Abstract

The digital transformation of healthcare is increasingly dependent on digitizing the clinical task environment across the healthcare supply chain by implementing standardized healthcare process platforms—i.e., electronic healthcare record (EHR) systems. Simultaneously, the rush to digitizing the healthcare through the implementation of a multitude of HIT is having a catalyzing effect on the healthcare industry. While we do have substantial evidence supporting the argument that HIT can improve healthcare performance, we know little about the relationship between hospitals’ existing HIT and its ability to deploy, integrate, and assimilate EHRs. Given the fact that EHRs are digital innovation platforms that are built on top of hospitals’ existing HIT capabilities, current IS research provides very limited insights to whether and under what conditions hospital’s EHR capabilities will spur improvement in overall healthcare performance. While process digitization through EHRs is in preliminary stages of incorporation across the healthcare ecosystem, these digital innovation artifacts hold vital importance to academics, practitioners, and policymakers in understanding how hospitals can leverage digital innovations towards the digital transformation of healthcare. Moreover, the scarcity of theory-driven research limits our understanding of the mechanisms through which hospital’s HIT capability enables EHR integration and assimilation towards improved performance outcome. While the focus of IS literature has been on the positive impact of HIT on the healthcare ecosystem, these work, along with many prior studies are limited in their ability to explain how organizations existing portfolio of HIT capabilities interrelate with EHRs for better performance outcome.

In our effort to understand the drivers, we examine two unique architectural concepts—i.e., the extent of HIT integration and process routine rigidity—as the differentiating factors that can explain beyond other indicators. Evaluating the impact of the digital transformation of healthcare is incomplete without having a deeper understanding of assimilation and integration of HIT at a granular level. Drawing upon the competitive progression theory, we develop a conceptual model that links organizational approach to the sequential integration of HIT and hospital’s ability to assimilate EHRs into the clinical and administrative task environment. Using an event sequencing technique, we investigate if certain sequences of HIT—i.e., reflecting the unique path of HIT implementation—have significant impact on hospital’s ability to integrate and assimilate EHRs into the healthcare workflow. Same time, we also investigate the unexplored relationship between hospitals clinical process rigidity and hospitals’ ability to integrate and assimilate EHRs. Furthermore, we extend the research to investigate the mechanism through which these configurations or sequences affect hospital’s overall performance indicators (i.e., length of stay, quality of care, mortality, etc.). Using three data sources, we investigate the sequential order in which HIT are integrated and whether a specific configurational pattern of HIT yield greater value in the appropriation of performance benefits. Our preliminary results indicate that certain configuration or sequences of HIT may provide a plausible explanation as to why EHR assimilation and the appropriation of benefits varies across hospitals.

Our research contributes to the extant literature by bridging the gap between the complex relationship between hospital’s existing HIT capabilities and its ability to leverage EHRs. By doing so, we formulate a theoretically grounded framework to understand the interplay between these critical concepts, and hence lay a theoretical foundation for future studies at the HIT architecture level.