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Technical skills alone won't be enough for career success in the digital age. It's much more than teaching people to code. Instead, success will hinge on critical soft skills and the RISC—resiliency, inner strength, strategic thinking, and a collaborative spirit—digital mind-set abilities.

hether it is at the World Economic Forum or in the suites of CEOs, there is strong agreement that artificial intelligence, machine learning, mobile technologies, robotics, biological technologies, quantum computing, and other technological innovations require the "digital

transformation" of organizations. Digital transformation is not fragmented digitization; it is a complete rethinking of the overall business model with a customer-driven emphasis supported by the use of digital technologies throughout the business process.

Are businesses prepared for this transition? In a 2016 MIT Sloan Management Review/Deloitte University Press study¹ of more than 3,700 executives, managers, and analysts around the globe, 90% of respondents recognized that digi-

tal trends would moderately or greatly disrupt their industries. Only 44%, however, believed that their organizations were prepared for the disruption.

Another insight from the MIT/Deloitte report is that the companies that appear more successful in their digital transformation efforts put their focus on soft skills. In response to a question about the most important skill for leaders to succeed in a digital environment, only 18% of respondents listed technological skills as most

Digital Object Identifier 10.1109/MC.2019.2903328 Date of publication: 14 May 2019

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important. Instead, they highlighted attributes such as having a transformative vision (22%), being a forward thinker (20%), having a change-oriented mind-set (18%), or other leadership and collaborative skills (22%). Employers are realizing more and more that career success hinges on critical soft skills—the things that computers don't do as well as humans.

Changes in what Klaus Schwab, executive chair of the World Economic Forum, calls the Fourth Industrial Revolution will impact a very broad range of the workforce. Work in the future will be altered in ways we haven't seen in the past, and changes will reach well beyond hourly workers. All kinds of occupations will see change, including engineers, accountants, coders, and surgeons. Computers are very effective at handling logical and process-oriented activities. The work of knowledge workers and college graduates will be changed, so people will have to constantly reinvent themselves and deal with a never-ending change journey throughout their careers.

It is often said that difficulties implementing digital transformation have been more about people dealing with change than with the technological tools. And I believe this may be the most significant issue of all. We will need to find answers to the following questions. What kinds of mind-sets do people need to thrive in the digital era? How do they need to be? And what are we doing to prepare now?

These answers will incorporate abilities in what I call the RISC digital mindset, which focuses on Resiliency, Inner strength, Strategic thinking, and Collaborative spirit (see "RISC Digital Mindset").

Many people talk about culture change as something that happens only in big companies. But welcoming change is a talent that takes time and effort for an individual to develop. The RISC mindset is very personal and a lifelong development effort. My belief is that we should start that transformational leadership development in undergraduate postsecondary education.

The fact that millennials and Generation Z grew up in a digital environment does not mean that they embrace change and are equipped to navigate

in an uncertain work world. They have been conditioned to expect clear direction, which has shielded them from the messiness of the real world. Universities must be accountable for the resiliency of the students they graduate, now more than ever. Technical skills alone cannot guarantee a successful employee in the digital age.

What can be done to address obtaining these abilities in colleges? One way to incorporate transformational

RISC DIGITAL MINDSET

nesiliency-Adaptability

- » comfort in uncertainty and unstructured environments
- » navigating through complexity, volatility, and ambiguity
- » embracing change, especially when the change isn't our idea
- » curiosity and growth mind-set
- » reinventing ourselves as a way of life
- » learning from failure.

nner strength—Being your best evolved self

- » self-awareness
- » open mindedness and inclusion
- » courage
- » humility-keeps us in touch with all we don't know
- » embodying our humanity
- » overcoming fear of conflict and risk.

trategic thinker—Holistic

- » creative thinking
- » big picture and systems thinking
- » customer obsessed
- » forward thinker with transformative vision
- » ideas based on intuition and insights as well as data and history
- » openness to new ideas and possibilities.

ollaborative spirit

- » collaborative problem solving
- » emotional intelligence
- » heart.

COMPUTING EDUCATION

learning is by partnering with leadership development professionals from industry and executive coaches. Transformation is intensely personal, takes time, and requires coaching from people with the proper training and experience. More than seven years ago, we created the Lockheed Martin Leadership Institute in the College of Engineering and Computing at Miami University to do just that. Ours is an example of an intensive three-year program for a targeted group of students. And there are other universities that have created excellent large-scale programs, such as the Doerr Institute for New Leaders at Rice University.

It is also important for the university to invest in transformational leadership development for faculty and staff. If faculty members have engaged in their own transformational process, they will be better able to understand the changes the students experience and can remain relevant in the future.

y hope is that universities will make this a priority and start preparing the next generation today for the resiliency and adaptability, inner strength, strategic thinking, and collaborative spirit that are essential for the coming digital era.

REFERENCE

G.C. Kane, D. Palmer, A. N. Phillips,
D. Kiron, and N. Buckley, "Aligning the organization for its digital future," MIT Sloan Management Rev.,
July 2016. [Online]. Available: https://sloanreview.mit.edu/digital2016

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