A Networked Taxonomy of Perceptions towards Electronic Medical Record Systems and the Circumstances in Which They Are Formed

TREO Talk Paper

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Abstract

In this study, we present a networked taxonomy of perceptions of employees towards a recently implemented electronic medical record (EMR) system in a large hospital system as well as the individual and organizational factors that are likely related to their occurrence. The findings of this study would equip healthcare managers with upfront guidance on the range of reactions that they might anticipate as healthcare providers adapt to an EMR system implementation. We also elucidate how these perceptions may be distributed, as well as the individual and organizational circumstances in which they may be more versus less likely to emerge so that healthcare managers can better prepare for them.

We use a combination of qualitative coding and text analytics on a set of qualitative and quantitative data collected from 150 healthcare providers working with a recently-implemented EMR system in a large hospital system. Through these methods, we are first developing a nuanced set of technology-related perceptions that extend beyond simply positive versus negative perceptions — for example, ‘judgement of peers’ perceptions towards the same technology’ (e.g., “A lot of people think that the system takes up too much time, but I have found that this happens most to the nurses who do not have a lot of computer experience”) or ‘negative to positive perceptual transformations’ (e.g., “When I first started using the system, it really hindered my work. But I must admit that I am adapting, and the system is getting easier to use now.”). A significant distinction of our taxonomy is that it emphasizes the relationships between perceptions, rather than the perceptions in isolation. We use social network analysis to delineate how perceptions are distributed amongst respondents — what perceptions tend to co-occur and which ones tend not to occur together, as well as what perceptions occupy structurally significant positions within the network of perceptions, such as central positions or structural hole positions. Finally, using multi-level modeling as our analytical tool, we link this networked taxonomy of perceptions to the individual and organizational factors that may relate to their emergence; to do so, we draw broadly on Unified Technology Acceptance and Use Theory (UTAUT) and Task-Technology Fit model.

When it comes to how employees use and experience information systems in organizations, IS research and practice have shown that perception drives action — for example, perceived usefulness, among other factors, is known to drive the action of IT use. Yet, in the context of adapting to newly-implemented large-scale technology systems that transform organizational work practices, we only have a broad-stroked understanding of perceptions as positive versus negative. In the healthcare EMR system implementation context in large hospital systems, providers, on the one hand, recognize the importance of these systems and the resulting workflow changes that they enable, but at the same time feel oppressed by these significant changes. As such, there is a wide variety of perceptions — beyond simply positive versus negative — that emerge in these environments. Our study contributes by a) developing a nuanced taxonomy of perceptions, b) emphasizing the interrelationships and overall relational structure of these perceptions, and c) relating individual and organizational factors as likely circumstances in which these perceptions may or may not emerge. We expect our findings to have immediate practical value, especially within the healthcare industry, in addition to being academically rigorous.