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What You Think You Know About COBOL is Probably Wrong: Making Tech Stack Decisions When the State of the Art is a Septuagenarian

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COBOL is the powerhouse behind some of the most innovative technologies in the world. A 2022 survey found that 800 billion lines of COBOL are running in production systems daily (Micro Focus 2022). At the same time, COBOL has largely been abandoned in classrooms, with only one in four US universities teaching it (Lindoo 2014; Roggio et al. 2003). This is despite the fact that digital innovations like touchless payment systems, real-time analytics, or AI interact with large institutional processes, and these processes often run on COBOL. This presents an opportunity for IS educators and researchers to rejuvenate technology skills that remain in high demand and are commercially vital, that remain largely overlooked.

COBOL suffers from a major image problem. To combat the problem, we must first understand it. The research team surveyed members of the COBOL Working Group of the Open Mainframe Project who were asked to list up to five misperceptions in ranked order. From the participants (n=36), 56% self-identified as being in the IT domain, 27% as in Banking, 9% as in Government, and 5% as in Education. The top four responses of 16 themes are below by frequency weighting, along with counterpoints for consideration of the IS community.

Outdated (39%). COBOL is modern tech based on an old idea. Like cars or the phone, an old idea does not make the modern iteration outdated. Ongoing modernization means COBOL is interoperable with contemporary solutions like containers, VSCode, or cloud computing.

Hard (11%). COBOL was created specifically to be easy to read, understand, and program for programmers in the 1960's who had few explicit training opportunities. With COBOL you are telling the computer what to do in English verbs, whereas with other languages the same process can take weeks to learn due to the learning curves associated with syntax.

Dead (11%). Rather, the opposite is true. At 800 billion lines strong, COBOL is highly pervasive. You have used COBOL if you buy something online, get an insurance quote, check your bank balance, pay your mortgage, use touchless payments, book a trip, or send a parcel.

A bad career choice (9%). According to a pay survey from Stack Overflow (Ovide 2022) average salaries for COBOL jumped 44% between 2021 and 2022, the largest dollar increase of all surveyed languages. Having essential business operations skills is a good career choice; even more so when it's hard to hire people. With few taught programs available and its value outlasting the careers of the original application teams, COBOL is a high-demand, niche skillset.

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