: Is the technology acceptance model relevant to decision support?

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Substantial resources are expended building and installing decision support systems. Some guidance about how we can increase the acceptance and use of "new" DSS would be helpful. We want to know in advance if managers are likely to accept a "new" DSS or analytical information system? We want to know if developers can take steps to increase the chances managers will accept and use a "new" decision support capability? Fred Davis's Technology Acceptance Model (Davis, 1989) provides some guidance to developers.

The Technology Acceptance Model (TAM) has been tested in many research studies. Past research generally indicates TAM measurement scales are valid and reliable measures of Perceived Usefulness and Perceived Ease of Use. Those two measures seem to predict technology acceptance (Davis, 1989; Davis, Bagozzi, & Warshaw, 1992).

According to Cohen and Lloyd, "in the field of Information Systems, there have been almost 1,400 research papers published on the Technology Acceptance Model. This model postulates that people who think that they will benefit from technology are more likely to accept it, particularly if it is easy to use." (p. 196)

According to Venkatesh, Morris, Davis, and Davis (2003), technology acceptance models are intended to assess the likelihood of success for new technology introductions and help managers understand the drivers of acceptance in order to proactively design interventions like training.

TAM findings suggest decision support builders and system designers should focus on ease of use and testing should establish the benefits of using the "new" system. What if the analytics and decision support are ineffective? Fix it! Decision support should provide more benefits than increasing the speed and efficiency of decision making. Is there a danger managers and developers will rationalize the continued use of the system and tools? Yes. During design and implementation it is important to study the impacts of a new system on decision making. During training and roll-out of the new system it is important to provide evidence about the usefulness of the new capability. Usability testing should have insured the system is perceived as easy to use.

During development it is important to ask potential users questions like the following to assess perceived usefulness: 1) Do you think the new system will enable you to accomplish tasks more quickly? 2) Do you think the new system will increase your productivity? 3) Do you think the new

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system will enhance your decision-making effectiveness and efficiency? Some questions related to ease of use based upon TAM research include: 1) Do you feel the new system is easy to use? 2) Do you feel the new system was easy to learn? 3) Do you feel the new system is clear and understandable?

So the many TAM studies provide a simple prescription. Build a DSS that is useful and easy to use and then the intended users are more likely to adopt and use the system. This conclusion seems intuitively obvious, the key for developers is to assess perceived usefulness and perceived ease of use during development and testing. Also, the more factual the evidence for benefits, the more impact on perceived usefulness.

References

Cohen, E., & Lloyd, S. (2014). Disciplinary evolution and the rise of the transdiscipline. Informing Science: the International Journal
of an Emerging Transdiscipline, 17,189-215. Available at
http://www.inform.nu/Articles/Vol17/ISJv17p189-215Cohen0702.pdf

Consumer Health Informatics Research resource, "Technology Acceptance Model (Perceived Usefulness and Perceived Ease of Use)" at URL https://chirr.nlm.nih.gov/tam.php

Davis, F. D.. "Perceived usefulness, perceived ease of use, and user acceptance of information technology," MIS Quarterly, 13(3), 1989, 319-340.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R.. "User Acceptance of Computer Technology: A Comparison of Two Theoretical Models," Management Science, 35(8), 1989, 982-1003.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R.. "Extrinsic and intrinsic motivation to use computers in the workplace," Journal of Applied Social Psychology, 22(14), 1992, 1111-1132.

Venkatesh, V., Morris, M.G., Davis, F.D., and Davis, G.B. “User Acceptance of Information Technology: Toward a Unified View,” MIS Quarterly, 27, 2003, 425-478.

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