Challenges of using sensor data across devices and brands

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"Cow Fitbits" and artificial intelligence are coming to the dairy farm. But some farmers aren’t so impressed.

‘Cow Fitbits’ and artificial intelligence are coming to the dairy farm. But some farmers might be tackling a critical question before much of the rest of the workforce: Can new technology ever beat old intuition — even when it comes to a bunch of cows?
Gartner Product Life Cycle
17 years/>50 technologies
A COLLABORATIVE, INNOVATIVE, LONG-TERM RELATIONSHIP BETWEEN HOLSTEIN ASSOCIATION USA AND THE WESTERN KENTUCKY UNIVERSITY DEPARTMENT OF AGRICULTURE AND FOOD SCIENCE

- Research, development, and outreach in technologies, analytics, and genetics
- Continued, sustained research and development projects
- The industry leader for exploration of new technologies and analytics tools
- Emphasis on wearable and milk-based technologies for collection of novel phenotypic data
Some Don’t Make It
Nobody on Team that Knows Cows
Physical Form Problems
Too Much Infrastructure Needed
New Name, Same Idea
Rodents and Other Farm Realities
Lightning Strikes Twice
IT Guy Lesson
Rural Connectivity Limits
NO BANDWIDTH
Miscommunication of Development Stage
overpromise
underdeliver
Focus on Technology, Rather than Information
Some Data Interesting but Not Useful
Are we measuring the targets we intend to?

Can’t forget the need for third party validations
$X \neq X$ and $Y \neq Y$

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Means for 135 cows
DIM 1-21

Jones et al., 2020
Data Dumps
(No Information Interpretation)
Software Interface Attributes

Cloud based interface
Smartphone application
Addresses needs of visual and verbal learners
Intuitive user interface
Interconnectivity with herd management software
Real-time data display
Indicators of what’s most important and actionable
Customer focused training and support
Data Silos

DHIA
Sensors
Genetics
Milk Buyer
Nutrition
Financial
Data Integrators

vyLA
AIMS
iYOTAHSOLUTIONS
Proagrica
bovcontrol
Agrimetrics
MmooOgle
DDW
Too Costly to Justify Investment
Tomorrow’s technological innovations are beyond what we can imagine. Let’s dream big.
Never Lose Sight Of the Animals