DIGITAL MATURITY INDEX

DIGITAL MATURITY INDEX Report 2022

Closing the Digital Knowing-Doing Gap

By Professor Michael Netzley and Robin Speculand

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Executive Summary

Individuals have the knowledge but not the skills to participate in digital transformation

In 2019, the Digital Maturity Index was created by Michael Netzley and Robin Speculand to identify an individual's position on their digital journey.

The catalyst was the need to urgently understand an individual's ability to learn and adopt digital technologies and methodologies. Additionally, significant individual differences in digital maturity were becoming apparent that were further complicating digital transformation.

The Digital Maturity Index (DMI) assesses an individual's position along their own digital journey (not within their organization) and provides recommendations for improvement. It identifies equally their knowing and doing skills and categorizes the findings into three stages 1) Reacting 2) Embedding 3) Strategizing.

The results are from a sample of 1,463 respondents revealed:

71% of individuals who responded are at the lowest level of digital maturity; only 5% of respondents scored at the highest level.

This means individuals have more knowledge than skills to participate in digital transformation. As a result, they are struggling to move from *acquiring* new knowledge to *embedding* it into practice.

In this white paper we call this difference the Digital Knowing-Doing Gap and we aim to close the gap. Our research has identified what people *know* and *do* the most and least about digital transformation, as noted here:

In digital *knowing*, people know the most about smartphone apps and the least about blockchain.

In digital *doing*, people report being most capable of using dashboards and least capable of using digital nudging.

This Digital Knowing-Doing Gap can be closed by applying the skills that unlock the full value of the acquired knowledge. The *doing* skills that respondents ranked in the middle (e.g., experimenting, customer journey mapping and agile methods) also need to be rapidly put into practice for individuals to become high performers in the digital world.

Digital Maturity Index Report

Individuals' digital capabilities lag behind business goals

The analyzed data from the 1,463 individuals who completed the Digital Maturity Index (DMI) reveals that the majority are still coming to terms with understanding the technologies and methodologies of digital transformation.

71% of respondents scored at the lowest level of the Digital Maturity Index – Reacting.

Reacting

Embedding

Strategizing

Individuals Lack the Important Digital Transformation Skills Required for Today

The data reveals people increasingly have the knowledge but not the skills for digital transformation. This means they are not yet prepared to implement digital technologies and methodologies needed in business now—a critical fact.

What is the Digital Maturity Index?

The DMI captures an individual's current level of readiness to take advantage of opportunities and create value through digital. There are three stages:

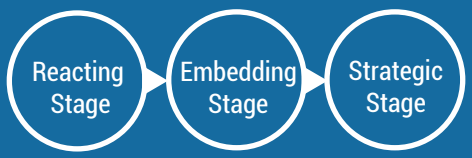


Fig 1.0: Three Levels of Digital Maturity

Reacting: This is the most basic level of digital maturity. At the reacting level, an individual may still be learning the vocabulary, technologies and methodologies pertinent to digital transformation.

Embedding: This is the intermediate level of digital maturity. Individuals scoring at this level typically possess the ability to put knowledge and methods to work on a day-to-day basis.

Strategizing: This is the most advanced level of digital maturity. Not only do individuals fluently speak the vocabulary and apply the knowledge or methods day to day, but they also look ahead to capture opportunities or create strategic value.

By completing the DMI and establishing a baseline, people can prudently plan a path forward, identify development needs and take actions that improve their digital maturity.

People reported knowing the most about smartphone apps.

Digital transformation is relatively new and the DMI measures what individuals ***know*** and ***do*** about it.

People have the knowledge but not the complementary digital skill set and therefore people must learn and adopt behaviors that unlock the potential of their knowledge.

The following pages examine what respondents reported *knowing,* followed by what they are most capable of *doing*.

What Does the Data Reveal About the Respondents' *Knowledge*?

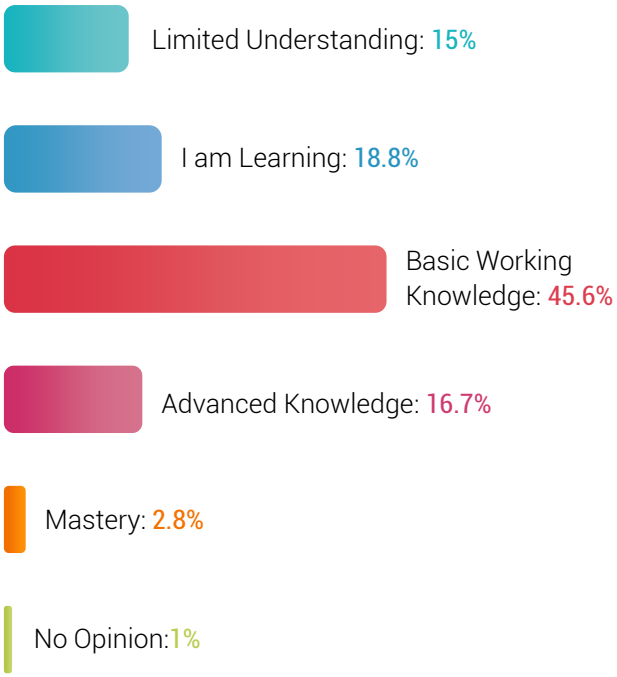
The fact that smartphone apps emerged first is no surprise given their everyday use. Apps are well along the adoption curve. Similarly analyzing data and leveraging IoT are becoming more common.

1 Smartphone apps

2 Data analytics

3 IoT

Smartphone Apps



Data Analytics

IoT

People reported knowing the least about blockchain.

The less ubiquitous technologies—Blockchain, Augmented Reality, and 3D Printing/Additive Manufacturing—were the three lowest-scoring technologies in the study.

The technologies that respondents know the least about have, at times, been described as "solutions still in search of a problem." Their applications today are often selective (e.g., blockchain in crypto) and do not as easily provide day-to-day solutions for the general public. Therefore, respondents reported knowing the least about these promising technologies.

What respondents reported knowing the least about:

(Bottom 3)

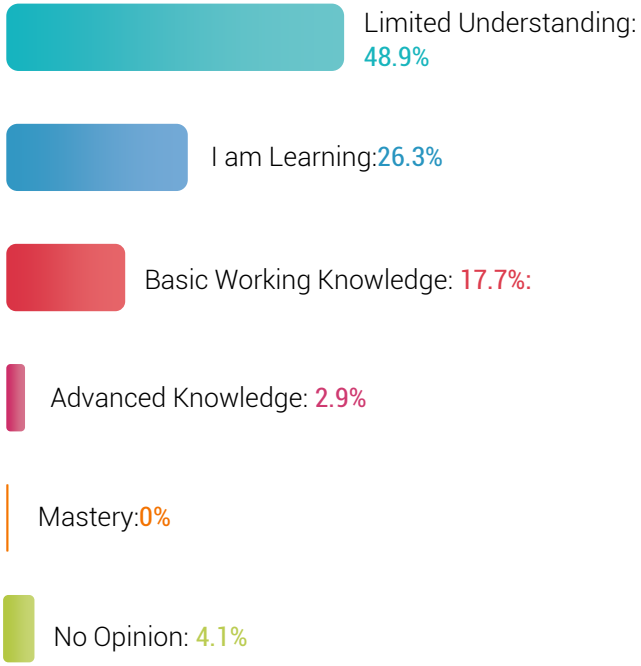
11 Blockchain

10 Augmented Reality

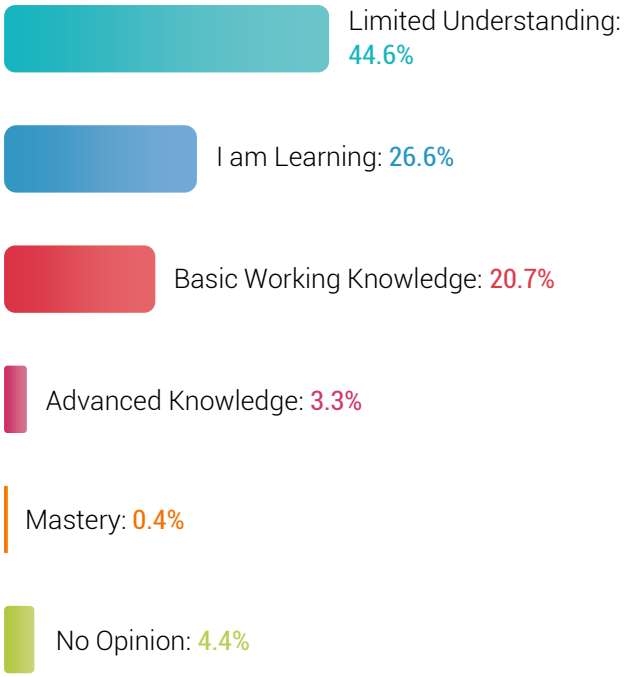
9 3D Printing/Additive Manufacturing

Possessing essential knowledge is only part of the journey. People need to both *know* about digital and *act* in ways that unlock technology's promise for customers and business. That means *doing* the things that make a difference.

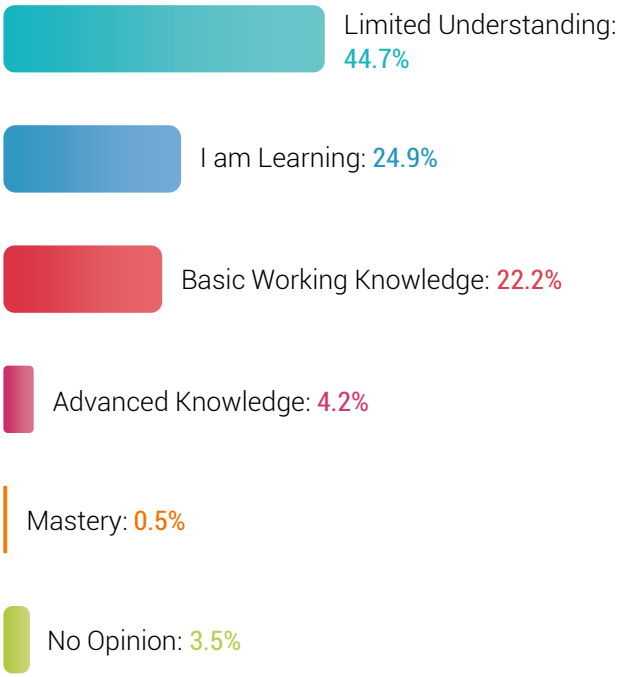
Blockchain



Augmented Reality



3D Printing/Additive Manufacturing



People reported being most able to use dashboards.

Although people were challenged to use data and make good decisions, their ability to use dashboards is encouraging:

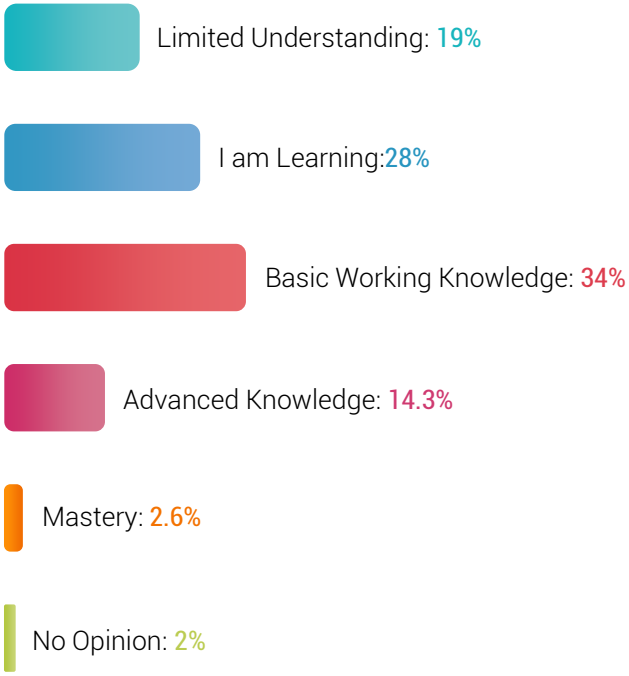
What Does the Data Reveal About the Respondents' Ability to *Do*?

1. Using Dashboards
2. Creating Data Visualizations
3. Employing Design Thinking

Respondents report being able to effectively use dashboards, create digital visualizations, and employ design thinking. Ubiquity again appears to be the golden thread that unites top scores.

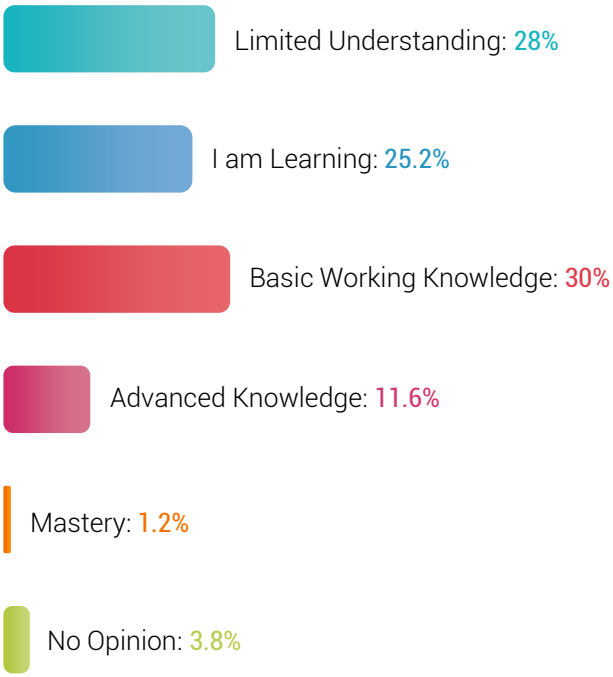
Consistent with *knowing*, the doing scores reveal that the most familiar methodologies scored the highest.

Dashboards



Data Visualizations

Design Thinking



People reported being least capable of digital nudging.

At the other end of the continuum resides digital nudging, which is an approach to encouraging behavioral change. Based on Nobel Prize-winning research by Professor Richard Thaler, co-author of *Nudge: Improving Decisions About Health, Wealth, and Happiness* (2009), nudging is one form of behavioral science that's in its infancy and not yet widespread (though growing rapidly).

What respondents report **Least Capable of *Doing***:

(Bottom 3)

10 Digital Nudging

9 Hackathons

8 Customer Science

The *doing* skills with the lowest score are generally less familiar and appear earlier in the adoption cycle than those ranked highest.

Closing the Digital Knowing-Doing Gap

The *doing* skills with the lowest score are generally less familiar and appear earlier in the adoption cycle than the *knowing* skills. Succeeding with a hackathon, for example, requires a commitment to acquiring both the *knowing* and the *doing*.

Therefore, how exactly are *knowing* and *doing* related?

Individuals need to increase their relevance in a digital world by having greater digital knowledge and skills.

Organizations can improve customer experiences by encouraging employees to take targeted actions that can close the Digital Knowing-Doing Gap.

Digital Actions to Close the Gap

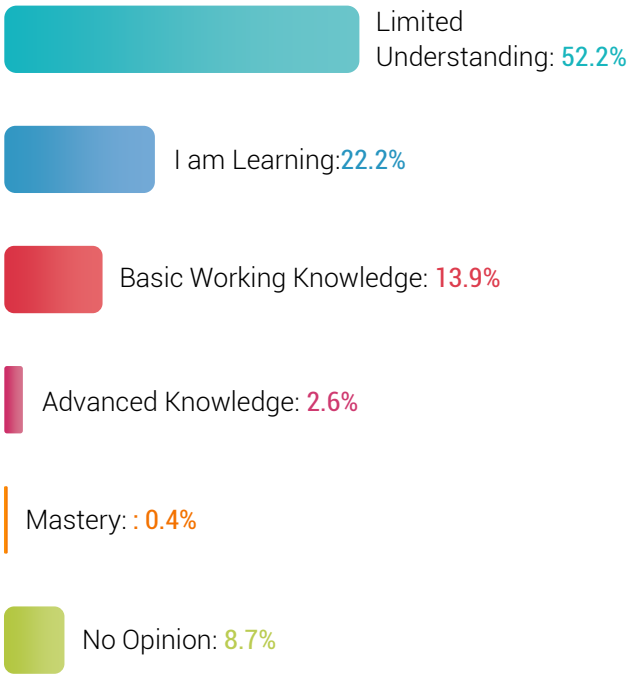
Based on our research and client work we've identified the following three steps as the most effective to move individuals forward in their digital maturity.

1. Challenge yourself - learn the digital areas that you are not familiar with
2. Learn by doing - focus more on participating in digital methodologies rather than mainly studying
3. Small actions every day - commit to closing the gap by making digital part of your everyday

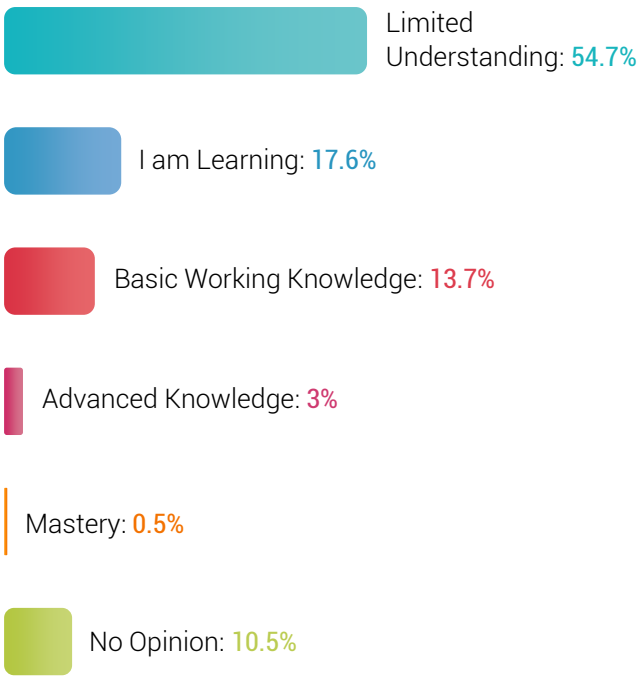
Take the DMI

Where are you on your digital maturity journey? Take the DMI today for US$29.

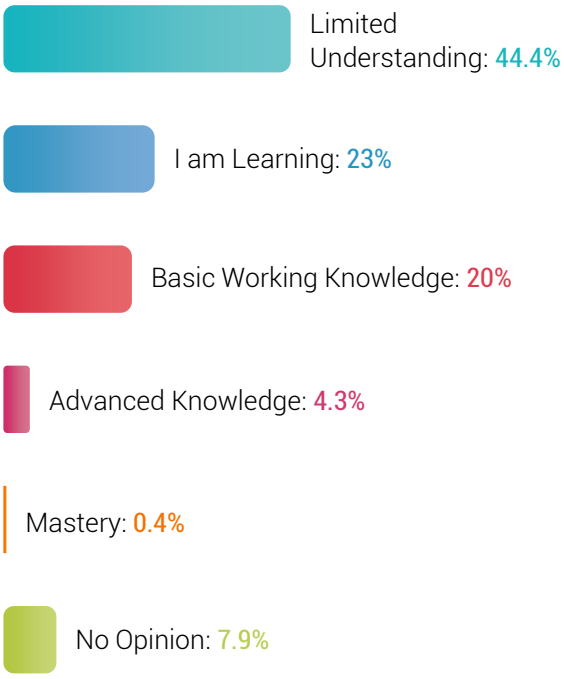
Digital Nudging



Hackathons



Customer Science



The Data Reveals an Important Digital Knowing-Doing Gap.

The DMI data raises important questions such as "Are respondents capable of implementing actions that unlock the full value of their new knowledge?" Answering that requires examining the *doing* results sandwiched in the middle.

The *doing* skills that respondents ranked in the middle are:

4 Experimenting

5 Customer Journey Mapping

6 Leveraging Ecosystems

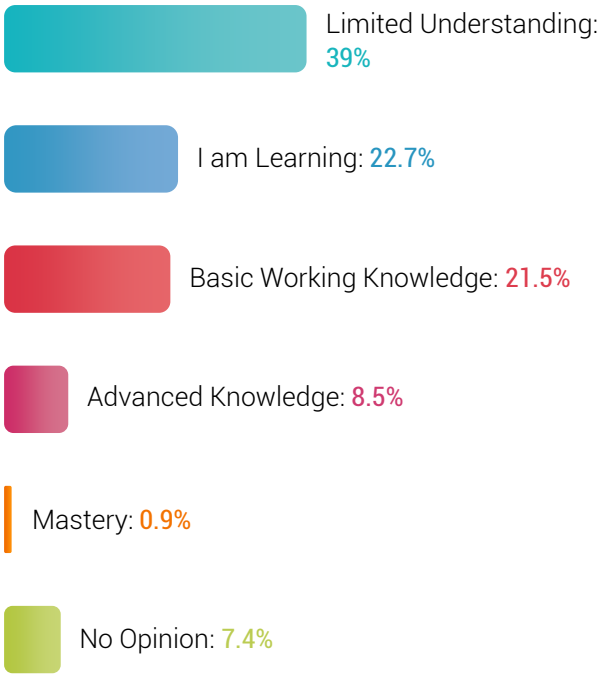
7 Agile Methods

Many digital transformational experts encourage people to learn all four of these skills because they are aligned with new knowledge and empower high-performing individuals to improve outcomes for all stakeholders.

> **Too many of the most important doing skills are buried in the middle and have not yet risen to the top of what respondents say they are most capable of doing.**

Experimenting

Customer Journey Mapping



Leveraging Ecosystems

Agile Methods

The Complete Ranking from Highest to Lowest - *Knowledge*

1. Smartphone apps
2. Data analytics
3. IoT
4. RPA
5. Cloud Computing
6. AI
7. Speech recognition
8. API
9. 3D Printing/Additive manufacturing
10. Augmented Reality
11. Blockchain

The Complete Ranking from Highest to Lowest – *Doing*

1. Using Dashboards
2. Creating Data Visualizations
3. Employing Design Thinking
4. Experimenting
5. Customer Journey Mapping
6. Leveraging Ecosystems
7. Agile Methods
8. Customer Science
9. Hackathons
10. Digital Nudging

Conclusion

The DMI data reveals that respondents know the most about smartphone apps, data analytics and the Internet of Things. They also reported that critical *doing* skills—experimenting, customer journey mapping and agile methods—were not their top skills.

This has created a Digital Knowing-Doing Gap. This gap indicates that individuals and organizations will continue struggling to move from *reacting* to *embedding* digital transformation until this gap is closed.

This also means the individuals involved need to acquire the skills that allow them to unleash the full value of their knowledge.

To make this happen, consider the following.

Encourage Individuals to Focus on the Skills that Put New Knowledge to Good Use.

To advance from a lower- to higher-level of digital maturity, an organization's professional development should include a significant investment in promoting powerful *doing* skills.

After taking the DMI, individuals can improve their digital growth using this simple four-step process.

Measure: Read their DMI report and note their level of digital maturity.

Reflect: Consider why their digital maturity might have been scored at its present stage. Are they still learning and getting up to speed with digital? To what extent are they genuinely embedding *doing* practices into their day-to-day work? Can they look ahead 6–12 months and consider customer and market dynamics while wisely identifying future opportunities?

Identify: Consider their current job demands and expected needs for the next 6–9 months, then list the top three actions that will likely have the greatest impact on their careers.

Act: Develop an action plan that describes a specific development goal and approach, targets deadlines and determines how to measure success. Then, approach the change as a series of small steps rather than attempting huge changes. One small step every day will typically be more effective than a single big step once a week.

Encourage Organizations to Create Opportunities for Employees to Participate in Digital Transformation.

Research from top-performing digital transformation organizations has shown that creating the platforms for employees to participate in various digital technologies and methodologies accelerates their digital maturity.

To support their employees' digital maturity journey, organizational leaders can:

- Create a digital maturity baseline by assessing people in entire business units or departments.
- Provide aggregated data to the workforce so they can consider how their digital maturity compares to their peers and the business strategy.
- Offer employees the opportunity to learn and apply (i.e., *know* and *do*) digital technologies and methodologies.
- Track employee growth and conduct post-tests to gauge progress.
- Develop individual digital development learning journeys that have support from HR and supervisors.

These steps shape an organization's learning and development investment while maximizing the value of the reskilling required to succeed.

Case Study:

A Pre- and Post-Test Approach to Measuring the Digital Maturity of Your Workforce.

From the fall of 2021 through 2022, a top-ten semiconductor firm in Singapore benchmarked the digital maturity of its workforce. The firm chose the DMI and then created a pre- and post-test model that would capture improvements in digital readiness.

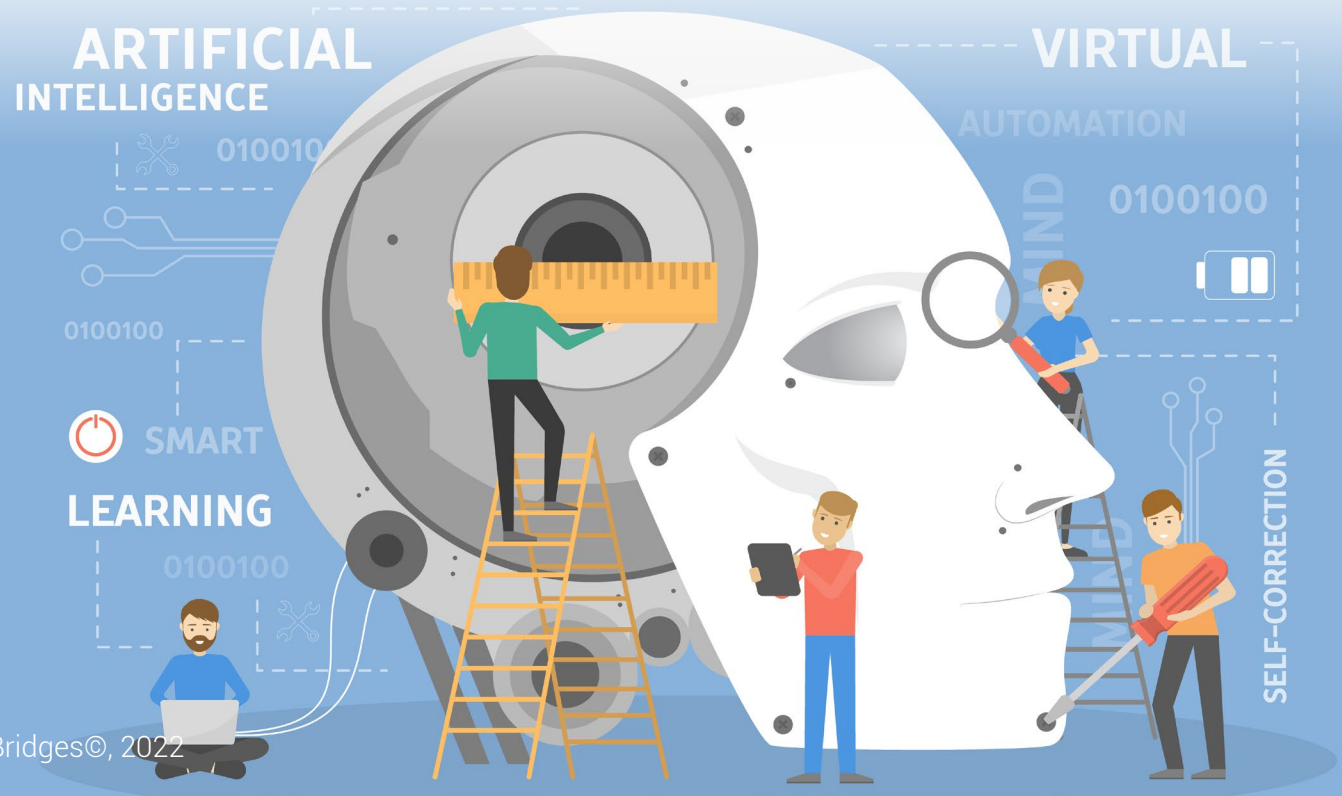
The Challenge

Faced with record-setting industry growth and a war for talent, this semiconductor company began to invest in artificial intelligence (AI). Its leaders set an ambitious goal that AI would touch every job in the company. Additionally, they envisioned their Singapore campus as an AI Centre of Excellence.

When finished, the initiative would increase employee productivity and efficiency. Additionally, the AI investments would keep the company competitive and future ready.

The DMI Assessment

Numerous employees completed the DMI in the fall of 2021. An organization-wide benchmarking report was then created. The organization-wide assessment included various separate business unit reports.



The Actions Taken

First, the company created its *Pathfinder* Initiative to help leaders and managers implement its AI initiative. *Pathfinder* was rolled out at these two levels.

- *Senior leaders* completed a three-module co-creation journey to prioritize the actions that managers could take to achieve the AI objectives. The program started with an Agile Leadership assessment, then senior leaders were tasked with translating insights from the leadership assessment into actionable insights. The translation happened via a co-creation process hosted on the collaborative workspace Mural.

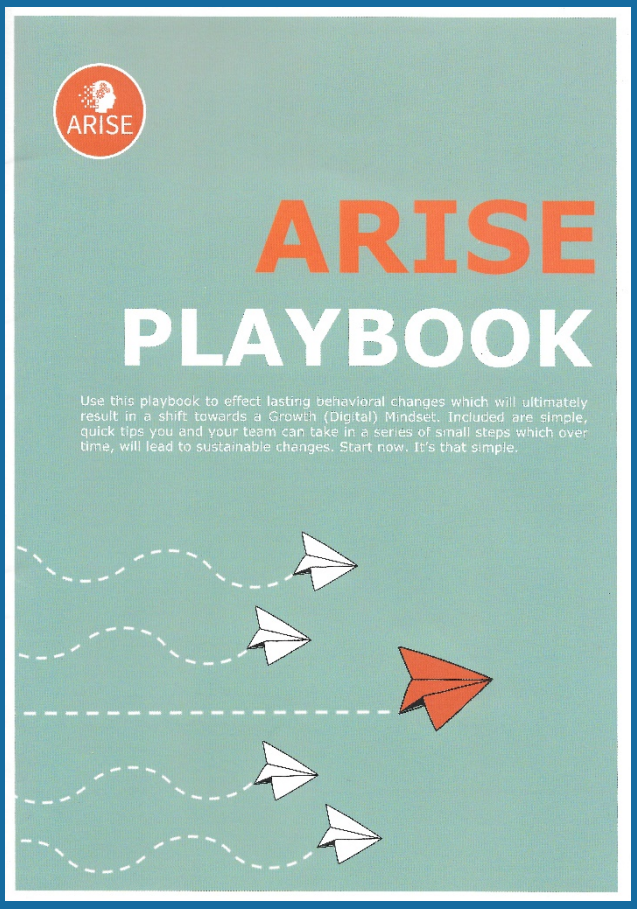
  The *Pathfinder* co-creation journey was repeated three times with insights accumulating from one cohort to the next.

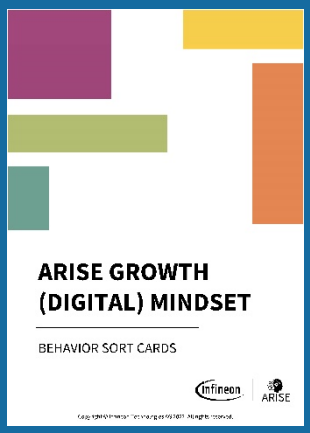
- *Middle-level managers* completed a four-hour *Pathfinder Lite* program based on insights captured from previous *Pathfinder* cohorts. This shorter program emphasized the actions that managers could take to help their teams act on the company's AI ambitions. There, two resources were created to support the middle managers.

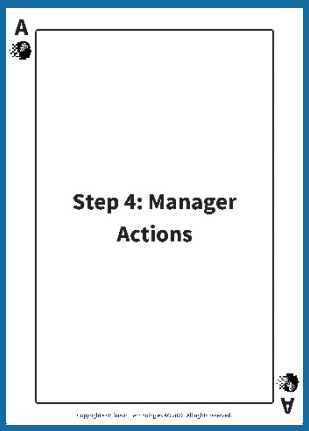
  - ✓ Pathfinder Playbook: This emphasized actions a manager could take to help employees experiment, collaborate, learn and more. The Playbook emphasized action and served as a convenient resource that managers could refer to at any time.
  - ✓ Card Sort Exercise: All managers received a deck of cards they could use with their teams to prioritize the actions most important to their department or duties. The card sort requires forced choices and prioritizing the actions that would have the greatest effect on their work.

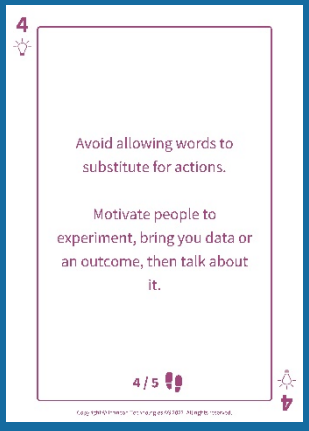
During a four-hour session, managers revisited the DMI pretest results, learned how to use the card sort with their team, and adopted the *tiny habits* approach to behavioral change. Before leaving the training room, each manager was given time to schedule a team meeting to run the card sort exercise and prioritize which behaviors to act on first.

Ten *Pathfinder Lite* cohorts graduated by November, 2022. Additionally, the DMI post-test will be completed at that same time. The company will then be able to compare pre- and post-test data to gauge the gains in digital maturity.









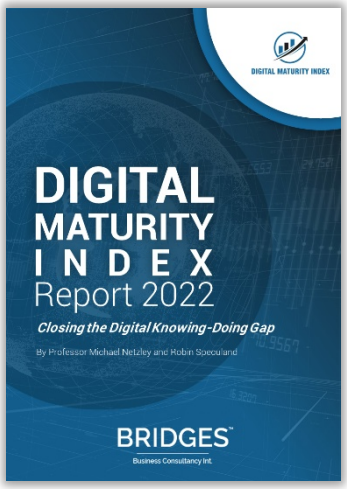
Appendix:

About This White Paper

Our study sampled 1,463 individuals who completed the DMI. Respondents are mostly based in Asia Pacific. In addition:

- The sample reflects multiple industries including semiconductors, insurance, finance, environmental technologies and healthcare.
- It reflects a range of organizational levels, mainly individual contributors, people managers and enterprise leaders, with ages ranging from 18 to 65.
- The database includes respondents from executive development programs as well as corporate and university programs.

Information about the DMI's reliability and validity can be found below.



More About Digital Maturity Index (DMI)

The DMI can be completed in six minutes and reliably measures a individual's digital gaps. It is one of the world's few indexes measuring an individual's digital maturity. The DMI's Cronbach Alpha, measuring internal consistency, is .94. The DMI also had a test-retest reliability coefficient of .93, indicating very high instrument reliability.

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In today's rapidly changing world, more people must learn new digital skills and methodologies. The DMI gauges a person's current knowledge and skills in digital transformation. Key assessment points include the impact on customers, changes in leadership style, adopting agile, becoming data-driven, ecosystems, language, and key methodologies used during transformation.

After completing the assessment, individuals receive a personalized report revealing the stage they are at on their digital journeys. The report also gives recommendations for increasing their digital maturity, including podcasts, articles, videos and other resources.

Professor Michael Netzley and Robin Speculand created the Digital Maturity Index (DMI) in 2019 to assist individuals with their digital understanding and identify what action they need to take. Their biographies follow.

Creators of the Digital Maturity Index

Michael Netzley, Ph.D. (University of Minnesota)

Michael is the founder and CEO of Extend My Runway Pte Ltd (EMR), an AI-for-good start-up that nudges you toward better brain health and cognitive performance. EMR's platform functions like a personal virtual coach in the palm of your hand.

Michael also serves as Affiliated Faculty and Executive Coach with IMD Business School in Singapore. Previously, he spent 15 years on the faculty of Singapore Management University where his efforts were recognized with the *2011 Champions Award* for innovative course design and delivery, the 2015 *Best Case Award* in entrepreneurship, and the *2021 Entrepreneur of the Year* award from *APAC Entrepreneur* magazine.

Michael has consulted with EY's People Advisory Services and Heidrick Leadership. In his various roles, Michael has enabled the learning journey of more than 15,000 executives. His work has been featured in the *New York Times, MIT's Technology Review, Dialogue Review*, *Channel News Asia*, and *Straits Times*.

A resident of Singapore, Michael is pursuing a second master's degree in Applied Neuroscience from King's College London.

Robin Speculand

Robin is a recognized pioneer and expert in strategy and digital implementation. He is driven to transform strategy implementation by inspiring global leaders to adopt a different mindset and approach. The founder of three companies, Robin is CEO of Bridges Business Consultancy Int and co-founder of the Strategy Implementation Institute and Digital Leadership Specialists. A TEDx presenter and Thinkers50 nominee, he is a facilitator for IMD, Duke CE, and SMU, and part of the Top 30 Global Gurus. As a best-selling author, he has written six books including his most recent, *World's Best Bank: A Strategic Guide to Digital Transformation,* and *Strategy Implementation Playbook: A Step-By-Step Guide*.

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