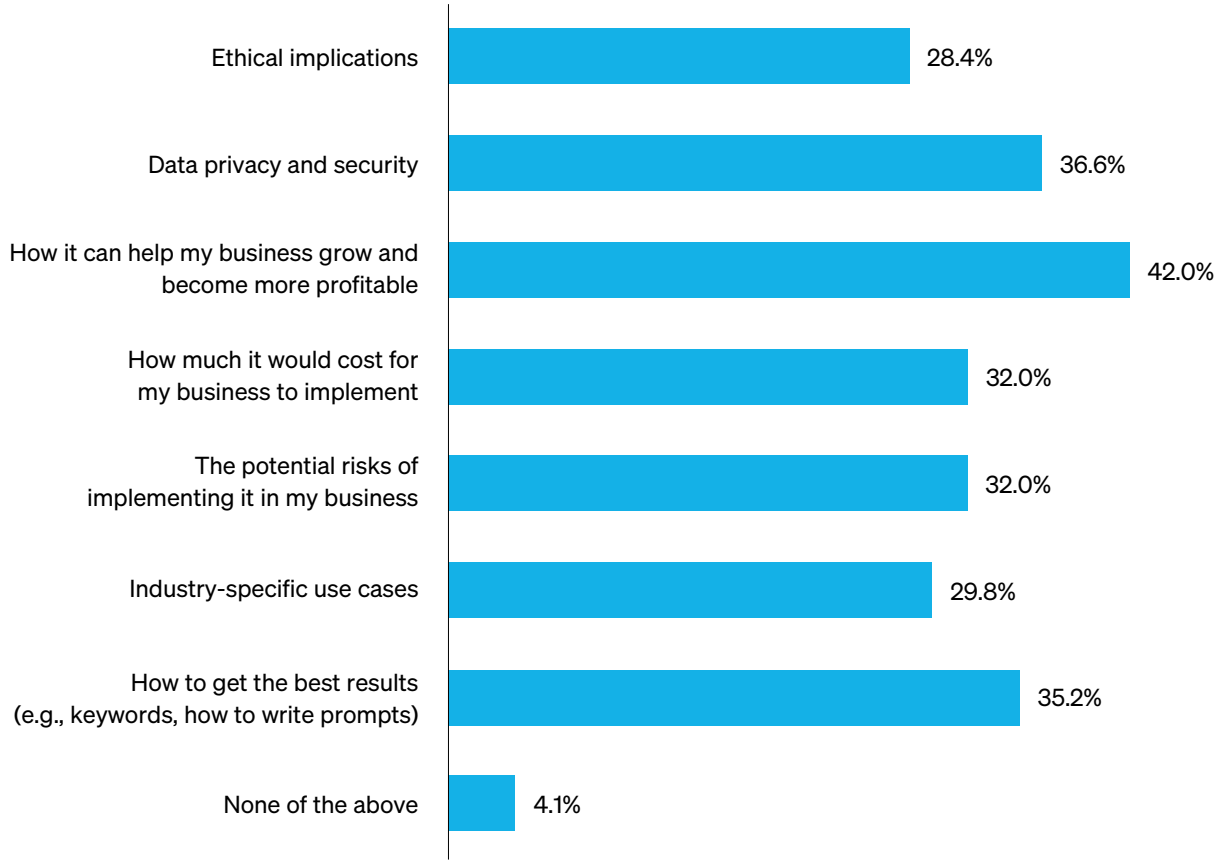
A California business owner shared that she had attended a prompt engineering course and found it incredibly useful, noting that it helped her feel more confident in using AI for product merchandising. Others echoed this sentiment, saying that without structured training, it was difficult to know where to start with AI or how to apply it effectively in their businesses.

Participants also expressed a strong preference for learning by doing. As one focus group member put it, "I need to try it out in real time to understand how it can help my business." Many said they would benefit from mentorship or having a "just-in-time" point of contact who could answer questions as they experimented with new tools. However, finding time to attend scheduled trainings remains a challenge for many small business owners, who instead have opted into free or low-cost, self-guided, online instruction available through platforms such as Udacity, Kajabi, Coursera, and YouTube.

What Small Business Owners Want to Learn About AI

Overall, 42 percent of small business owners indicated that they would like to learn more about how AI can help their business grow and become more profitable, 37 percent said they would like to learn about data privacy and security, 35 percent said they would like to learn more about how to get the best results (e.g., how to use keywords or write prompts), and 32 percent each said that they would like to learn more about how much it would cost to implement and the potential risks of implementing it in their business (Chart 27). About 30 percent of business owners said they would like to learn more about industry-specific use cases and 28 percent said they would like to learn more about the ethical implications of using AI.

CHART 27. AI Topics Small Business Owners Said They Would Like to Learn More About



Source: ICIC 2024 survey of business owners.

Notes: Responses of "other (please specify)" have been removed because less than 1% of respondents chose this answer. Percentages do not add to 100% because respondents were allowed to select as many responses as applied.

TABLE 3. AI Topics Small Business Owners Said They Would Like to Learn More About, by Business Size

	0 (solo entrepreneur or only the business owners)	1-5 employees	6-20 employees	21-50 employees	51-100 employees	More than 100 employees
Ethical implications	25.1%	29.6%	31.0%	27.2%	27.0%	24.3%
Data privacy and security	41.3%	34.9%	36.7%	38.4%	48.0%	34.8%
How it can help my business grow and become more profitable	52.5%	46.9%	40.3%	39.7%	43.3%	41.5%
How much it would cost for my business to implement	36.6%	24.3%	33.5%	37.7%	37.3%	30.9%
The potential risks of implementing it in my business	25.9%	24.1%	33.4%	34.7%	40.2%	35.2%
Industry-specific use cases	45.2%	34.1%	31.6%	33.1%	32.0%	25.9%
How to get the best results (e.g., keywords, how to write prompts)	54.3%	42.2%	34.6%	38.8%	38.9%	30.2%
Other	1.6%	0.6%	0.7%	0.0%	0.0%	0.1%
None of the above	5.9%	4.4%	7.9%	2.7%	6.2%	2.1%

Lower-than-average percentages Higher-than-average percentages Inside the margin of error

Source: ICIC 2024 survey of business owners.

Notes: Columns do not add to 100% because respondents were allowed to select as many responses as applied. Light blue cells indicate higher-than-average percentages and dark blue cells indicate lower-than-average percentages that differ from the overall sample percentage by more than the margin of error of both the overall sample and the comparison group.

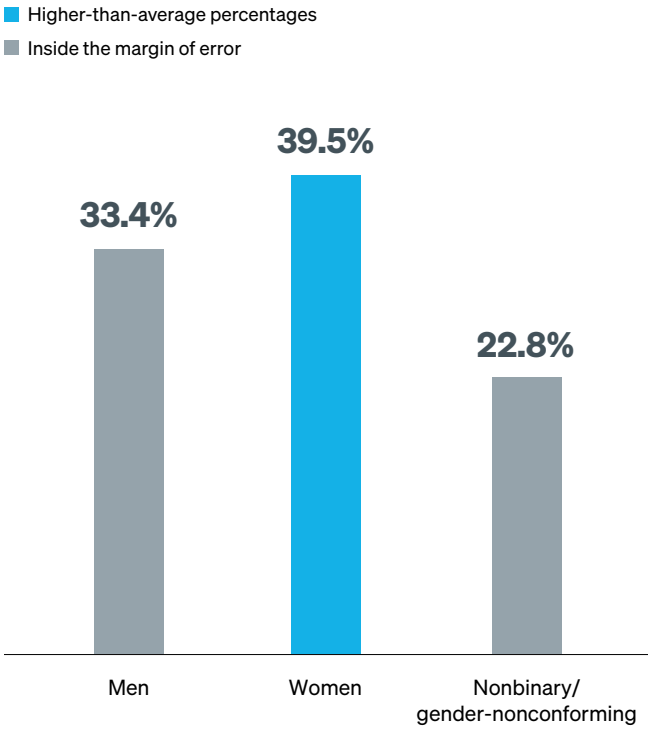
Business size differences. Table 3 shows that owners of the smallest businesses are most interested in learning to use AI effectively and in learning how AI could help them improve their businesses' operations. The greatest percentages of solo entrepreneurs said they would like to learn about how to get the best results from AI (54 percent), how AI can help their business grow and become more profitable (53 percent), and industry-specific use cases for AI (45 percent). Learning how AI could help with growth and profitability (47 percent) and learning how to get the best results from AI (42 percent) are also among the top interests for owners of businesses with between one and five employees (Table 3).

Owners of larger small businesses are generally more interested in learning how to avoid the risks of using AI tools; this mirrors their concerns around AI adoption at their businesses. The greatest percentages of owners of businesses with between 51 and 100 employees said they would like to learn more about data privacy and security (48 percent), how AI can help their business grow and become more profitable (43 percent), and the potential risks of implementing AI at their businesses (40 percent). These are also the topics of greatest interest for owners of businesses with 100 or more employees; among the owners of those businesses, 42 percent said they are interested in learning about how AI could help with growth and profitability, 35 percent are most interested in learning about data privacy and security, and 35 percent are interested in learning about the potential risks of implementing AI.

Gender differences. A higher percentage of business owners who are women (40 percent) than of business owners who are men (33 percent) or nonbinary or gender-nonconforming business owners (23 percent) said that they would like to learn more about how to get the best results from AI (Chart 28).

About 60 percent of nonbinary and gender-nonconforming business owners indicated an interest in learning about the ethical implications of AI, which is much higher than the rates for business owners who are men (31 percent), business owners who are women (25 percent), and business owners overall (28 percent). See Chart 29.

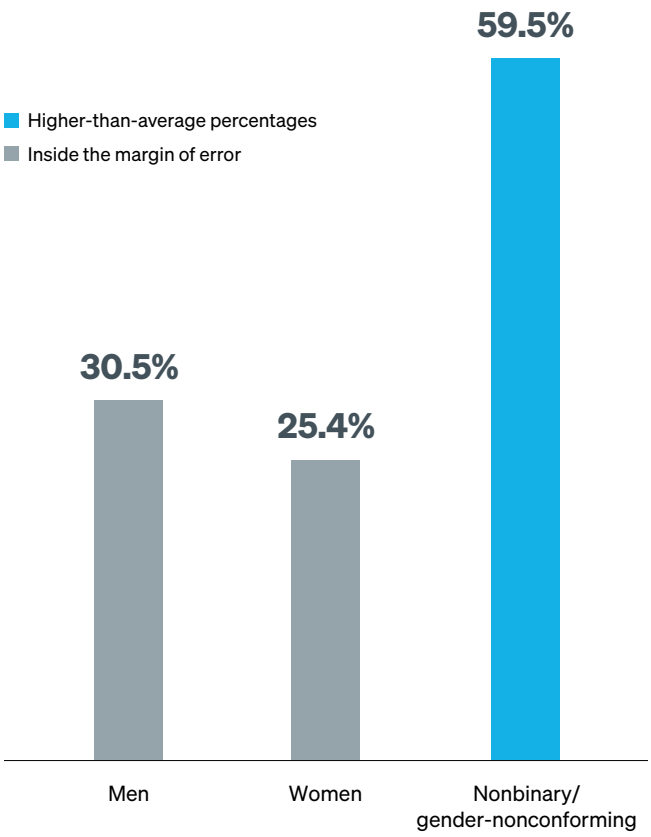
CHART 28. Percentages of Small Business Owners Who Said They Would Like to Learn More About How to Get the Best Results From AI, by Gender



Source: ICIC 2024 survey of business owners.

Notes: Light blue bars indicate higher-than-average percentages that differ from the overall sample percentage by more than the margin of error of both the overall sample and the comparison group. Responses are from the 3,721 business owners (unweighted) who reported their gender.

CHART 29. Percentages of Small Business Owners Who Said They Would Like to Learn More About the Ethical Implications of AI, by Gender



Source: ICIC 2024 survey of business owners.

Notes: Light blue bars indicate higher-than-average percentages that differ from the overall sample percentage by more than the margin of error of both the overall sample and the comparison group. Responses are from the 3,721 business owners (unweighted) who reported their gender.

Recommendations

Considering that they are the majority of firms nationally, the ways small businesses adopt AI could broadly affect work and commerce in the U.S.[11] However, some small business owners' lack of familiarity with AI tools, and their accompanying reluctance to adopt them, indicate that informed, responsive educational programming for small businesses around these emerging technologies is essential to ensuring that their enormous benefits can be realized. Accordingly, most of our recommendations address that topic. We make broader policy recommendations only where education alone is insufficient to address the concerns business owners expressed in our survey and focus groups.

1. Educational programs should be flexible and reflect the diversity in needs and preferred training styles of small business owners. Page 48

2. Small business owners should be aware of the advantages of including employees in decision making around new technology for effective AI adoption. Page 49

3. Transparency about the benefits and risks of AI use will help small business owners understand how to use AI responsibly. Page 50

1 Educational programs should be flexible and reflect the diversity in needs and preferred training styles of small business owners.

Educational programs for small businesses should be designed to fit into the busy schedules of entrepreneurs and/or include components that are accessible on demand. Owners of the smallest businesses indicated that a lack of time is a primary barrier to learning about AI. Employer businesses with fewer than five employees are more than half of all employer businesses in the U.S.[12] Enabling the owners of these companies to access AI training without disrupting their day-to-day operations will be important for ensuring that AI is implemented fairly across the economy.

Educational programs for small businesses should be delivered in multiple formats so that business owners can choose the one(s) they prefer (e.g., online, in-person, step-by-step guides, on-site trainings at their businesses, podcasts and videos, peer learning groups). Although most business owners said they would prefer various forms of online training, there was no clear consensus among all groups we surveyed, or among the participants in our focus groups, about the specific modes of support that would best help them understand AI. Providing some diversity in modes of training, such as a choice between tutorials and real-time access to training professionals (or a combination of the two) would address business owners' need for flexible learning (as discussed above) and be most responsive to the widest variety of needs.

Small business assistance providers should be aware of differences in AI comfort level by business owners' race, gender, and age and take them into account in designing education and assistance programs to serve groups with low levels of comfort. Our results indicate that there are demographic differences in business owners' level of comfort with AI. To ensure that AI education for small business owners does not replicate social biases, and to make it the most broadly effective, it should take these differences into account. There are demonstrated advantages to making small business education and technical assistance culturally responsive and best practices for doing so.[13]

Industry-specific programs are important for educating small business owners and managers about how best to use AI in their businesses. Our results on industry differences in overall comfort, implementation style, and rates of use by different types of employees suggest that there will be value in tailoring AI training to businesses operating in different industries based on their needs.

More sophisticated AI uses (e.g., market exploration, product design, and accounting/finance) may be growth areas for small business AI use and, therefore, for small business education and technical assistance about AI. Our results indicate that business owners are primarily using AI to speed up routine tasks and otherwise streamline their day-to-day operations. However, they also indicate that business owners are interested in more complex or strategy-oriented applications. Because generative AI tools are developing and improving so rapidly, and current tools may soon become obsolete, effective small business technical assistance and education needs to anticipate these shifts and adapt accordingly.[14]

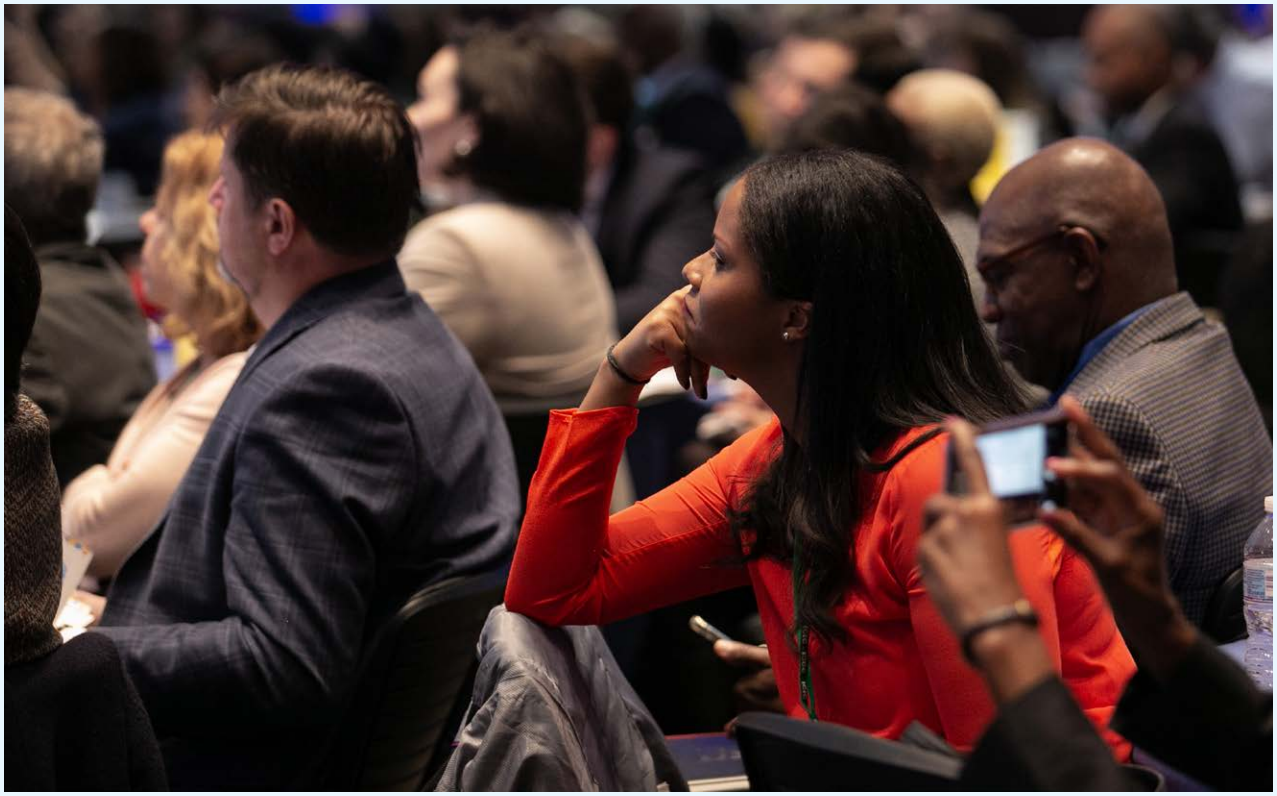
Providing some diversity in modes of training, such as a choice between tutorials and real-time access to training professionals (or a combination of the two) would address business owners' need for flexible learning.

2 Small business owners should be aware of the advantages of including employees in decision making around new technology for effective AI adoption.

Small business owners and managers should involve workers in decisions about the use of AI. While we found that the largest number of small businesses are implementing AI using top-down approaches, there are demonstrated organizational advantages to including workers' voices in the adoption of new technologies.[15] Collaborative adoption gives employers an opportunity to inform their employees about risks and appropriate uses for new technologies, and gives employees, who better understand components of the organization's workstream, an opportunity to help improve the efficiency and usefulness of the technologies.[16]

Small business owners would benefit from education about the potential productivity and efficiency benefits of lower-level workers learning to use AI effectively in their jobs. There is some evidence that productivity gains related to AI use are larger for workers with weaker skills.[17]

Collaborative adoption gives employers an opportunity to inform their employees about risks and appropriate uses for new technologies.



3 Transparency about the benefits and risks of AI use will help small business owners understand how to use AI responsibly.

To be seen as trusted sources of information about how to implement AI, small business assistance providers (including SBA Small Business Development Centers, local chambers of commerce, and other small business educators) must be candid with small business owners about the privacy-, intellectual property-, and social bias-related risks of AI tools and, where possible, help them avoid or minimize those risks. Where possible, information about those risks should be specific to how the small businesses are using AI tools. Racial and other social biases in AI tools are well-documented, as are the intellectual property and data privacy risks associated with AI use.[18] About a third of the business owners we surveyed are concerned about risks around data privacy, cybersecurity, and intellectual property violations in the use of AI for their businesses, and about a third said that not knowing how to keep sensitive information secure had kept them from adopting AI. We also found that there is a lack of consensus among business owners about whom decisionmakers at their companies rely on to determine the appropriateness of AI for business use cases. Education providers should accurately represent the risks of AI use to avoid damaging their credibility as trustworthy sources of information for small business owners.

Where possible, education providers should also educate small business owners about how to avoid or minimize the risks of AI use. For example, some AI applications enable users to prevent the AI developer from using the information they input into the AI for training the AI or from selling their personal data, although it is not easy for users to do so.[19] Yet all our focus group participants seemed to believe that using AI inherently requires giving up any information contained in users' prompts. Education providers should alert business owners to the opportunities that exist for protecting information they do not wish to divulge to AI developers and others.

Small business owners should be educated about the risks that using AI for monitoring employee performance can pose to their businesses.

While a majority of business owners report that AI adoption generally improves employee satisfaction, there are some uses for AI that may undercut this benefit; we found that about a fifth of small businesses with employees indicated that they currently use AI tools for employee performance monitoring and a similar percentage are considering using AI for this purpose in the future. They should understand that using these technologies for surveillance may undermine trust in the business and make employees less likely to give their input about optimizing AI use for the benefit of the company.[20]

Improving small business owners' trust in AI will require greater transparency about the benefits and risks of adopting AI technology. Transparency can include how AI developers use personal, confidential, copyrighted, or customer-supplied information in the training of their technologies. Education alone is not enough to address the data privacy, data security, and intellectual property concerns that are holding small business owners in our survey and focus groups back from increasing their use of AI and using AI more effectively. Public policy is also needed. In this report, we do not advocate specific policies but instead provide examples of options that policymakers may wish to consider. Those options might include:

- Requiring AI developers to disclose how they use customer data and possible associated risks to personal privacy.
- Limiting AI developers' use of user data for AI training, e.g., by providing users with the opportunity to opt out of certain uses of customer-provided information.
- Requiring AI developers to comply with regulations that already exist around licensing copyrighted information.[21]
- Ensuring that data provided to enable the use of an AI product or tool is not used for undisclosed purposes, such as selling personal information for marketing purposes.

Conclusion

Documenting the perspective of small business owners around AI adoption is essential for ensuring that AI is adopted equitably throughout the U.S. economy. This report is only a first step in the process. The landscape of AI is fast-changing,[22] which is why this report suggests ways for small businesses to chart a durable and effective course through the constant churn of AI innovation. The report also examines small businesses' current use of AI and identifies current opportunities for programming to improve their use of cutting-edge technology. By amplifying the voices of small business owners, we aim to provide small business assistance providers with insights that will enable them to be trusted and relevant resources for the companies they serve.

The landscape of AI is fast-changing, which is why this report suggests ways for small businesses to chart a durable and effective course through the constant churn of AI innovation.

Appendix

The following tables describe the numbers of small business owners in our survey sample who indicates that they or their businesses fall into specific demographic or business categories.

Race	
Minority	2,009
Non-minority	1,743

Gender	
Man	2,398
Woman	1,264
Nonbinary/gender-nonconforming	59
Prefer not to answer	31

Age	
18 to 24	194
25 to 34	1,131
35 to 44	1,423
45 to 54	630
55 to 64	296
65+	78

Employment Size	
0 employees (solo entrepreneur or only the business owner)	220
1 to 5 employees	647
6 to 20 employees	1,034
21 to 50 employees	831
51 to 100 employees	565
More than 100 employees	455

Industry	
Accommodation and food services	538
Arts, entertainment, and recreation	253
Construction	268
Educational services	109
Finance and insurance	100
Health care and social assistance	126
Information	41
Manufacturing	434
Other services (except public administration)	76
Professional, scientific, and technical services	1,170
Real estate and rental and leasing	100
Retail trade	102
Transportation and warehousing	86
Wholesale trade	49
Other industries (utilities, industry unclassified)	300

Survey

The following are the questions and response categories from our survey. Questions that apply only to AI users, only to AI non-users, and/or only to businesses with or without employees were asked only of the respective business owners.

1) What is your comfort level with AI for your business?
(select one)

- Low
- Medium
- High

---

2) Who in your business uses AI tools?
(select all that apply)

- Interns
- Entry-level workers
- Higher-level workers
- Mid- and lower-level management
- Higher-level management
- Business owner(s)
- My business does not use AI tools
- Unsure
- Other _____ (please specify)

---

3) Who decides how AI is implemented at your business?
(select all that apply)

- Management
- Owner(s)
- Individual employees
- Management and employees collaboratively
- AI is part of already utilized technologies
- Unsure
- Other _____ (please specify)

---

4) Which, if any, of the following concerns do you have about the use of AI in your business?
(select the top three)

- Inaccurate results
- Toxic language or harmful content
- Replacement of human judgment
- Data privacy risks
- Cybersecurity risks
- Bias or discriminatory results
- Power usage or environmental impact
- Lack of clear source citation used by the AI
- Job displacement
- Potential intellectual property (e.g., trademark, copyright, patents, creative content) violations
- Other _____ (please specify)
- None

5) What steps do the decisionmakers at your company take to determine whether an AI tool is appropriate for addressing a particular business task or problem?
(select all that apply)

- They conduct research and analysis
- They consult vendor recommendations
- They consult with industry experts
- They use trial and error
- They review guidance from large corporations
- They review guidance from chambers of commerce
- They consult with business partners
- They use recommendations from individuals they know
- They review guidance from government organizations
- They consult professional or business associations
- Tech website or other publications' reviews
- Other _____ (please specify)

---

6) Have you noticed any changes in employee productivity since your business adopted AI tools?
(select one)

- Positive changes
- Negative changes
- No changes
- Unsure

---

7) What changes in job satisfaction, if any, have you noticed since your business adopted AI tools?
(select one)

- Positive changes
- Negative changes
- No changes
- Unsure

---

8) What are your main reasons for not adopting AI tools?
(select one)

- They are not useful for our business
- They are too complex to use
- They are too expensive
- They are too time-consuming to implement
- I don't know enough about new digital tools
- Other _____ (please specify)

9) Which if any specific topics related to AI would you like to learn more about?
(select all that apply)

- Ethical implications
- Data privacy and security
- How it can help my business grow and become more profitable
- How much it would cost for my business to implement
- The potential risks of implementing it in my business
- Industry-specific use cases
- How to get the best results (e.g., keywords, how to write prompts)
- Other _____ (please specify)
- None of the above

---

10) What barriers do you face in improving your understanding of AI?
(select all that apply)

- Lack of time
- Complexity of information
- Cost of educational resources
- Cost of AI tools
- Lack of access to experts
- AI technology is changing too quickly
- Lack of easily accessible educational resources
- Lack of trusted educational resources
- Other _____ (please specify)
- None of the above

---

11) What do you currently use AI tools for in your business?
(select all that apply)

- Strategic planning
- Accounting/finance
- Drafting emails and other communication
- Drafting blogposts or newsletters
- Editing and proofreading
- Summarizing meetings
- Summarizing web content
- Product design
- Marketing materials
- Replace standard search engines
- Market exploration
- Data analysis
- Product recommendations to customers
- Resume screening
- Employee performance monitoring
- Custom chatbot/AI customer support
- Other _____ (please specify)
- None of the above

12) In the future, what would you consider using AI tools for in your business?
(select all that apply)

- Strategic planning
- Accounting/finance
- Drafting emails and other communication
- Drafting blogposts or newsletters
- Editing and proofreading
- Summarizing meetings
- Summarizing web content
- Product design
- Marketing materials
- Replace standard search engines
- Market exploration
- Data analysis
- Product recommendations to customers
- Resume screening
- Employee performance monitoring
- Custom chatbot/AI customer support
- Other _____ (please specify)
- None of the above

---

13) What resources have you used to learn about AI?
(select all that apply)

- Online courses/trainings
- In-person courses/trainings
- Webinars
- Peers and/or professional contacts
- Industry conferences
- Books and articles
- Professional networks
- Podcasts/videos
- Online forums
- Social media
- Trial and error (learning by doing)
- Other _____ (please specify)
- None of the above (I have not used any resources to learn about AI)

---

14) What kind of support would help you better understand AI?
(select all that apply)

- Peer learning groups
- On-site training at my business
- Online tutorials
- Step-by-step guides
- On-call experts
- Online courses/trainings
- In-person courses/trainings
- Industry-specific support
- Podcasts or videos
- Other _____ (please specify)
- None of the above

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Endnotes

1 OpenAI, "Introducing ChatGPT," https://openai.com/index/chatgpt/.

2 Since August 2024, at least 24 major large language models have been announced to the public. See "Artificial Intelligence Timeline, 2022–Present," https://nhlocal.github.io/AiTimeline/.

3 See Sean Kates, Jonathan Ladd, and Joshua A. Tucker, "How Americans' Confidence in Technology Firms Has Dropped" (Washington: Brookings Institution, 2023), https://www.brookings.edu/articles/how-americans-confidence-in-technology-firms-has-dropped-evidence-from-the-second-wave-of-the-american-institutional-confidence-poll/.

4 As is conventional in survey research, we base margins of error on 95 percent confidence intervals.

5 See U.S. Small Business Administration, *Frequently Asked Questions, March 2023*, https://advocacy.sba.gov/wp-content/uploads/2023/03/Frequently-Asked-Questions-About-Small-Business-March-2023-508c.pdf.

6 See U.S. Chamber of Commerce Technology Engagement Center, *Empowering Small Business: The Impact of Technology on U.S. Small Business* (N.p., 2024), https://www.uschamber.com/assets/documents/Impact-of-Technology-on-Small-Business-Report-2024.pdf; Michelle Kumar and Justis Antonioli, *Small Businesses Matter: Navigating the AI Frontier* (Washington: Bipartisan Policy Center, 2024), https://bipartisanpolicy.org/report/small-businesses-matter-navigating-the-ai-frontier/; Simon Worsfold, "AI Survey: Small Businesses are Embracing Artificial Intelligence, *QuickBooks Blog*, September 14, 2023, https://quickbooks.intuit.com/r/small-business-data/ai-survey-2023/. Overall estimates of AI adoption rates also may be influenced by how narrowly surveys define either AI or adoption. For example, when the Census Bureau asked business owners whether they have used AI to create a good or service (a much narrower question than whether they have used AI), it found that only around 6 percent of businesses report that they have used AI for that purpose. Kathryn Bonney et al., "Tracking Firm Use of AI in Real Time: A Snapshot from the Business Trends and Outlook Survey," Center for Economic Studies Discussion Paper CES 24-16 (Washington: U.S. Census Bureau, 2024), https://www.census.gov/hfp/btos/downloads/CES-WP-24-16.pdf.

7 Because our survey data include only the perspectives of small business owners and not those of their employees, it may be the case that individual employees are already using AI tools at work in ways that the owners are not aware of. Consequently, we may underrepresent the extent to which individual employees, and employees in less senior positions use AI.

8 See Thomas Kochan et al. "Bringing Worker Voice Into Generative AI," MIT working paper, December 2023, https://mitsloan.mit.edu/sites/default/files/2024-01/Bringing%20Worker%20Voice%20into%20Generative%20AI%2012%2021%202023.pdf.

9 A similar percentage (21 percent) of business owners whose businesses do not currently use AI to monitor employee performance said they are considering using AI for this purpose, which suggests that this challenge will not diminish in the near future.

10 One or more of these are among the top three barriers listed by all subgroups of business owners in Kumar and Antonioli, *Small Businesses Matter*. Lack of knowledge and cost are among the top five reasons owners in the U.S. Chamber survey gave for not adopting AI. See U.S. Chamber of Commerce Technology Engagement Center, *Empowering*, p. 23. A bill has been introduced in Congress to address the cost of AI tools by allowing small businesses to use Small Business Administration 7(a) loans to purchase digital tools. See Small Business Technological Advancement Act, S. 305 (https://www.congress.gov/bill/119th-congress/senate-bill/305).

11 According to Rebecca Leppert, "A Look At Small Businesses in the US," (Washington: Pew Research Center, 2024), https://www.pewresearch.org/short-reads/2024/04/22/a-look-at-small-businesses-in-the-us, over 90 percent of businesses have fewer than 100 employees and over 60 percent of business revenue is generated by firms with fewer than 100 employees.

12 Adam Grundy, "Census Bureau Resources, Data Tools, Website for Small Businesses," (N.p., U.S. Census Bureau, 2024), https://www.census.gov/library/stories/2024/04/small-business-week-2024.html.

13 Carolyn Schulman, *Best Practices for Technical Assistance Programs Serving Black and Hispanic Entrepreneurs and Small-Business Owners* (N.p., Milken Institute, 2018).

14 Ethan Mollick, *Co-Intelligence* (New York: Portfolio/Penguin, 2024), notes the extremely rapid pace of change in AI and argues that it will continue.

15 Kochan et al., "Bringing.

16 John Paul MacDuffie, "Human Resource Bundles and Manufacturing Performance: Organizational Logic and Flexible Production Systems in the World Auto Industry," *Industrial and Labor Relations Review*, vol. 48 (January 1995), pp. 197–221.

17 Shakked Noy and Whitney Zhang, "Experimental Evidence on the Productivity Effects of Generative Artificial Intelligence," *Science*, vol. 381, no. 6654 (July 13, 2023), pp. 187–192.

18 For racial and other social biases in AI, see, e.g., Clare Garvie, Alvaro Bedoya, and Jonathan Frankle, *The Perpetual Line-Up: Unregulated Police Face Recognition in America* (Washington: Center on Privacy and Technology, Georgetown University Law Center, 2016), https://www.perpetuallineup.org/; Ninareh Mehrabi et al., "A Survey on Bias and Fairness in Machine Learning," *ACM Computing Surveys*, vol. 54 (July 2022), pp. 1–35, https://dl.acm.org/doi/10.1145/3457607; For data privacy and intellectual privacy risks of AI, see Amanda Heidt, "Intellectual Property and Data Privacy: The Hidden Risks of AI," *Nature*, September 4, 2024, https://www.nature.com/articles/d41586-024-02838-z.

19 Matt Burgess and Reece Rogers, "How to Stop Your Data From Being Used to Train AI," *WIRED*, October 12, 2024, https://www.wired.com/story/how-to-stop-your-data-from-being-used-to-train-ai/.

20 Research has shown that workers who have higher levels of trust are more receptive to the introduction of new technologies at work. See Ben Armstrong et al., "Automation from the Worker's Perspective: How Can New Technologies Make Jobs Better?" Working Paper (Cambridge: MIT Industrial Performance Center, 2024).

21 For a discussion of licensing of intellectual property or copyrighted information in connection with AI, see U.K. Creative Licensing Agency, Friend or Foe? Attitudes to Generative Artificial Intelligence Among the Creative Community, (N.p., 2023), https://cla.co.uk/ai-and-copyright/ai-research/.

22 See Mollick, *Co-Intelligence*.

For More Information

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