

Words to Live By—Or Maybe Not

[Machine Design](#)

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These common expressions can lead to success or failure based on how you interpret them.



A line commonly heard by engineers is, “Make it idiot-proof.” This has led to new user-friendly and plug-and-play equipment, which is nice to have, but if a person doesn’t understand what the button they are pushing does, it can have negative repercussions.

This push-button philosophy is a cause for concern. Since the average age of engineers is close to the age of retirement, this leaves new engineers without the experience and guidance of these veterans. Also, the hands-on experience that companies rely on may not be there to educate the newer employees. Traditionally, hands-on experience was gained by taking things apart. Companies are implementing the push-button philosophy so that systems and operations are “idiot-proof”. However, this could be a potential handicap for young engineers since it does not push them to analyze the process or machine. Many young engineers are no longer taking the hands-on approach of disassembling a component to see how it works.

Without guidance or hands-on experience, a new generation of engineers might not stop a machine due to an abnormal chip size, altered frequency, or a vibration change. They might wait until a software program sends them a notification on a smartphone telling them that the machine has already crashed. While new technology saves time and money, it is still imperative for engineers to understand what’s happening behind the buttons.

Without knowing what is happening behind the buttons, some employees might start saying things like, “If it isn’t broke, don’t fix it”—another familiar phrase. This expression does have its merit, but it shouldn’t mean to shy away from new technology. For some industries, stagnation of technological advancements has led to new competitors taking market share and older companies downsizing or going out of business. Those who stay on the leading edge of developments will know when a disruptive technology is ready for adoption. This knowledge keeps competitors on their feet and new players thinking twice about entering the market.

There is one familiar saying that can fix any of the negative consequences mentioned above: “Question everything.” A process may require a machine or software to be idiot-proof, and it’s true that if things are running smoothly, you may not want to start tinkering. But never be afraid to question those maxims: Continual logical thought and education can provide a series of steps to determine when to follow those rules or if they will be your downfall. The reason most of us became engineers was due to a natural curiosity about the world, and we cannot let a comfortable job make our factories, designs, or practices become anything but the best product of a professional engineering mind.

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