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|  |  | **Barrier relevance to technology innovation deployment process** | | | | | | | |
|  |  | Initiation (pre-adoption) | | | | Implementation (post-adoption) | | | |
|  |  | Barrier | Cause | Effect | Source | Barrier | Cause | Effect | Source |
| **Owner of deployment barrier** | Individual | Workflow compatibility:   * *All kinds of companies have built great software solutions, but they end up forcing physicians to change the ways they are used to working (CS2\_A2\_DI, Pos. 24)  “One of the first things I look at now that I’m an investor, and I’m looking at companies that have cool technology solutions to enable data transfer is, you know, ‘How easily does it integrate into the workflow of the doctor or the nurse?’, and I can’t tell you how many or I can tell you, there’s so many companies I’ve met that have these really cool, you know, software solutions they built to do all kinds of analytics and dashboards and, you know, beautiful ways of representing data, but it ends up forcing the clinician to completely change the way they’re used to working to support whatever needs to be done with this platform [quote].”* * *When workflows are changed, somebody wins and somebody loses, i.e., it is not a zero-sum game (PV2\_CDE3\_DI Pos. 28)* * *People do not want to change their workflows (PV2\_CDE3\_DI Pos. 28)* | * *People [providers] are busy treating patients and want to go home at the end of the day (PV2\_CDE3\_DI Pos. 28)* | * *New fancy applications are not simple and easy to use [see Pr\_ExEff]* * *People feel a loss in control or a loss in the quality of work (PV2\_CDE3\_DI Pos. 28)* | CS2\_A2\_DI, Pos. 24  PV2\_CDE3\_DI Pos. 28 | Workflow compatibility:   * *All kinds of companies have built great software solutions, but they end up forcing physicians to change the ways they are used to working (CS2\_A2\_DI, Pos. 24)  “One of the first things I look at now that I’m an investor, and I’m looking at companies that have cool technology solutions to enable data transfer is, you know, ‘How easily does it integrate into the workflow of the doctor or the nurse?’, and I can’t tell you how many or I can tell you, there’s so many companies I’ve met that have these really cool, you know, software solutions they built to do all kinds of analytics and dashboards and, you know, beautiful ways of representing data, but it ends up forcing the clinician to completely change the way they’re used to working to support whatever needs to be done with this platform [quote].”* * *When workflows are changed, somebody wins and somebody loses, i.e., it is not a zero-sum game (PV2\_CDE3\_DI Pos. 28)* * *People do not want to change their workflows (PV2\_CDE3\_DI Pos. 28)* * Process redesign does not always accompany the introduction of a new technology, e.g., when going from paper to EHRs they still had to write down all the information just that the former process entailed pen and paper and the new process a digital medium | * *People [providers] are busy treating patients and want to go home at the end of the day (PV2\_CDE3\_DI Pos. 28)* | * *New fancy applications are not simple and easy to use [see Pr\_ExEff]* * *People feel a loss in control or a loss in the quality of work (PV2\_CDE3\_DI Pos. 28)* * People are disaffected by the new technology | CS2\_A2\_DI, Pos. 24  PV2\_CDE3\_DI Pos. 28  FA1\_DI, Pos. 14 |
| Perceived behavioral control:  *There are different generational levels of comfort with leveraging technology (PV2\_CDE3\_DI Pos. 28)* |  |  | PV2\_CDE3\_DI Pos. 28 | Perceived behavioral control:   * Physicians do not trust that they are knowledgeable enough to use the EMR software, so that no human error occurs (HITV1\_DI, Pos. 22-24) * *There are different generational levels of comfort with leveraging technology (PV2\_CDE3\_DI Pos. 28)* | Physicians are afraid that they do forget something or do it wrong when typing in information in an EMR (HITV1\_DI, Pos. 22-24) |  | HITV1\_DI, Pos. 22-24  PV2\_CDE3\_DI Pos. 28 |
| Organization | Fall back onto the tried and proven:  Involved parties (VRS providers) fell back on the old-school relational model, with everyone building their own look-up directory and keeping it in synch via APIs | * Using blockchain is too much of a burden (ETC1\_DI, Pos. 14-24) [see Pr\_ExEff] |  | ETC1\_DI, Pos. 24  ETC1\_DI, Pos. 14-24 | Objective facilitating factors:   * It is more difficult to hire for blockchain solutions than traditional relational models (ETC1\_DI, Pos. 24) * Providing sufficient training that includes learning about all the technologies capabilities is challenging (HITV1\_DI, Pos. 16; FA1\_DI, Pos. 12) | * There are fewer people who have the required knowledge to fix node, i.e., blockchain issues on the way (ETC1\_DI, Pos. 24) * There is already a massive shortage of healthcare personnel and training someone means taking them away from the job they are supposed to be doing (HITV1\_DI, Pos. 16) | People are doing things in very clunky ways (FA1\_DI, Pos. 12) | ETC1\_DI, Pos. 24  HITV1\_DI, Pos. 16  FA1\_DI, Pos. 12 |