



The Future of IT

What IT Practitioners Predict Will Drive Career Opportunities

By Dr. J.L. Graff

Abstract

University of Phoenix conducted a survey of practitioners in the field of Information Technology (IT) on their outlook on the future of their industry, which revealed these professionals' optimistic outlook on the opportunities that will be available to them. This survey also highlights what technology is most likely to provide these opportunities, highlighting where IT practitioners can focus their efforts in order to capitalize on these fast-moving trends. However, the survey also reveals stumbling blocks for IT practitioners, who frequently benefit from their field's fast-moving innovations, but still face the pressure to continually adapt to take advantage of them. Fortunately, with the right data in hand, IT practitioners can both adapt to, as well as alter, the future of their industry.

Executive Summary

With the explosion of technological innovations over the past decades, including so many in just the last few years, Science, Technology, Engineering and Mathematics (STEM) education, and Information Technology (IT) in particular, have come to be seen as “safe” industries where workers can find security in their career. This continues to be a common sentiment, as revealed in [a new survey by University of Phoenix on IT practitioners' optimism about the future of their field](#).

According to the survey, an overwhelming 86% of IT practitioners express optimism about the future of their industry — including 51% who are very optimistic. However, much the same way that businesses find themselves forced to react quickly to fast-moving

innovations like cloud computing and AI, individual IT practitioners are now feeling the pressure: nearly 2 in 3 (64%) are not completely confident in their ability to keep up with technological advancements in their field in the next 5 years.

This need to keep up with fast-moving trends rings true for IT practitioners given how many of them have seen so many companies have to reimagine themselves on the fly as new tech and trends emerged. However, this fast-changing pace is what has made IT into such a secure field: New tech means new opportunities, and those with experience are best positioned to take advantage. This means that if the future of the IT industry is bright, then now is the time for IT practitioners, as well as businesses, to reconsider how they keep up with new innovations — both to stay competitive now as well as to best position themselves to capitalize on future innovations.

The Confidence Gap

IT trends have always pushed individual practitioners to keep pace with emerging technology, which is why an overwhelming 97% rate professional development as important, including 62% who rate it as very important. This is why so many IT practitioners are casting a wide net to stay up to date on emerging technologies, especially free or paid online courses (68%) and self-study (62%).

Yet 64% are less than completely confident in their ability to keep up with technological advancements in the next 5 years, and IT practitioners are quick to sound off on what's holding them back. Specifically, they spotlighted lack of time (61%) as a major factor, pointing to a potential burnout crisis as these professionals find themselves having to manage more work and more professional development in the same amount of time. Furthermore, even if they did have all the time they need, a majority (52%) also cite the cost of learning new technical skills — a number that, along with the 29% who cite lack of employer support, points to a dispiriting trend: These new skills might be getting the prioritization they need.

Spotlight: Making the Grade

Those numbers and letters in an IT practitioner's email signature — indicators that they have completed professional courses or certifications — are more than just status symbols. An overwhelming 94% believe that certifications will be important to remain competitive, including 53% who rate them as very important. However, just 45% are currently using certifications to stay up to date on emerging technologies.

Fortunately, the survey uncovered other important modes of professional development that fewer than half of IT practitioners are able to take advantage of, including webinars (43%), conferences (38%), and workshops (36%).

Following the Money

While emerging tech has been a boon to IT, it does not mean keeping pace is easy to do. According to the survey, nearly one in three IT practitioners (30%) point to uncertainty on what to study as a roadblock to learning new technical skills, highlighting that IT continues to be a fast-moving field with a variety of emerging technologies — making it hard to decide where to focus attention. Fortunately, looking at what IT practitioners see on ground — that is, where businesses are already investing — offers insight from experts as to what will most likely be shaping the industry in years to come, as well as some potential blind spots or areas for growth.

This of course included generative artificial intelligence (AI), which has captured businesses' imagination: 62% of IT practitioners see investments from brands or businesses in this particular area. A sizable (42%) also see investment in applied AI, which is a potential vector for growth — but these two seem to be overshadowing industrializing machine learning, which just 15% see investment in.

While generative AI is a relatively new development, keeping information safe remains a major focus. A compelling 45% of IT practitioners see businesses and organizations investing in digital trust and cybersecurity, further highlighting that this will likely remain a key focus for practitioners to focus on. The same is true of cloud and edge computing, which 44% see investments in, 23% see investments in advanced connectivity, pointing to a potential future emphasis.

Spotlight: Investing in Skills

Tech isn't the only space where businesses are focused on growth: Their employees' skills are also a crucial investment. Data from the University of Phoenix Career Institute® [Career Optimism Index](#)® study shows that a majority of employers across industries (55%) predict that training and development opportunities will improve over the course of the next 5 years. This means that IT practitioners may have more help keeping up with trends — and that employers who fall behind might see top talent go elsewhere.

Skills for Now and the Future

With IT trends moving quickly, and businesses eager to keep up, IT practitioners are quick to weigh in on where they should focus their attention — as well as where employers should focus theirs. This is an important bellwether for not just where businesses are

currently investing, but where IT practitioners foresee those investments continuing, as well as how individual employees can best situate themselves to capitalize on them.

Once again, cybersecurity remains a cornerstone: An overwhelming 94% predict it will play a larger role in the future of IT. Indeed, while just 20% rank cybersecurity as the number one most critical skill for their current role, 58% rank it in their top three — outpacing even AI/ML skills by 20 points (38%). More than two in three (71%) point to cybersecurity as a key area of expertise for IT professionals to focus on for long-term growth, leaving behind trendy topics like AI/ML (59%) and even established tech like cloud computing (54%). This could mean that, even with 58% interested in upskilling or reskilling in this area, cybersecurity could be seen as somewhat undervalued — especially with [some data](#) suggesting that cybersecurity talent is increasingly hard to come by.

And once again, virtually (98%) rate AI as important to shaping the IT landscape, including 66% who say it is extremely so. Nearly as many (88%) predict it will dominate the future of their industry, which might explain why 67% are most interested in reskilling or upskilling in this area of IT, outpacing those who say the same about data analysis by nearly thirty points (39%). Fortunately, 87% feel prepared to adapt to roles requiring advanced knowledge of AI and automation, including 29% who feel fully prepared. This is especially important to have in mind when considering what jobs might be “replaced” or “overtaken” by AI, such as data science analysis: 70% predict AI will overtake this field. But the human element will be crucial to maintain, with oversight critical for ethical and responsible use of AI.

Of course, these skillsets are not mutually exclusive: AI is being used in cybersecurity, while cybersecurity is crucial for keeping AI safe to use elsewhere, and the skills used for data analysis lend themselves to these other focus areas as well. In other words, IT practitioners are no longer safe emphasizing just one area. Instead, they need to consider broad skillsets — especially when those skills complement one another and offer more insight into the entire industry, as well as more opportunities for growth.

Spotlight: The Quantum Realm

Just as AI becomes the new normal, another emerging technology is taking shape. More than 2 in 5 (44%) cite quantum computing as an emerging technology that will dominate the future of IT. Just as many (44%) predict quantum computing will disrupt traditional IT infrastructure within the next 10 years.

This could be a major focus of growth in the near future. While today just 21% of IT practitioners see their companies or brands investing in quantum computing, this might be one area to pay attention to in years to come.

Conclusion: Eyes on the Horizon

IT practitioners are no strangers to fast-moving developments and disruptions, but this new era has shifted much of the onus to stay apace from organization to individuals: With so many technical areas having the potential to shape the future of the industry — and so many requiring specific skills — IT practitioners must work faster than ever to stay apace.

The good news is that IT practitioners are keeping their eyes on what comes next, recognizing what is important and where they can continue to grow their skills. With the right upskilling, reskilling, and other professional development opportunities, these skilled workers can do more than just keep up: They can take control and actively shape the future of their industry and beyond, continuing the proud tradition of IT practitioners' optimism leading to real transformation.

References

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About the Authors

Dr. Graff serves as the Associate Dean for the IT programs at University of Phoenix's College of Business and Information Technology. In this capacity, he supervises academic functions, establishes program policies, procedures, and standards, and guides the development and implementation of the college's strategic plan and goals. He is a member of Epsilon Pi Tau and trustee for the University of Phoenix Delta Sigma Chapter. He is the sponsor for the University of Phoenix Women in Cybersecurity (WiCyS) student chapter. During his tenure with the College, the University received the EC-Council Academia Partner of the Year award in 2024. Graff received his Doctor of Education in Educational Leadership (Ed.D) and completed a dissertation on the perceptions of risk to student privacy from cybersecurity threats and attacks. Graff is passionate about the current and future state of IT and cybersecurity and supports students in achieving their academic and professional goals. He has been with the university since 2002.